



THE FINANCIAL SYSTEM IMPROVEMENT:  
A DEVELOPMENT PROTOTYPE FOR DREAM  
WALKERS, AN ADVERTISING FIRM

by

Ms. Wipapat Nutjaroenkul

A Final Report of the Three-Credit Course  
CE 6998 Project

Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science  
in Computer and Engineering Management  
Assumption University

November, 2001



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Project Title	The Financial System Improvement: A Development Prototype for Dream Walkers, an Advertising Firm
Name	Ms. Wipapat Nutjaroenkul
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Academic Year	November 2001

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The Graduate School of Assumption University has approved this final report of the three-credit course. CE 6998 PROJECT, submitted in partial fulfillment of the requirements for the degree of Master of Science in Computer and Engineering Management.

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November 2001

## ABSTRACT

This project examines the design and improvement of an accounting system for Dream Walkers, an advertising company. The existing system controlled by manual is not meeting their expectation in terms of performance and integration. Therefore, this project provided the design of a new accounting system which is technically sound, easy to maintain and flexible such that it can be extended quickly on a global level with minimum risk.

The problems of existing system will be conducted the feasibility study by gathering information and interviews with senior staff in financial department. In part of developing programs, we will used Data Flow Diagrams to represent the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components within a system. The design also includes the input screen and necessary output report for internal and external control.

The new accounting system should improve the accounting data integration and Cash Forecast process. In addition, it should also decrease the duplicate process. The most important for any accounting system should provide security to control about accounting information and also fulfill in terms of faster and more powerful accounting data manipulations.

System evaluation was accomplished to test the Dream Walkers Accounting system's accuracy and utility. The results of the system evaluation suggest that the system performs accurately and satisfactorily according to the design specifications and objectives.

## ACKNOWLEDGEMENTS

I am indebted to the following people and organizations. Without them, this project would not have been possible.

I wish to express sincere gratitude to my Dean and advisor of the Advisory Committee, Dr. Chamnong Jungthirapanich. His patient assistance, guidance and constant encouragement has led me from this project inception to this project completion. I would like to express appreciation to my Advisory Committee members: Prof.Dr. Srisakdi Charmonman and Assoc.Prof. Somchai Thayarnyong for their constructive comments and advice throughout the project.

I would like to thank Mr. Pramote Jumroontipphawan, project manager of this project and the staff at the Financial Department of Dream Walkers company for their help for gathering information to use in the prototype development.

In addition, I would like to thank PricewaterhouseCoopers, management consulting company for methodology of project implementation. These resources were provided as part of the project to enable the fluidity and provide convenience to the project's design and implementation phrases.

Special appreciation is due to my family for their fervent and continuous encouragement. Above all, I am forever grateful to my parents whose willingness to invest in my future has enabled me to achieve my educational goal.

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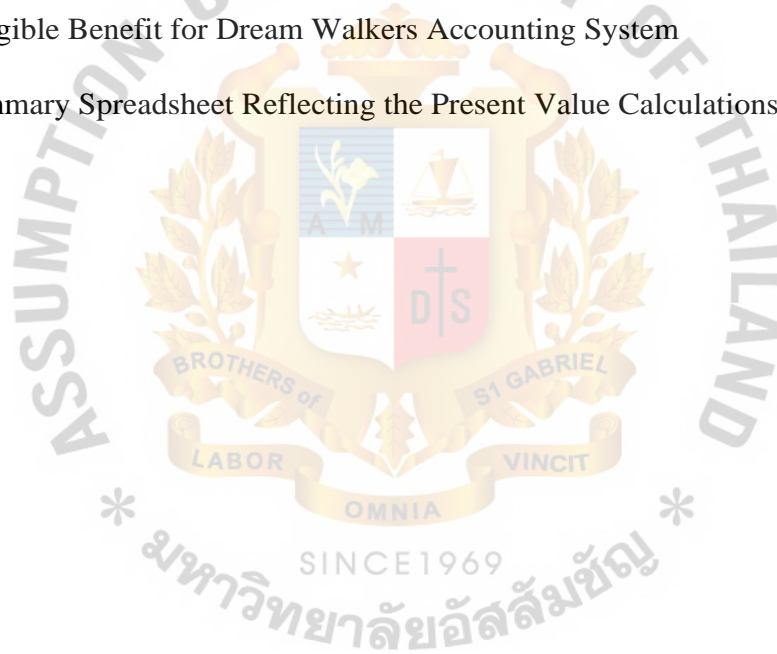


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## **I. INTRODUCTION**

### **1.1 Project Background**

Dream Walkers was born in late 1999. Gathering from an experience advertising team, media house and events organizer who have the same mission, WE ARE PART OF YOUR DREAM, to build up a reliable promotion agency, as nowadays several companies known Dream Walkers who make their dreams come true with expertise.

According to the growth up of company, Dream Walkers is concerned that the financial system cannot be controlled manually. It is not meeting their expectation in terms of performance and integration. They are in need of a new accounting solution that is technically sound, easy to maintain, functionally rich and flexible such that it can be extended quickly on a global level with minimum risk. It is in their strategic interest to eventually replace the manual system with a new accounting system.

Dream Walkers would like to concentrate on the work flow of financial department and review the current processes in this area to improve the cash flow control. In particular, Dream Walkers would like to examine how profitability could be increased through making changes internally.

The project charter is used to define the approach to completing the business requirements and the project selection activities and is based upon the information gathered during user's requirement sessions and a brief description of this project. It presents the goals and objectives of the work, a description of the detailed activities to be completed and deliverables to be produced throughout the project, the approach to the project, and the organization of the project team.

## **1.2 Project Objectives**

Dream Walkers has engaged us to do this study with the following objectives:

- (1) To set the direction and requirements for Dream Walkers and thereby enable them to move forward with the strategic accounting solutions
- (2) To complete a study that considers the key issues and requirements in accounting system for Dream Walkers
- (3) To conduct an accounting processes review, analyze the financial problems and cash flow control problems for Dream Walkers
- (4) To provide the improvement solution in terms of performance and integration between accounting system and cash management system for Dream Walkers Company

## **1.3 Project Scopes**

The problems of financial system and cash flow control of Dream Walkers will be conducted the feasibility study by gathering information and interviews with senior staff in financial department. These interviews will be used to identify how the department is organized, what the senior staff think are the strengths and weaknesses of their own department and what changes, if any, they would like to see implemented. At the same time, we will draw upon our knowledge of best practices to identify possible where the application of the experience elsewhere could be beneficial to Dream Walkers.

The implementation include conducting the As-Is Analysis and Detail Design. We will analyze our findings and clarify any unclear issues with the senior staff. This analysis will help us to determine how profitability can be increased for Dream Walkers. For Detail Design, we will design the To-Be process for a new system and business flow to present the new system for increasing the effectiveness.

The scope of this project excludes Program Development, Program Training and Training Environment, since this being produced by the Project Owners with implication of Pilot Users is the best candidates for Trainers.

#### 1.4 Module Scopes

The project will involve personnel from the following organizations:

- (1) Account Payables
- (2) Account Receivables
- (3) Cash Management
- (4) General Ledgers





## II. LITERATURE REVIEW

Most organizations find it beneficial to use a standard set of steps, called a systems development methodology, to develop and support their information systems. Like many processes, the development of information systems often follows a life cycle. The system development life cycle (SDLC) is a common methodology for systems development in many organizations, featuring several phases that mark the progress of the systems analysis and design effort.

Although any life cycle appears at first glance to be a sequentially ordered set of phases, it actually is not. The specific steps and their sequence are meant to be adapted as required for a project, consistent with management approaches. The SDLC has seven phases. See Figure 2.1.

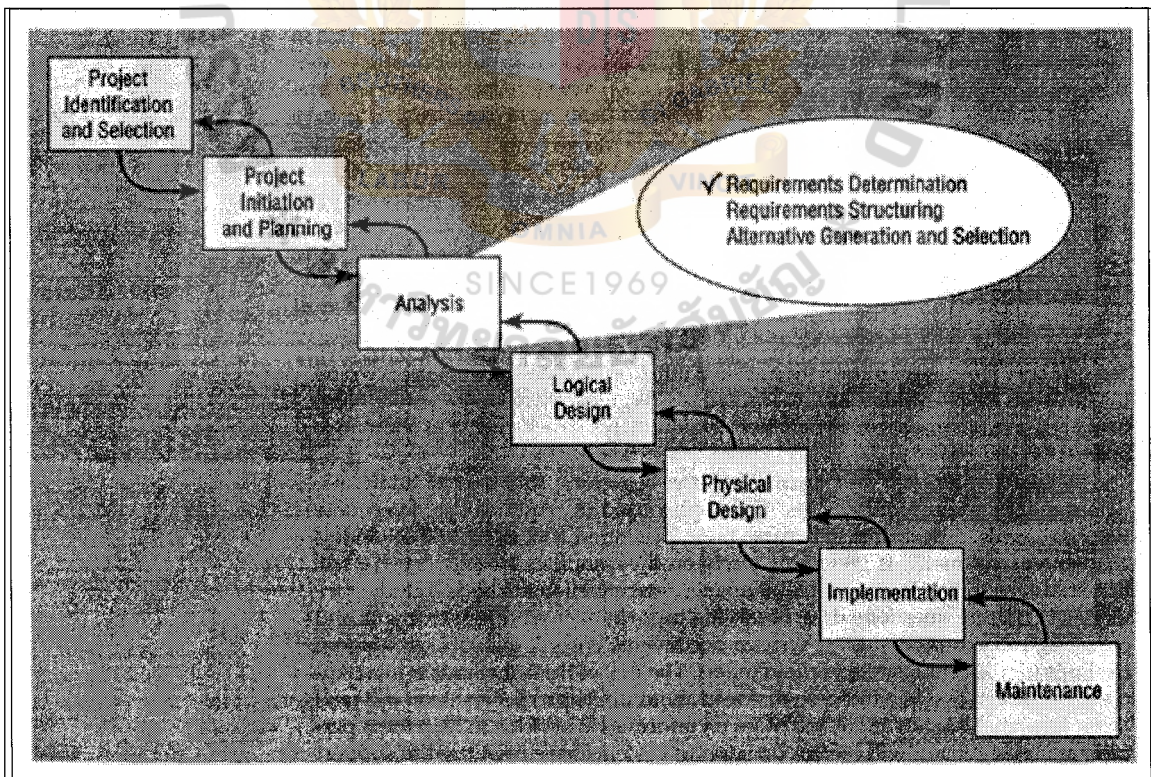


Figure 2.1. System Development Life Cycle.

- (1) **Project identification and selection:** The first phase of the SDLC in which an organization's total information system needs are identified, analyzed, prioritized, and arranged.
- (2) **Project initiation and planning:** The second phase of the SDLC in which a potential information systems project is explained and an argument for continuing or not continuing with the project is presented: a detailed plan is also developed for conducting the remaining phases of the SDLC for the proposed system.
- (3) **Analysis:** The third phase of the SDLC in which the current system is studied and alternative replacement systems are proposed.
- (4) **Logical design:** The fourth phase of the SDLC in which all functional features of the system chosen for development in analysis are described independently of any computer platform.
- (5) **Physical design:** The fifth phase of the SDLC in which the logical specifications of the system from logical design are transformed into technology-specific details from which all programming and system construction can be accomplished.
- (6) **Implementation:** The sixth phase of the SDLC in which the information system is coded, tested, installed, and supported in the organization.
- (7) **Maintenance:** The final phase of the SDLC in which an information system is systematically repaired and improved.

The SDLC is a highly linked set of phases whose products feed the activities in subsequent phases. Table 2.1 summarizes the outputs or products of each phase based on the above descriptions.

Table 2.1. Products of SDLC Phases.

Phase	Products, Outputs, or Deliverables
Project identification and selection	Priorities for systems and projects; an architecture for data, networks, hardware, and IS management is the result of associated systems planning activities.
Project initiation and planning	Detailed steps, or work plan, for project; specification of system scope and high-level system requirements or features; assignment of team members and other resources; system justification or business case.
Analysis	Description of current system and where problems or opportunities are with a general recommendation on how to fix, enhance, or replace current system; explanation of alternative system and justification for chosen alternative.
Logical design	Functional, detailed specifications of all system elements (data, processes, inputs, and outputs).
Physical design	Technical, detailed specifications of all system elements (programs, files, network, system software, etc.); acquisition plan for new technology.
Implementation	Code, documentation, training procedures, and support capabilities.
Maintenance	New versions or releases of software with associated updates to documentation, training, and support.

Analysis is the first systems development life cycle (SDLC) phase where you begin to understand, in depth, the needs for system changes. Systems analysis involves a substantial amount of effort and cost and is therefore undertaken only after management has decided that the systems development project under consideration has merit and should be pursued through this phase. Analysis includes the following steps:

- (1) Requirements determination: This is primarily a fact-finding activity.
- (2) Requirements structuring: This activity creates a thorough and clear description of current business operations and new information processing



services. Requirements structuring has three sub-activities that concentrate on structuring different views or dimensions of the information systems.

- (3) Alternative generation and selection: This process results in a choice among alternative strategies for subsequent systems designs.

The purpose of analysis is to determine what information and information processing services are needed to support selected objectives and functions of the organization; consequently, analysis is fundamentally an intelligence activity in which analysts capture and structure information. Gathering this information about both the current and the replacement systems is called requirements determination. The fact-finding techniques are used to learn about the current system (if one exists), the organization that the new or replacement system will support, and user requirements or expectations for the replacement system.

### III. PROBLEM/MODEL/SYSTEM DEFINITIONS

#### 3.1 Existing Work Flows

The existing accounting work flows of Dream Walkers conducted by gathering information and interviews with senior staff in financial department. We summarize into nine processes as:

- (1) Existing AP Invoice Processes
- (2) Existing AP Payment Processes
- (3) Existing AR Invoice Processes
- (4) Existing AR Receipt Processes
- (5) Existing Cash Reconcile Processes
- (6) Existing Cash Forecast Processes
- (7) Existing VAT Processes
- (8) Existing AP Month End Processes
- (9) Existing AR Month End Processes

### 3.1.1 Existing AP Invoice Processes

As seen in Figure 3.1, Suppliers send 3 AP invoice copies to Accounting Staff to validate them. If AP invoices are invalid then all of them were returned to Suppliers. On the other hand, AP invoices are valid then AP invoice#1 was returned to Supplier. After this, Accounting Staff enter AP invoice details into AP Invoice Details Files (see Figure A.1). Then AP invoice#2 was sent to Accounting Manager for checking at end of day whereas AP invoice#3 was filing for VAT Processes. Finally, Accounting Manager will use the information from AP invoice#2 to enter the accounting transaction into another files, Journal Ledger (see Figure A.5 and Figure A.6).

### 3.1.2 Existing AP Payment Processes

As seen in Figure 3.2, Accounting Staff prepare the valid AP invoices then enter payment details into AP Payment Details Files (see Figure A.2). Then, Accounting Staff print cheques by manually and sent cheques to Account Manager for signing. After this, Suppliers pick up the completed cheques. Next, Accounting Manager update payment information for each invoices in AP Invoice Details Files (see Figure A.1). Finally, Accounting Manager enters accounting transaction into another files, Journal Ledger (see Figure A.5 and Figure A.6).

### 3.1.3 Existing AR Invoice Processes

As seen in Figure 3.3, Accounting Staff enter AR invoice details into AR Invoice Details Files (see Figure A.3) and also enter into AR Invoice Forms (see Figure A.7). Then print AR invoice Forms and send it to Accounting Manager for validate. If AR invoice details are invalid then returned to Accounting Staff to correct in both of AR Invoice Details Files (see Figure A.3) and AR Invoice Forms (see Figure A.7). And then Accounting Staff will print AR invoice foinis and send it to Accounting Manager to validate again. In contrast, AR invoices are valid then Accounting Manager enters



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Summary report (see Figure A.8) manually. Finally, Accounting Manager reviews and analyses Cash Forecast.

### 3.1.7 Existing VAT Processes

As seen in Figure 3.7, Accounting Staff prepare AR Invoice Details (see Figure A.3) and manual write down Selling VAT Report in paper forms (see Figure A.10). Then reconcile Selling VAT between AR Invoice Details (see Figure A.3) and Selling VAT Report (see Figure A.10). Then, Accounting Staff prepare AP Invoice Details (see Figure A.1) and manual write down Buying VAT Report in paper forms (see Figure A.11). Then reconcile Buying VAT between AP Invoice Details (see Figure A.1) and Buying VAT Report (see Figure A.11). If it is not correct, Accounting Manager manual adjusts VAT. On the other hand, it is correct then Accounting Manager updates VAT information in both of AP Invoice Details (see Figure A.1) and AR Invoice Details (see Figure A.3) then sent VAT to Tax Authority organization.

### 3.1.8 Existing AP Month End Processes

As seen in Figure 3.8, Accounting Staff prepare AP reports for reconciliation by manually following as:

- (1) AP Invoice Details Report
- (2) AP Payment Details Report
- (3) Journal Ledger Report

Then Accounting Staff reconcile AP accounting manually. The total amount of AP Invoice Details Report (see Figure A.1) should be equal with the total amount of Liability Account in Journal Ledger Report (see Figure A.5 and Figure A.6). The total amount of AP Payment Details Report (see Figure A.2) should be equal with the total amount of Cash-Out Account in Journal Ledger Report (see Figure A.5 and Figure A.6). If the reconciles are not correct then Accounting Manager has to adjust manually. If the

reconciles are correct then Accounting Manager updates in Journal Ledger Report (see Figure A.5 and Figure A.6). Finally, Accounting Manager controls AP period manually.

### 3.1.9 Existing AR Month End Processes

As seen in Figure 3.9, Accounting Staff prepare AR reports for reconciliation manually as following:

- (1) AR Invoice Details Report
- (2) AR Receipt Details Report
- (3) Journal Ledger Report


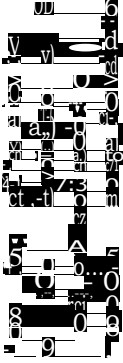
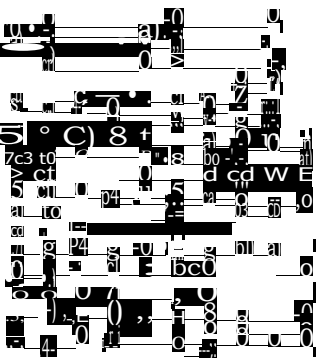
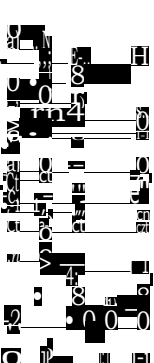
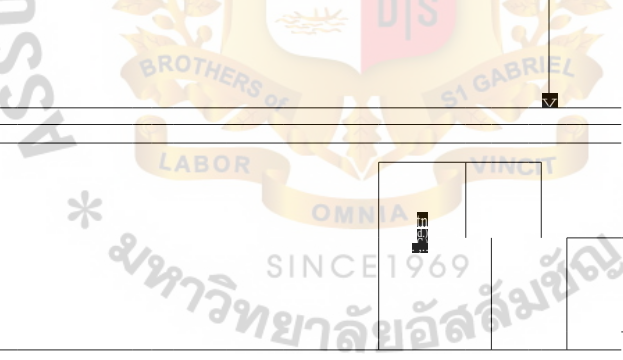
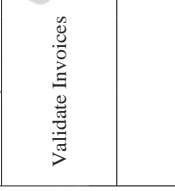

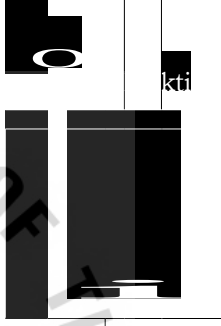
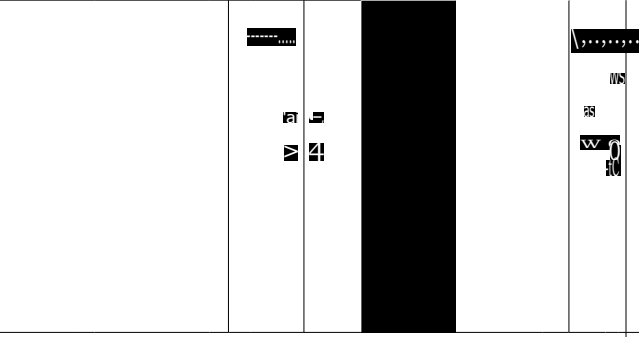
Then Accounting Staff reconcile AR accounting manually. The total amount of AR Invoice Details Report (see Figure A.3) should be equal with the total amount of Receivables Account in Journal Ledger Report (see Figure A.5 and Figure A.6). The total amount of AR Receipt Details Report (see Figure A.4) should be equal with the total amount of Cash-In Account in Journal Ledger Report (see Figure A.5 and Figure A.6). If the reconciles are not correct then Accounting Manager has to adjust manually. If the reconciles are correct then Accounting Manager updates in Journal Ledger Report (see Figure A.5 and Figure A.6). Finally, Accounting Manager controls AR period manually.



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### Existing AP Payment Processes.



Process	Customers	Accounting Staff	Accounting Manager
   	 	 	

Cr a) Existing AR Invoice Processes.

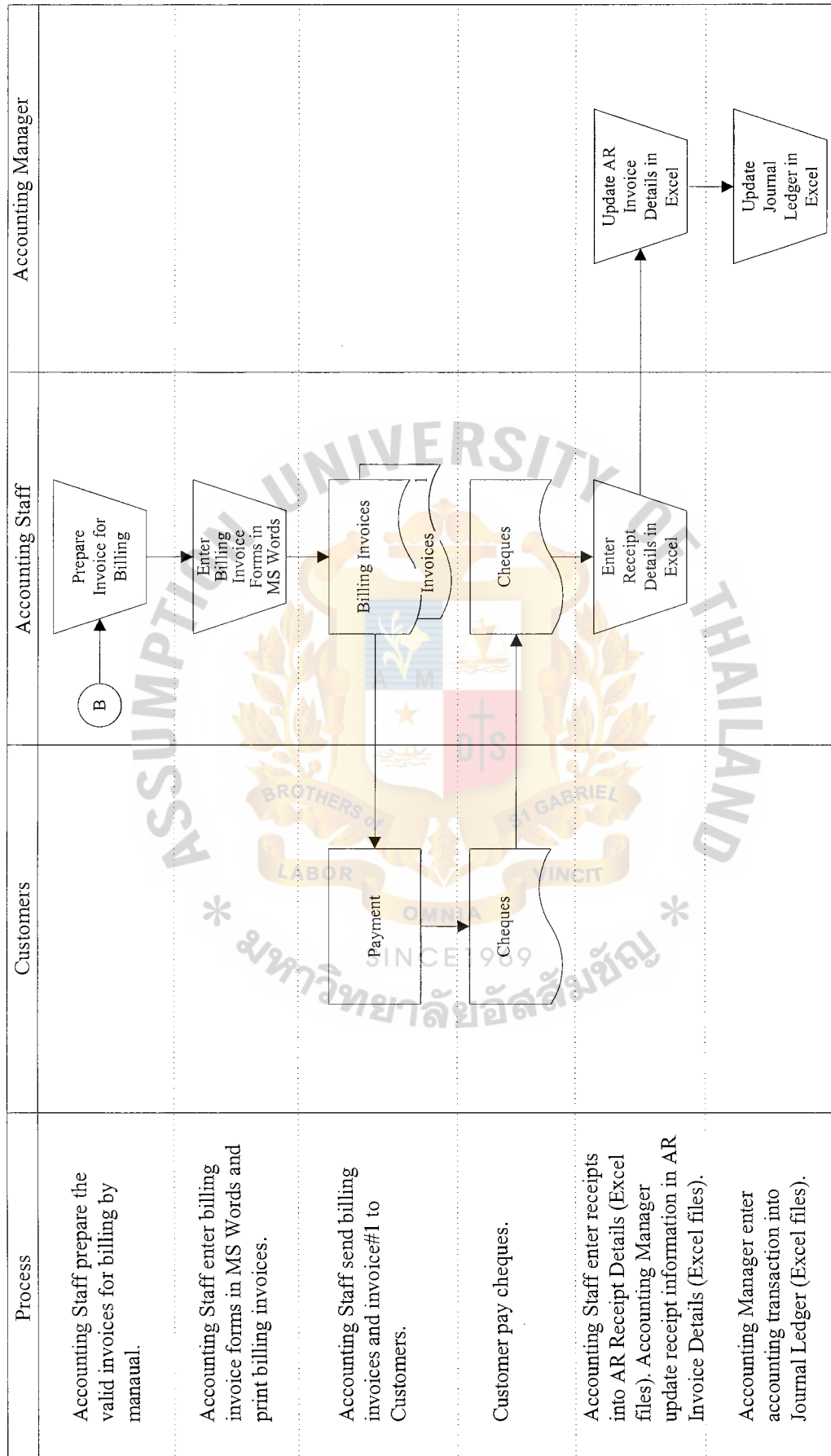


Figure 3.4. Existing AR Receipt Processes.

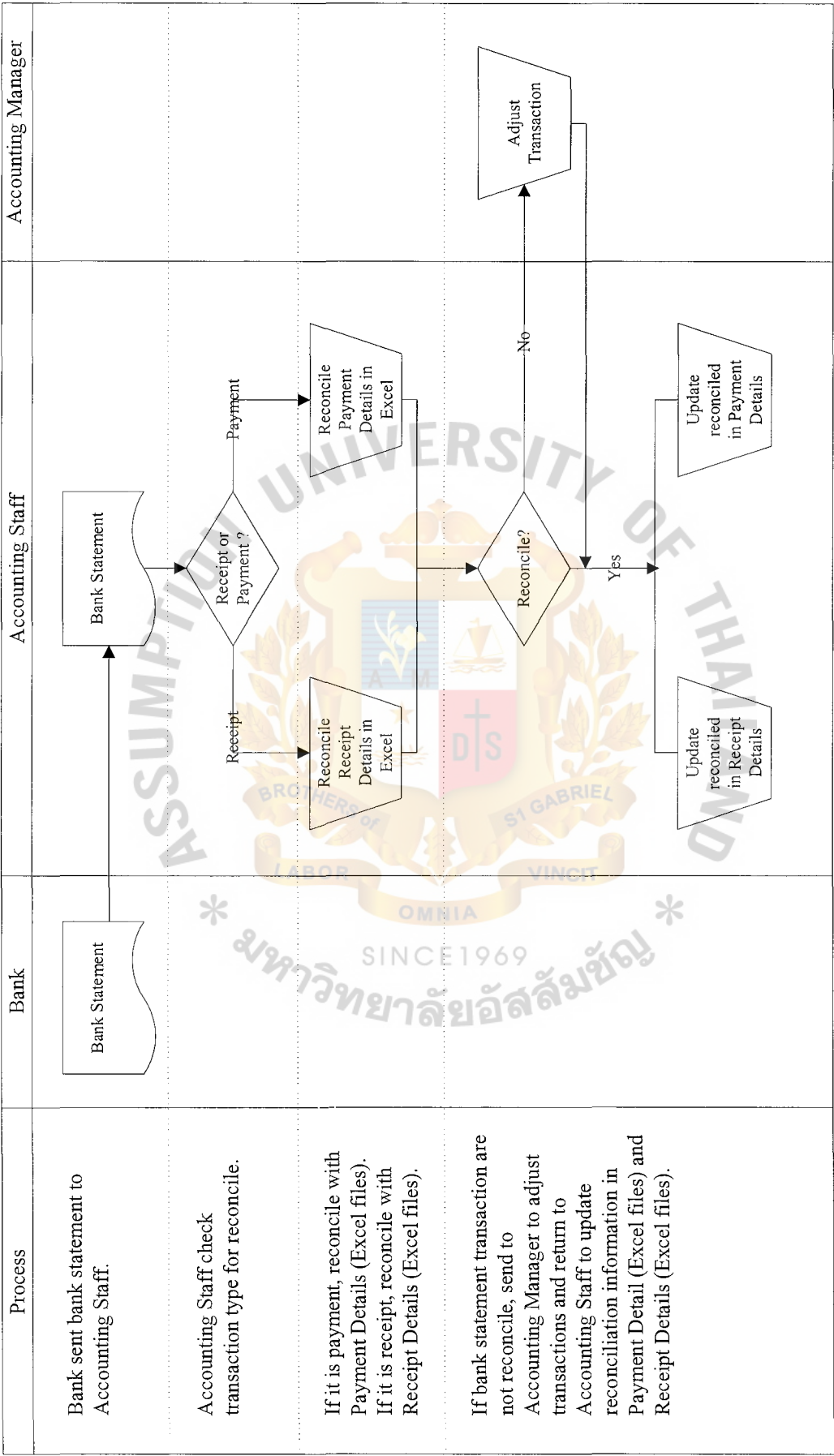


Figure 3.5. Existing Cash Reconcile Processes.

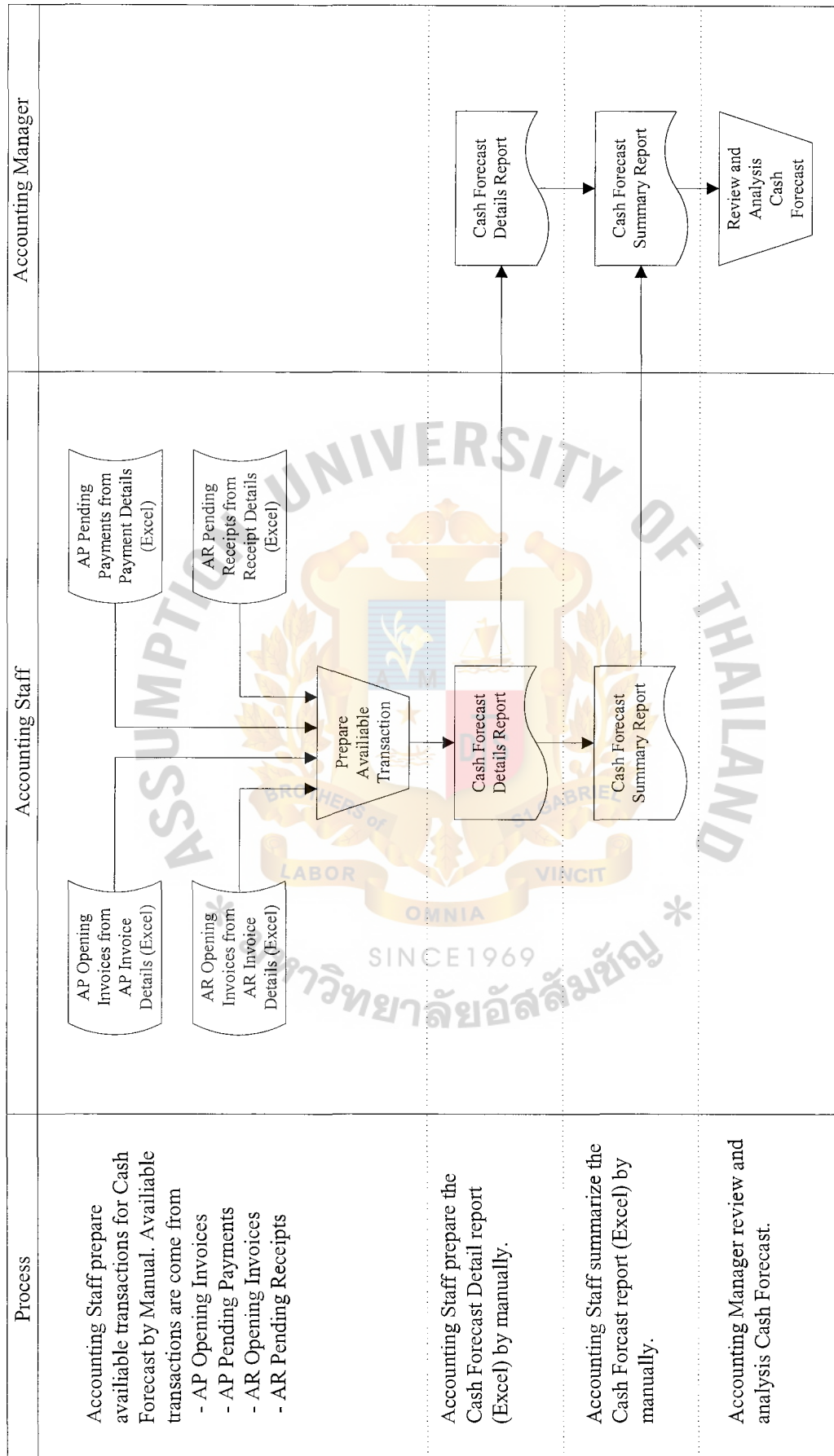


Figure 3.5. Existing Cash Forecast Processes.



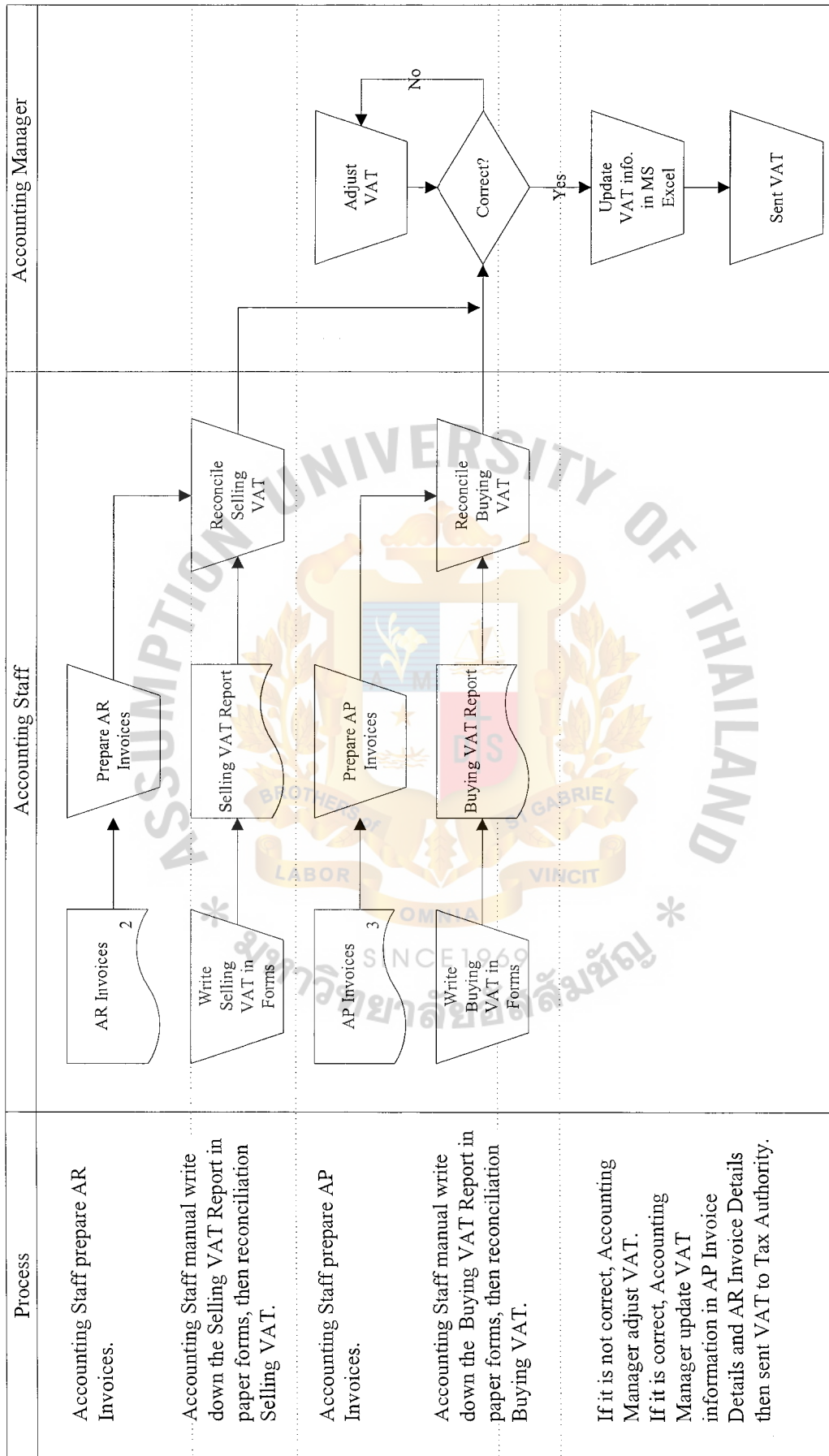
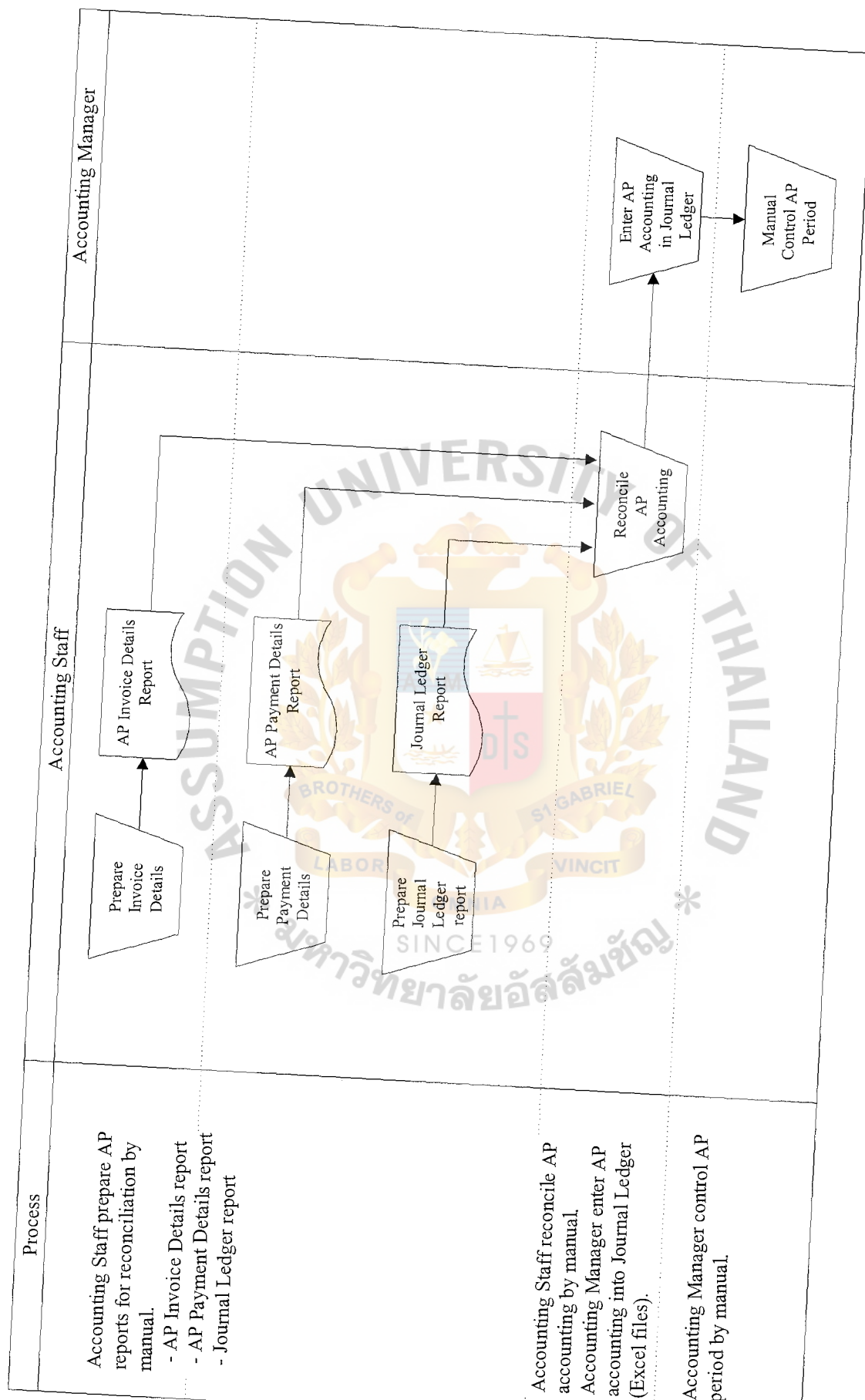
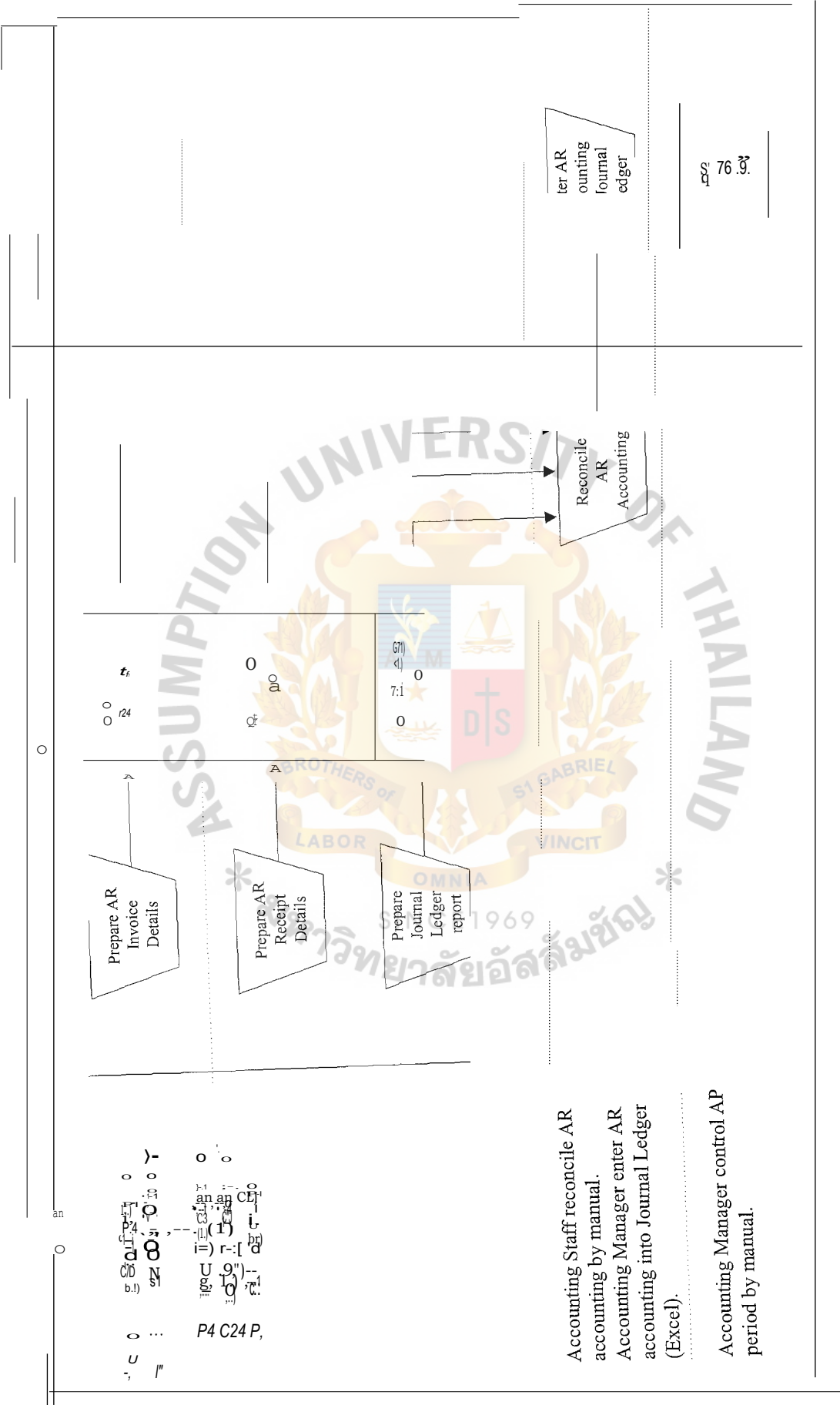


Figure 3.7. Existing VAT Processes.



Existing AP Month End.



### 3.2 Current Problems and Areas for Improvements

According to the main problem of Dream Walkers have no existing system to store accounting information so it leads to consequence problem as redundant processes, lack of consistency controls, difficult to analyse cash flow and human error. For example, as seen in existing work flow, for any transaction of AR Invoices, AR Receipts, AP Invoices and AP Payments, they have to keep these information into both of transaction detail files and accounting detail files. After transactions was processed, they have to update information such as payment information, receipt information, and reconciliation information manually. Some of process as AR Invoices, they have to keep invoice details in MS Excel file and also have to conduct Invoice Form via MS Word manually. The important thing that they have to be concerned, there are no consistency controlling and strong security for accounting information.

Dream Walkers is in need of a new accounting system that is technically sound, easy to maintain, functionally rich and flexible such that it can be extended quickly on a global level with minimum risk. Dream Walkers also would like to improve the business work flow of financial department for increasing the effectiveness to improve the cash flow control.



3.3 User's Requirements

According to the interview with Accounting Manager, the summary of User's Requirements can be separated into each accounting module as below:

Table 3.1. Account P-a3,Tables User's -Requirements.

Sub Modules/ Processes	User Requirements
Supplier Maintenance and Employee Maintenance	System should be available to set up to record information about individuals and companies from whom you purchase goods and services. You can also enter employees whom you reimburse for expense reports. When you enter a supplier that does business from multiple locations, you store supplier information only once, and enter supplier sites for each location. Most supplier information automatically defaults to all supplier sites to facilitate supplier site entry. However, you can override these defaults and have unique information for each site. The system uses information you enter for suppliers and supplier sites to enter default values when you later enter invoices for a supplier site.
	The system should not allow you to enter duplicate supplier names.
	Available to identify duplicate suppliers. Although the system will not allow you to enter duplicate supplier names, you may inadvertently define the same supplier using two different names. For example, you might enter Oracle Corporation and Oracle Corp.
	System should have utility to merge duplicate suppliers into a single, consolidated supplier. You can use it to merge transactions within the same supplier from one supplier site to a different supplier site. You can choose to merge all transactions for a supplier into a new supplier, or you can just choose to merge unpaid invoices.
AP Invoice Entries	The system should use information you enter for suppliers and supplier sites to enter default values when you later enter transactions for a supplier site.
	For approval invoice, system should be available to approve by batch or by item of invoices.

Table 3.1. Account Payables User's Requirements. (Continued)

Sub Modules/ Processes	User Requirements
	<p>During invoice entry, system should automatically schedule payment for each invoice based on the Payment Terms and Terms Date you enter for the invoice. System uses the Payment Terms definition to calculate the due date, discount date, and discount amount for each scheduled payment. For example, if an invoice has Payment Terms of Net 30, system calculates the due date as 30 days after the Terms Date. You can assign default Payment Terms to a supplier.</p>
	<p>System should provide Holds feature that you apply manually or that Payables applies, prevent payment and, in some cases, creation of accounting entries for an invoice. You can remove holds that you apply, and you can manually release certain holds that Payables applies during Approval. Payables provides some generic invoice holds for you to use, and you can define your own, based on your invoice approval needs. You can also prevent payment of supplier invoices by placing a hold on the supplier rather than on each individual invoice.</p>
	<p>If an invoice has a hold, you can release the hold by correcting the exception that caused Approval to apply the hold and then resubmitting Approval. Correct exceptions by updating the invoice or the purchase order, or change your Invoice Tolerances. System automatically releases the hold when the exception is no longer an issue. You can manually release certain invoice holds even if you have not resolved the matching error condition. You can do this in the Invoice Holds window. Authorized users can always correct an invoice, even if you have approved, paid or created accounting entries for the invoice.</p>
	<p>You can pay an employee an advance (prepayment) and later apply the advance against an expense report to reduce the amount you pay for an expense report. For example, you pay an employee a \$500 travel advance. When the employee returns from a trip, her expense report totals \$1500. You fully apply the advance against the actual expenses when you enter the expense report. When you import the expense report, the system creates a \$1500 invoice, and records a prepayment application of \$500, resulting in a \$1000 unpaid balance on the invoice. You can apply advances to any expense report you can query in the Expense Reports window. You can apply an advance at any time before submitting Payables Invoice Import for an expense report.</p>

Table 3.1. Account Payables User's Requirements. (Continued)

Sub Modules/ Processes	User Requirements
Payment Entries	You can create and print a computer generated payment to pay a supplier for one or more invoices. You can also create a check, save it, then print it later.
	You can void a recorded refund just as you void any other payment.
	When you void a payment, Payables automatically reverses the accounting and payment records so your general ledger will have the correct information, and so the status of the paid invoices is reset to Unpaid. Payables also reverses any realized gains or losses on foreign currency invoices recorded as paid by the payment.
	In the Payment, you can query a payment and review its status and its related high—level information. The payment query window is particularly helpful for reviewing information quickly when a supplier calls you to inquire about the status of a payment.
	You can use future dated payments to control the timing of your payments, and therefore control your cash flow. A future dated payment instructs your bank to disburse funds to your supplier's bank on a specific date
Post AP to GL	When invoices and payments be posted to GL, system should flag to these records to prevent for duplicate posting.

## St. Gabriel Library, Au

Table 3.2. Account Receivable User's Requirements.

Sub Modules / Processes	User Requirements
Customer Maintenance	The system should not allow you to enter duplicate customer names.
	Use Customer Merge to consolidate any duplicate customers or transfer site use activity from a customer or site that is no longer active or has been taken over by another customer or site. After the merge completes successfully, all activity that was previously associated with the old customer or site is now associated with the new customer or site.
AR Invoice Entries	Available to define approval limits for adjustments created in Receivables. Receivables use approval when you create an adjustment in the Adjustments. When you enter an adjustment that is outside your approval limit range, Receivables assigns the adjustment a status of Pending until someone with the appropriate approval limits either approves or rejects it.
	You can let your customers make invoice payments in multiple installments. When you assign a split payment term to an invoice, Receivables automatically creates the payment schedules based on the invoice date and the payment terms that you define. For example, your split payment term might specify that 40 percent of the invoice is due in 30 days after the invoice date with the remainder due in 60 days.
	* The Copy Transactions window lets you automatically create invoices for goods or services that you regularly provide to your customers. For example, you need to bill your customers for services or products provided once a month for two years, but do not want to manually create a new invoice every month. By creating invoice copies, you can quickly create a group of invoices that share the same characteristics. All of the dates for the copied invoices (for example, invoice date, GL date, and due dates) are determined using the copy rule that you specify.
Receipt Entries	System should receive both of receipt relate invoices and receipt non-relate invoices.
Post AR to GL	When invoices and payments be posted to GL, system should flag to these records to prevent for duplicate posting.



Table 3.3. Cash Management User's Requirements.

Sub Modules / Processes	User Requirements
Reconcile Bank Statement	With Cash Management, you can reconcile payments created in Payables to your bank statements. When you reconcile payments using Cash Management, Cash Management updates the status of Payables payments to Reconciled.
Cash Forecast	Cash forecasting is a planning tool that helps you anticipate the flow of cash in and out of your business, allowing you to project your cash needs and evaluate your company's liquidity position. Cash inflow information is immediately accessible to the cash forecast process in Oracle Cash Management from Oracle Receivables, Oracle Order Entry, Oracle Sales, Oracle General Ledger, and Oracle Treasury. Cash outflow information comes from Oracle Payables, Oracle Purchasing, Oracle Payroll, Oracle General Ledger, and Oracle Treasury. In addition, cash flow information from Oracle Projects and other Oracle Applications that store Projects—related information is also immediately accessible to the cash forecast process, enabling you to generate a forecast for a project.

## IV. PROBLEM SOLUTION/SYSTEM DESIGN METHODOLOGY

### 4.1 To Be Design

The To Be Design of Dream Walkers is used to define the approach to completing the business requirements and the project selection activities and is based upon the information gathered during user's requirement sessions and a brief description of this project. Most of document flow would be as existing flow. The only difference are the storing of accounting information and reducing some duplicate processes. We summarize into nine processes as:

- (1) To Be AP Invoice Processes
- (2) To Be AR Payment Processes
- (3) To Be AR Invoice Processes
- (4) To Be AR Receipt Processes
- (5) To Be Cash Reconcile Processes
- (6) To Be Cash Forecast Processes
- (7) To Be VAT Processes
- (8) To Be AP Month End Processes
- (9) To Be AR Month End Processes

## 4.1.1 To Be AP Invoice Processes

As seen in Figure 4.1, Suppliers send 3 AP invoice copies to Accounting Staff to validate them. If AP invoices are invalid then all of them were returned to Suppliers. On the other hand, if AP invoices are valid then AP invoice#1 was returned to Supplier. And then, Accounting Staff enter AP invoice details into Accounting System. After this, Accounting Manager will approve AP invoices via Accounting System. For the approval feature, system provided both of approval by invoices and approval by invoice batches. System also automatically generate the accounting for each approval AP invoices. Normally, Accounting Manager will approve AP invoices by invoice batches at day-end whereas approval by invoices will be used for immediate payment. If AP invoices are not approved, the invoice's status will be 'Non Approved' and Accounting Staff will correct them later. In contrast, AP invoices are approved then AP invoice#2 was sent to Payment Processes while AP invoice#3 was filing for VAT Processes.

## 4.1.2 To Be AP Payment Processes

As seen in Figure 4.2, Accounting Staff prepare the valid AP invoices then enter payment details into Accounting System. After this, Accounting Manager approves payments via Accounting System, if payments are not approved then they were returned to Accounting Staff to correct them. Whereas payments are approved, Accounting Staff will print cheques by Accounting System. And system also automatically generate the accounting for each approval payments. Next, Account Manager signs cheques. Finally, Suppliers will pick up the completed cheques.

## 4.1.3 To Be AR Invoice Processes

As seen in Figure 4.3, Accounting Staff enter AR invoice details in Accounting System. Then Accounting Manager will approve AR invoices via Accounting System. If AR invoices were approved, system will automatically generate the accounting

information. If AR invoices were not approved, they were returned to Accounting Staff to correct them. In contrast, AR invoices were approved then Accounting Staff will print AR invoice notes via Accounting System. After that, AR invoices were sent to Customers to validate them and then customer will return AR invoice#1 and AR invoice#2 back. Finally, AR invoice#1 was sent to Receipt Processes whereas AR invoice#2 was filed for VAT Processes.

#### 4.1.4 To Be AR Receipt Processes

As seen in Figure 4.4, Accounting Staff prepare the valid AR invoices for billing and then print billing invoice notes via Accounting System. After this, Accounting Staff send billing invoice notes and AR invoice#1 to Customers for billing. When Customer pays cheques, Accounting Staff enter receipt details into Accounting System and also print receipts by Accounting System. System will automatic generate the accounting information. Then Accounting Manager reviews the receipt details via System. In case that the entering receipt is wrong, Accounting Staff will reverse this receipt by the Accounting System and system also automatic reverse the accounting of this receipt.

#### 4.1.5 To Be Cash Reconcile Processes

As seen in Figure 4.5, Bank sent bank statement to Accounting Staff. Then Accounting Staff enter bank statement details into Accounting System. Next, Accounting Staff reconcile the entering bank statement with available AP Payment and AR Receipt transactions. If bank statement transactions are not reconciled, Accounting Staff adjust transactions and send to Accounting Manager for approval. On the other hand, bank statement transactions are reconcile, Accounting Staff will print Reconciliation report and system will automatically flag the complete reconciliation for each transaction. Finally Accounting Manager will review the Reconciliation report.

#### 4.1.6 To Be Cash Forecast Processes

As seen in Figure 4.6, Accounting Staff prepare the available transactions for Cash Forecast by Accounting System. System will automatically retrieve the available transactions such as AP Opening Invoices, AP Pending Payments, AR Opening Invoices and AR Pending Receipts. And then Accounting Staff check the retrieve transaction and remove some transaction that is unable to forecast. After this, Accounting Staff will submit the Cash Forecast report. Finally, Accounting Manager reviews and analysis Cash Forecast.

#### 4.1.7 To Be VAT Processes

As seen in Figure 4.7, Accounting Staff prepare AR Invoices#2 and print Selling VAT Report. Then reconcile Selling VAT between AR Invoice#2 and Selling VAT Report. Next, Accounting Staff prepare AP Invoices#3 and print Buying VAT Report. Then reconcile Buying VAT between AP Invoice#3 and Buying VAT Report. If they are not correct, Accounting Manager adjusts VAT. On the other hand, they are correct, Accounting Manager will send Selling VAT and Buying VAT reports to Tax Authority and also confirm the sending Tax Authority into Accounting System to prevent for duplicate sending.

#### 4.1.8 To Be AP Month End Processes

As seen in Figure 4.8, Accounting Staff prepare AP reports for reconciliation as following:

- (1) AP Invoice Register report
- (2) AP Invoice Accounting report
- (3) AP Payment Register report
- (4) AP Payment Accounting report



Then Accounting Staff reconcile AP accounting. The total amount of AP Invoice Register report would be equal with the total amount of AP Invoice Accounting report. On the other hand, the total amount of AP Payment Register report would be equal with the total amount of AP Payment Accounting report. If the reconcile AP transactions are not correct then Accounting Manager should adjust. If the reconcile AP transactions are correct then Accounting Manager post AP accounting to GL. Finally, Accounting Manager closes AP period. After this, system will not allow for create new transactions into AP Accounting System.

#### 4.1.9 To Be AR Month End Processes

As seen in Figure 4.9, Accounting Staff prepare AR reports for reconciliation as following:

- (1) AR Invoice Register report
- (2) AR Invoice Accounting report
- (3) AR Receipt Register report
- (4) AR Receipt Accounting report.

Then Accounting Staff reconcile AR accounting. The total amount of AR Invoice Register report would be equal with the total amount of AR Invoice Accounting report. On the other hand, the total amount of AR Receipt Register report would be equal with the total amount of AR Receipt Accounting report. If the reconcile AR transactions are not correct then Accounting Manager should adjust. If the reconcile AR transactions are correct then Accounting Manager posts AR accounting to GL. Finally, Accounting Manager closes AR period. After this, system will not allow for creating new transactions into AR Accounting System.

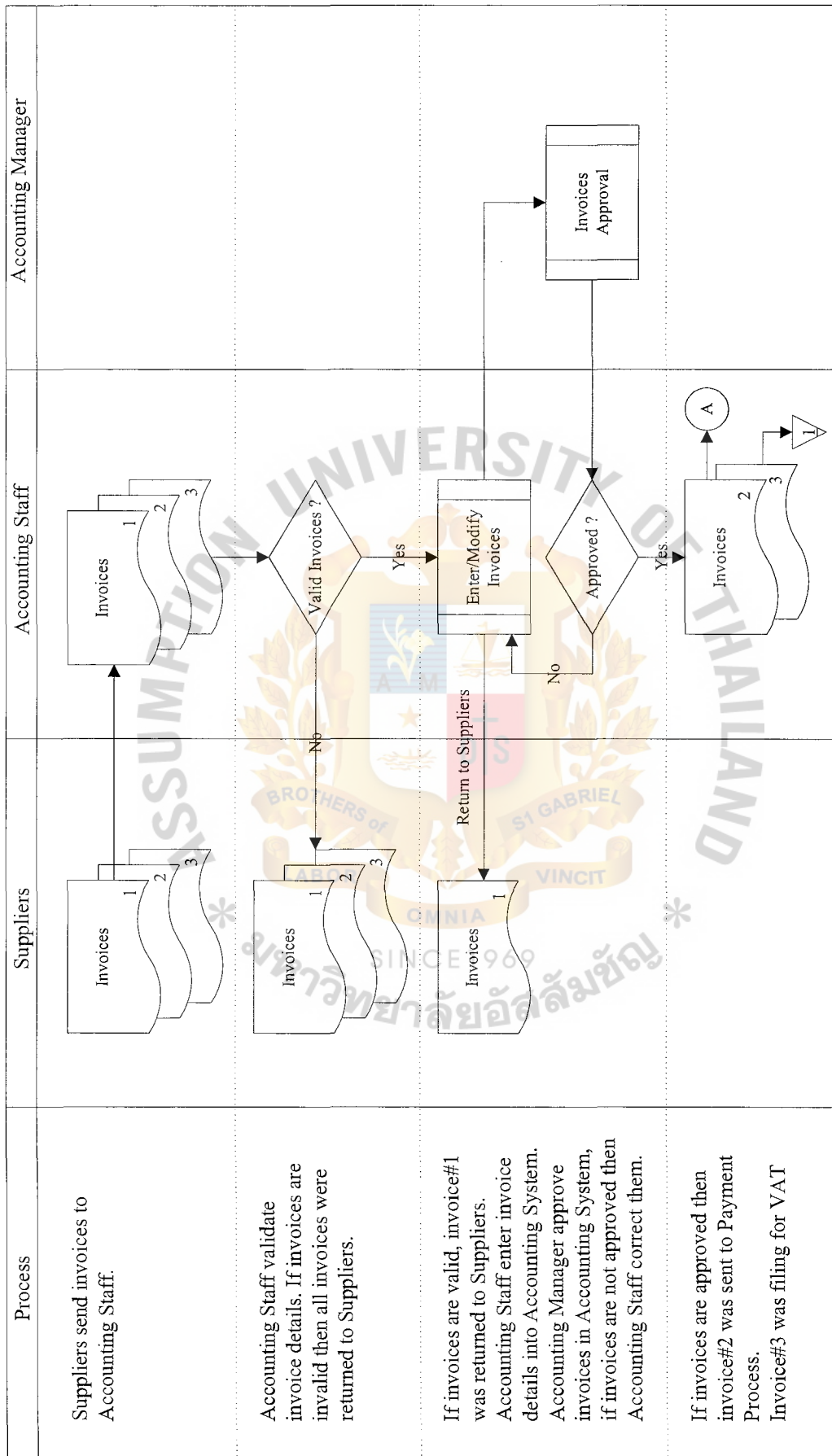


Figure 4.1. To Be AP Invoice Processes.

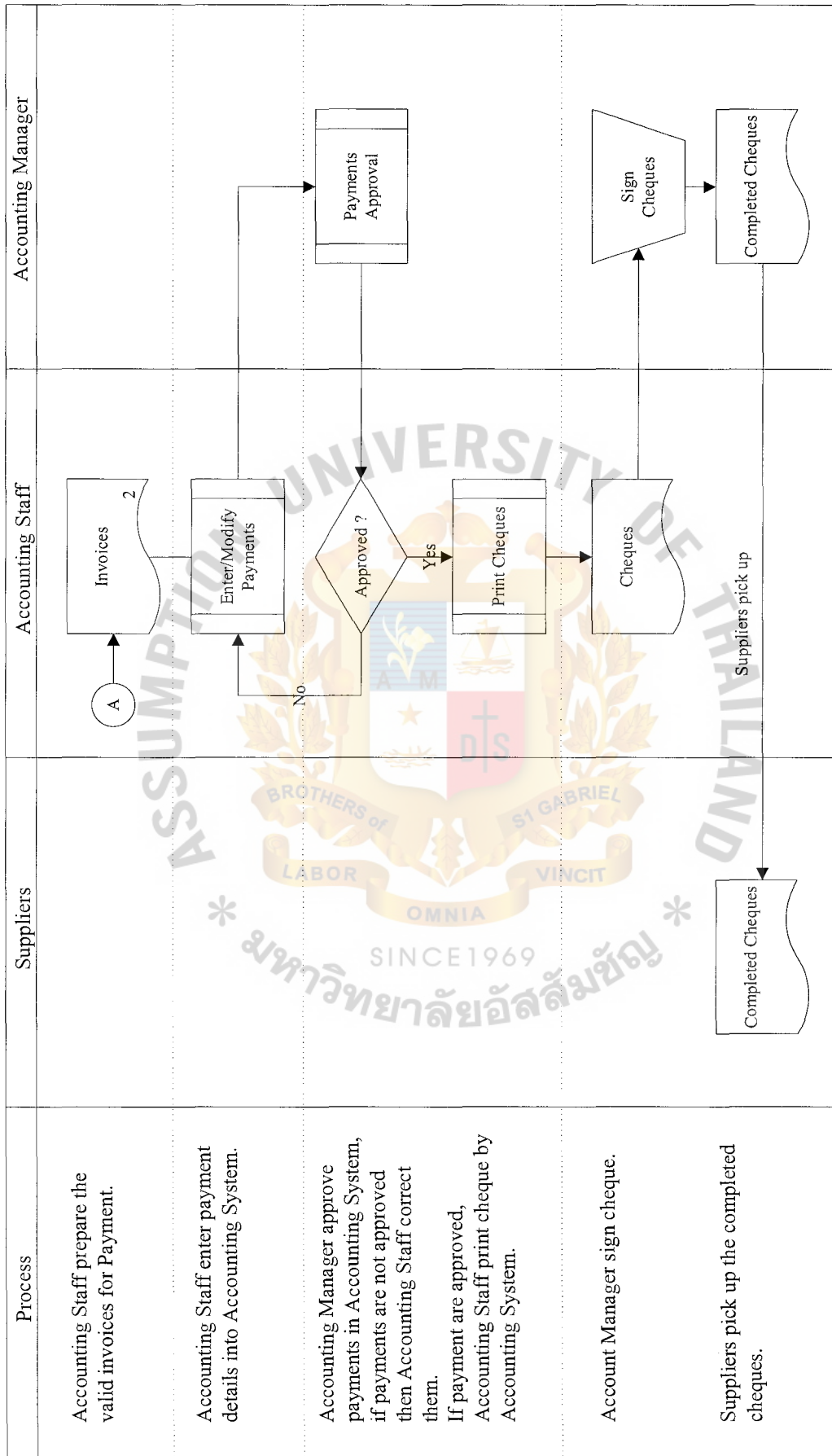


Figure 4.2. To Be AP Payment Processes.

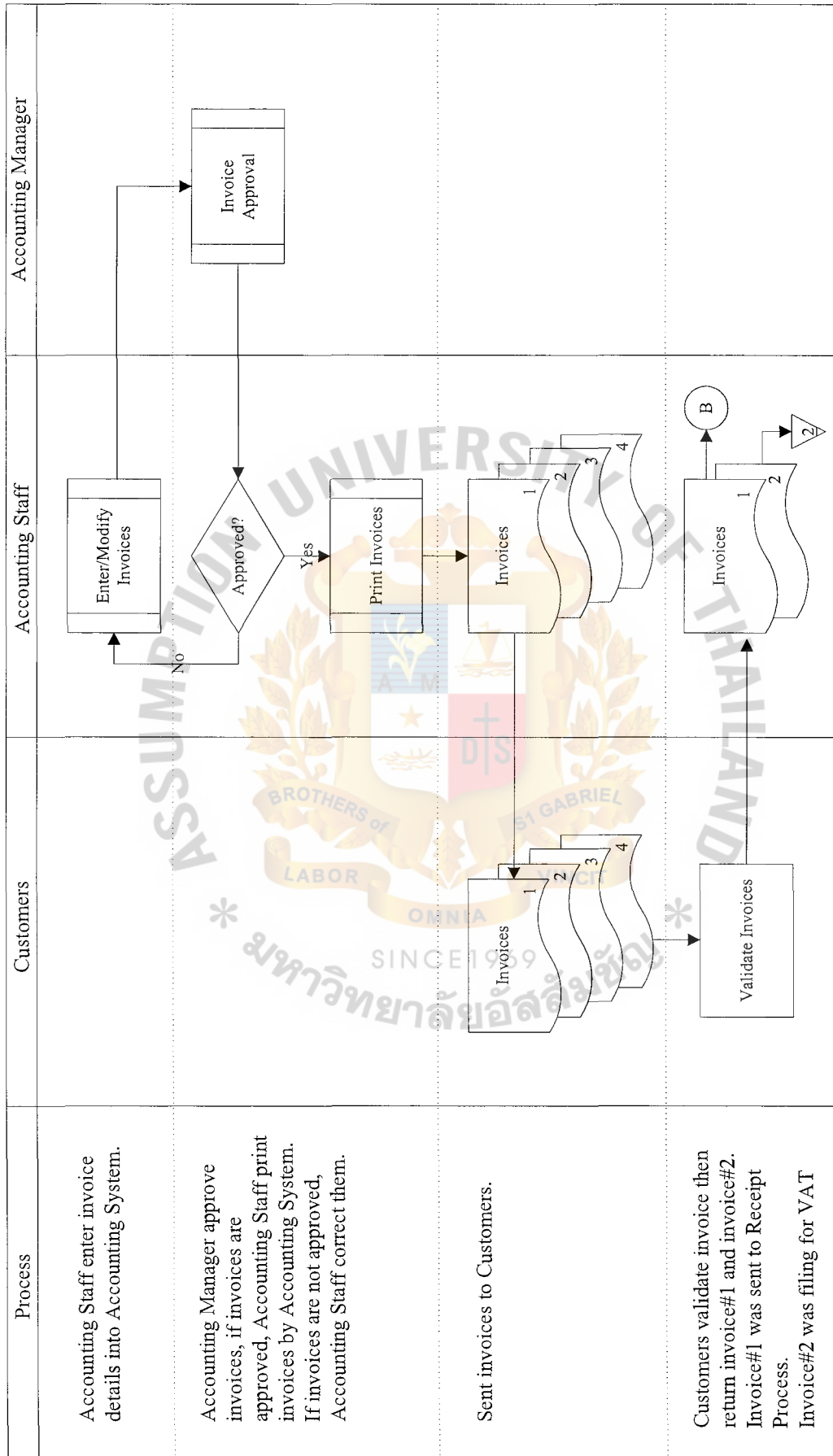


Figure 4.3. To Be AR Receipt Processes.

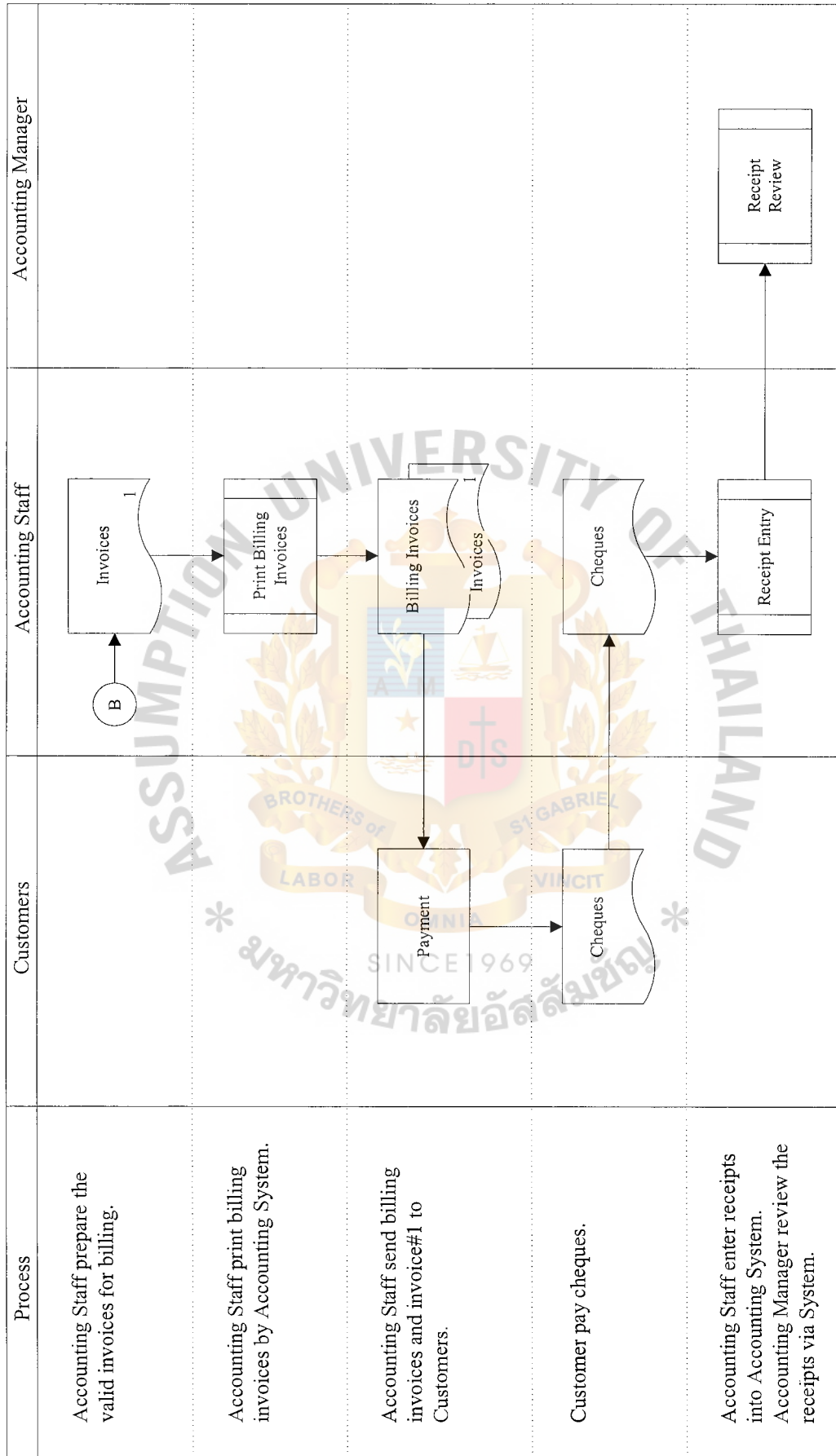


Figure 4.4. To Be AR Receipts Processes.



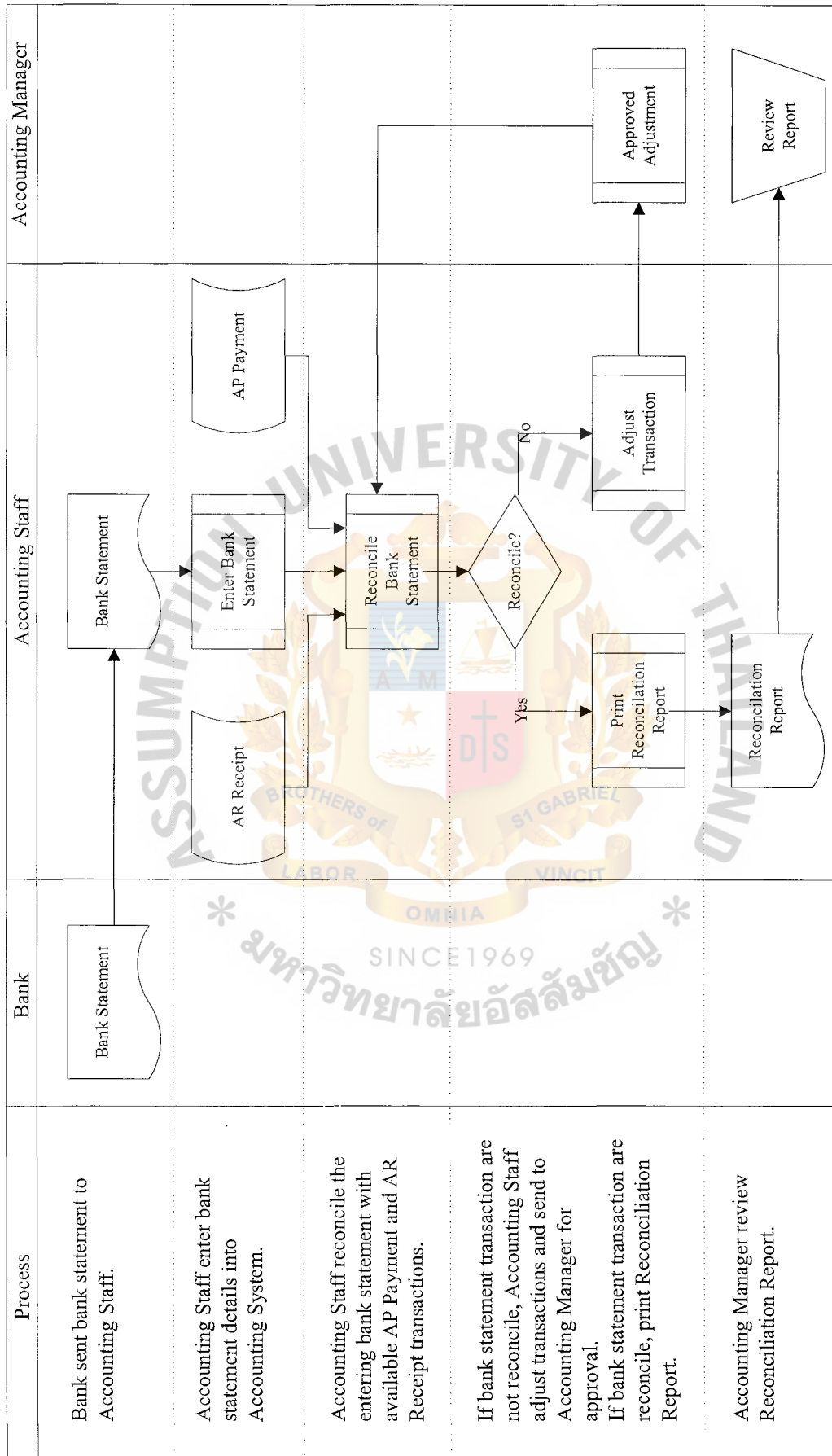


Figure 4.5. To Be Cash Reconcile Processes.

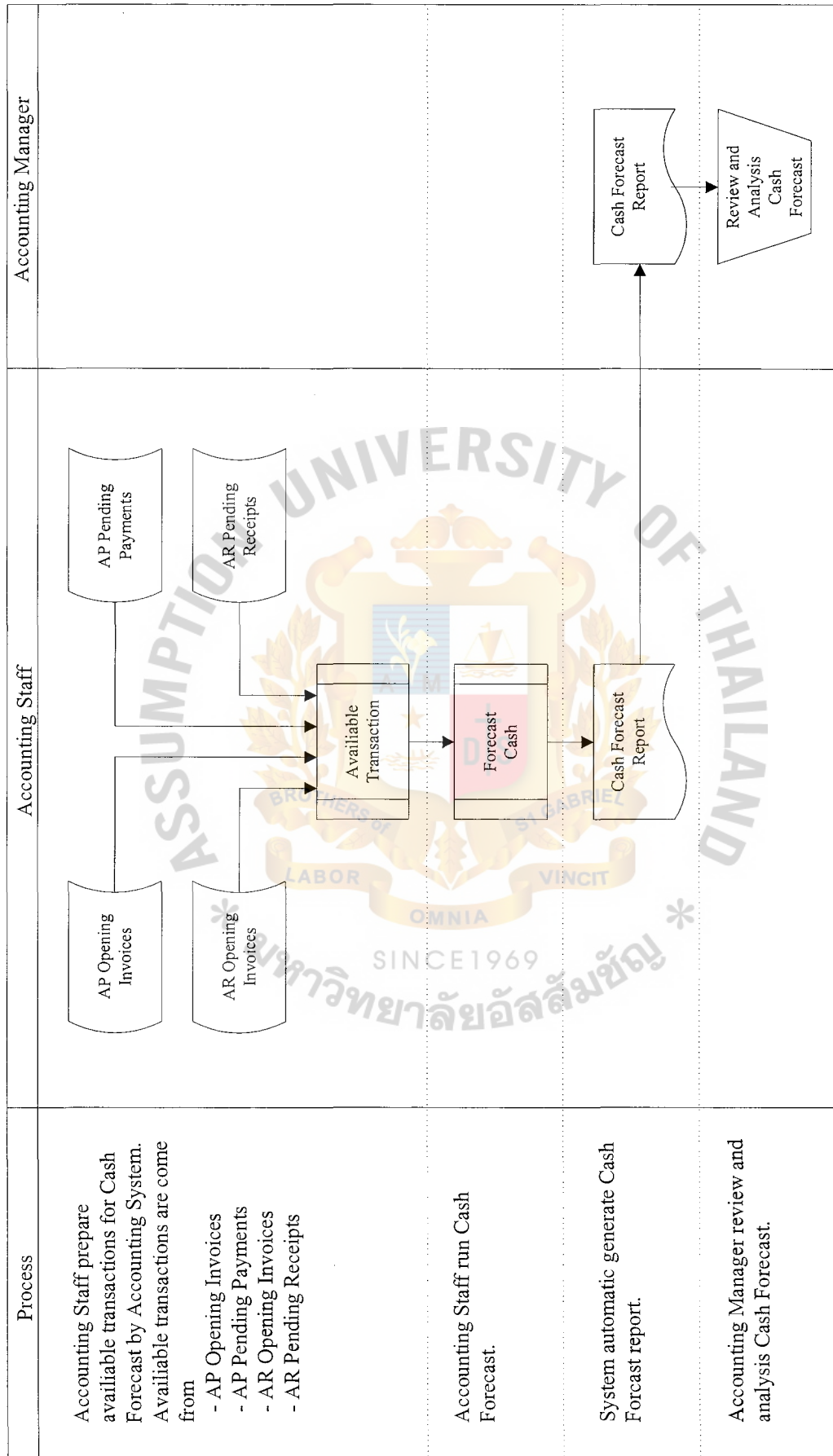


Figure 4.6. To Be Cash Forecast Processes.

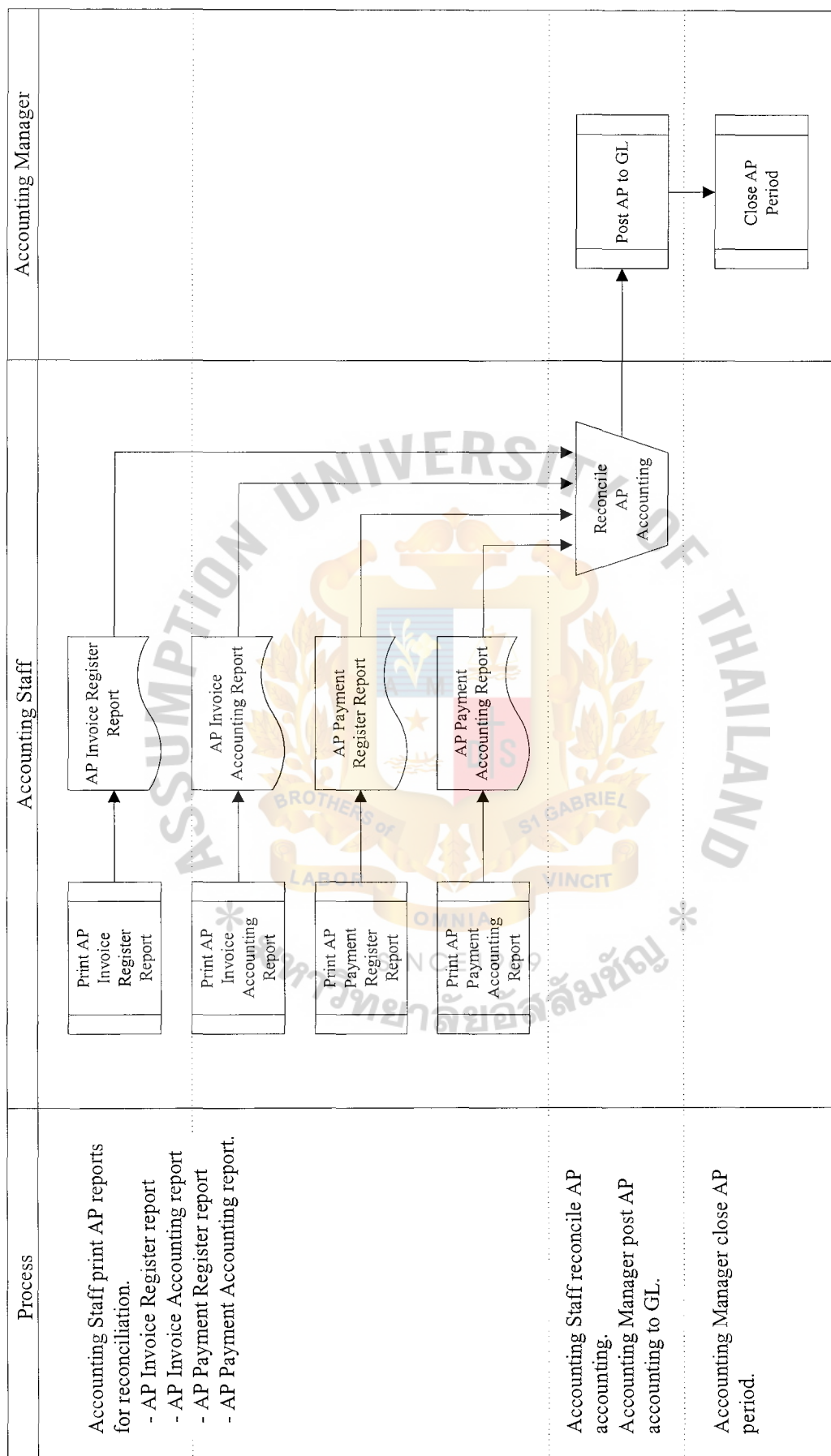


Figure 4.8. To Be AP Month End Processes.

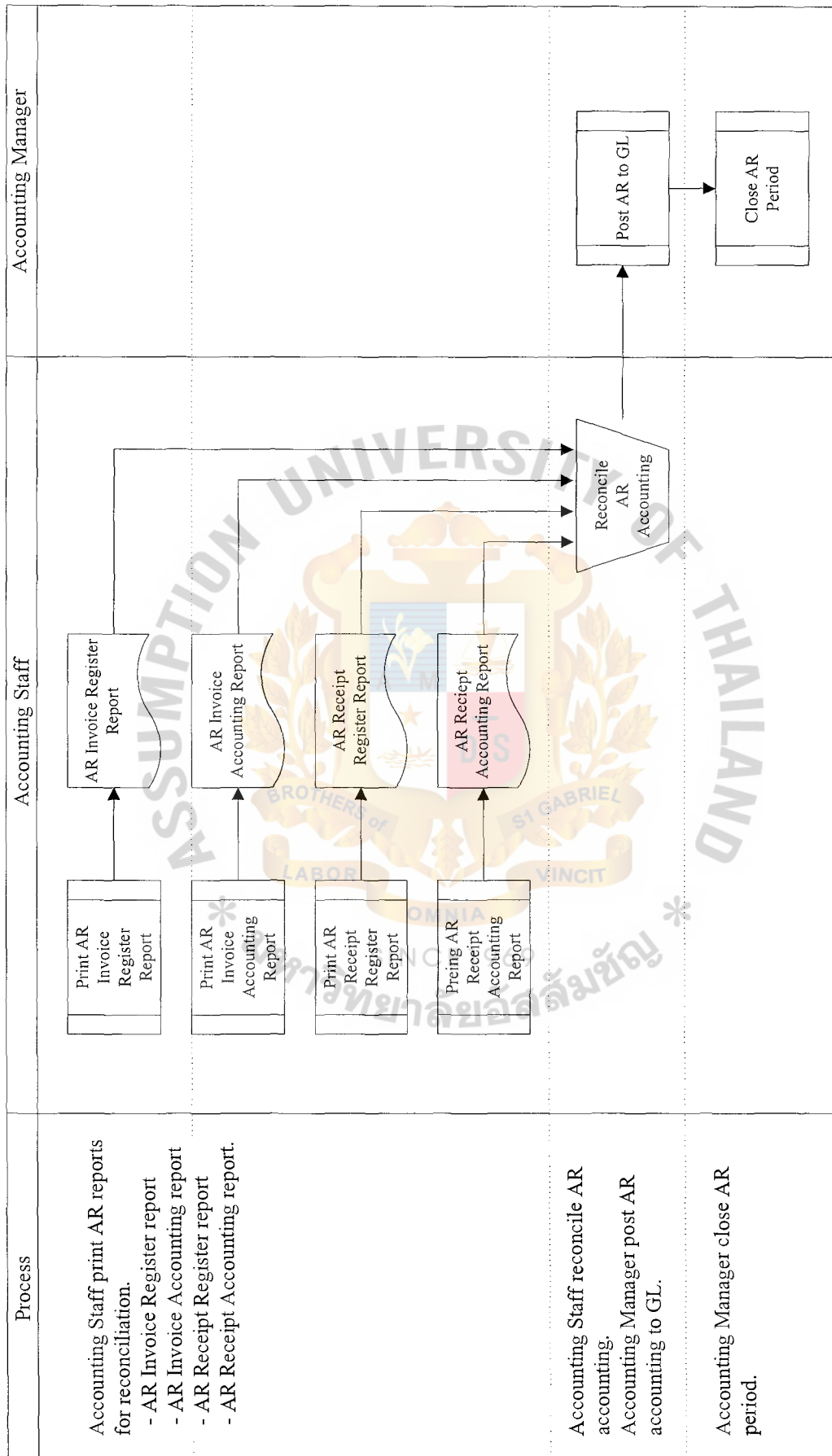


Figure 4.9. To Be AR Month End Processes.

4.2 System Design

4.2.1 Data Flow Diagrams (DFDs)

Process modeling involves graphically representing the functions, or processes, which capture, manipulate, store, and distribute data between a system and its environment and between components within a system. A common form of process model is a data flow diagram (DFDs).

For Dream Walkers Accounting System, the highest-level view of this system, a context diagram is shown in Figure 4.10. This context diagram contains only one process, no data stores, four external sources and ten data flows to represent the link flows between main process and all external sources.

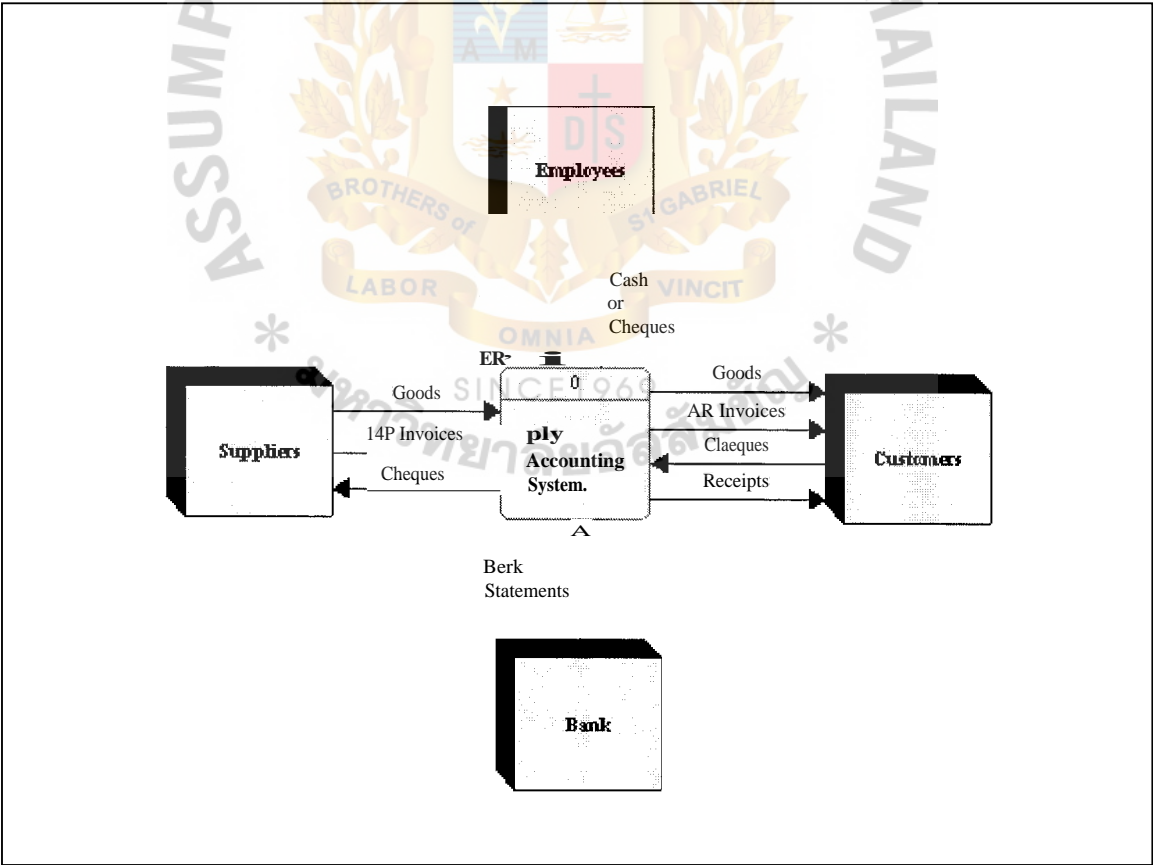


Figure 4.10. Context Diagram of Dream Walkers Accounting System.



The next step for the analyst is called a Level-0 diagram as it represents the primary individual processes in the system at the highest possible level.

As seen in Figure 4.11, we have identified four separate processes, providing more detail of the system. In the first process, labeled 1 Account Payables which has two input data flows, Goods and AP Invoices from Suppliers and also generate one output data flow as Cheques to Suppliers. It also has one input data flow as Employee Expenses from Employee and generate one output data flow as Cash or Cheques back to Employees. Then this process links to the third process, Cash Management by generate two data flows as AP Invoice Transactions and AP Payment Transactions.

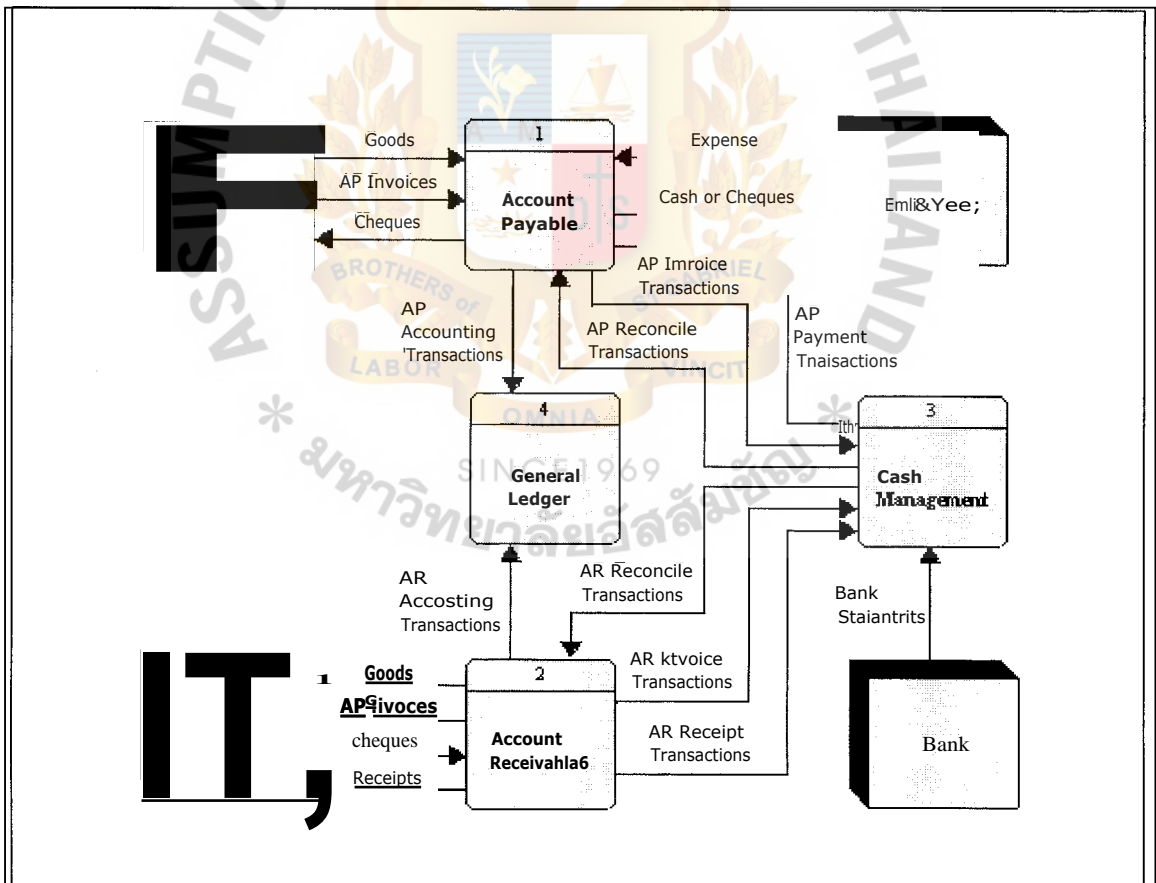


Figure 4.11. Level-0 Diagram: Summary Processes.

The second process, labeled 2 Account Receivables which generate two output data flows as Goods and AP invoices to Customer and then it has one input data flow as Cheques from Customer. After this, this process generate one output data flow as Receipts back to Customer. Similar to Account Payables processes, it also links to the third process, Cash Management by generating two data flows as AR Invoice Transactions and AR Receipt Transactions.

The third process, labeled 3 Cash Management has 4 input data flows. Two input data flows as AP Invoice Transactions and AP Payment Transactions come from Account Payables processes and the other two input data flows as AR Invoice Transactions and AR Receipt Transactions come from Account Receivables processes. Then this processes generate two output data flows. The first one, AP Reconcile Transactions generated back to Account Payables processes and another one, AR Reconcile Transactions generated back to Account Receivables processes.

The last process, General Ledger is a center of all Accounting Transactions in the system. Therefore, it has two input data flows about Accounting Transactions from Account Payables processes and Account Receivables processes. This process is not direct link to Cash Management processes. Although Cash Management processes also generate the Reconcile Accounting but it will generate and put back to Account Payables processes and Account Receivables processes. Then these processes will pass the Reconcile Accounting to the last process.

Before this, we started with a high-level context diagram and then broken down the processes into four main processes. The act of going from a single system to four component processes is called Functional Decomposition which is an iterative process of breaking the description or perspective of a system down into finer and finer detail. Thus, each process may consist of several sub-processes. Each sub-process may also be

broken down into smaller units. Decomposition continues until we have reached the point where no sub-process can logically be broken down any further.

Continue with Dream Walkers Accounting System to see how a level-0 DFD can be further decomposed. The first process in Figure 4.11 can be decomposed into sub-processes as seen in Figure 4.12, called Account Payables sub-processes. There are two processes for maintenance master files. The first process, labeled 1 Supplier Maintenance which the output for this process is labeled Supplier Records. This output updates a data store labeled Supplier Files. Similarly as the first process, the second process, labeled 2 Employee Maintenance which the output for this process is labeled Employee Records. This output updates a data store labeled Employee Files.

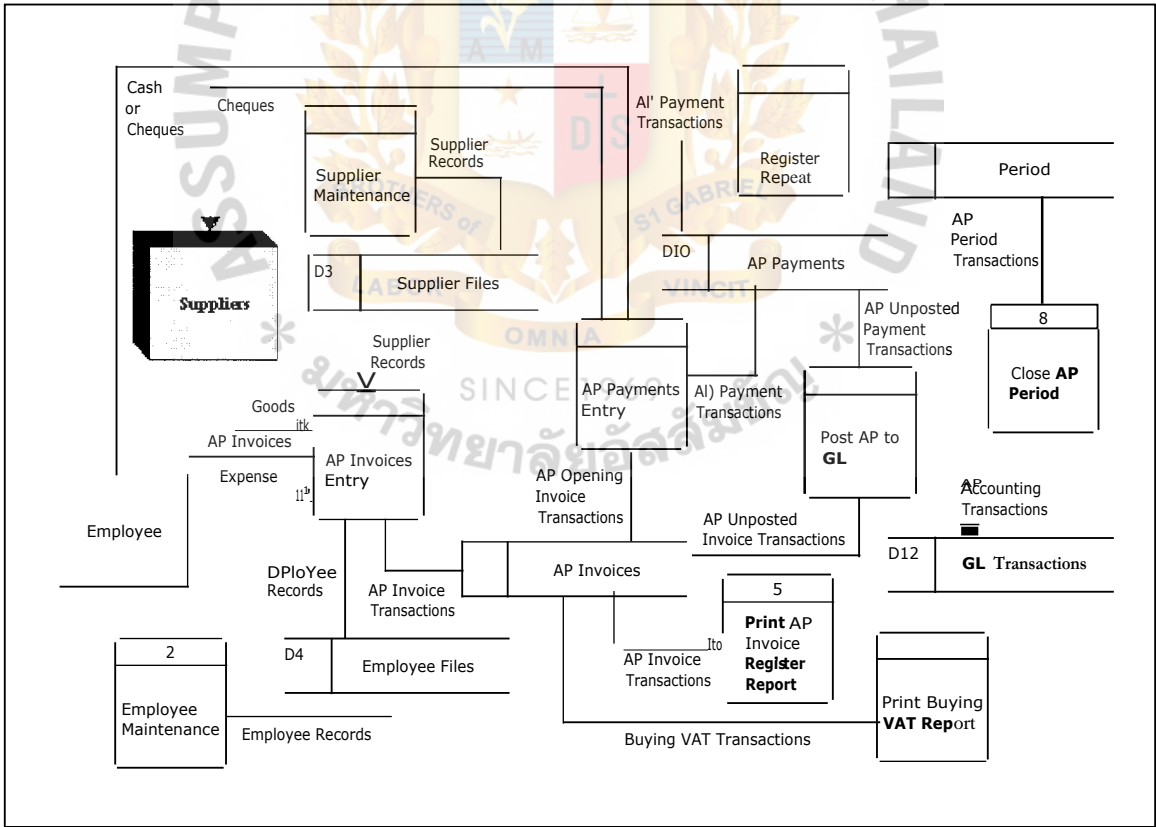


Figure 4.12. Level-1 Diagram: Account Payables Sub-processes.

The data flow labeled Supplier Records and Employee Records go to the third process, labeled 3 AP Invoice Entry. When the Supplier sent AP Invoice or the Employees sent Expense Claim, this process will generate output as labeled AP Invoice Transactions and updates a data store labeled AP Invoices. The AP Invoices are then used as input to the fifth process, Print Invoice Register Report and the nine process, Print Buying VAT Report. They are also used as input to the fourth process, AP Payment Entry which generate cheques and cash for Suppliers and Employees. The fourth process also generate output as labeled AP Payment Transactions. This output updates a data store labeled AP Payments. The AP Payment are then used as input to the six process, Print Payment Register Report. Both of AP Invoice and AP Payment are also used as input to the seven process, Post AP to GL. This process update the GL Transactions data store, based on the accounting information. Finally, we have to control AP Accounting Period by used the last process, Close AP Period. This period will not allow to create new transaction after the AP Period closed.

For the Supplier Maintenance and Employee Maintenance, they can be broken down into smaller units as seen in Figure 4.13, Supplier Maintenance Details and Figure 4.14, Employee Maintenance Details. We can decompose the Supplier Maintenance processes into four sub-processes. Three of sub-processes: Process 1.1, Create New Suppliers, Process 1.2, Update Supplier Information and Process 1.3, Inactive Supplier update data store labeled Supplier Files. On the other hand, Process 1.4, Query Suppliers will retrieve Supplier Records from data store labeled Supplier Files. The Employee Maintenance Detail also can be decomposed in the same way as the Supplier Maintenance Detail. The difference from the Supplier Maintenance Details are only labeled of data store, labeled of data flows and labeled of sub-processes that were changed from Suppliers to Employees.

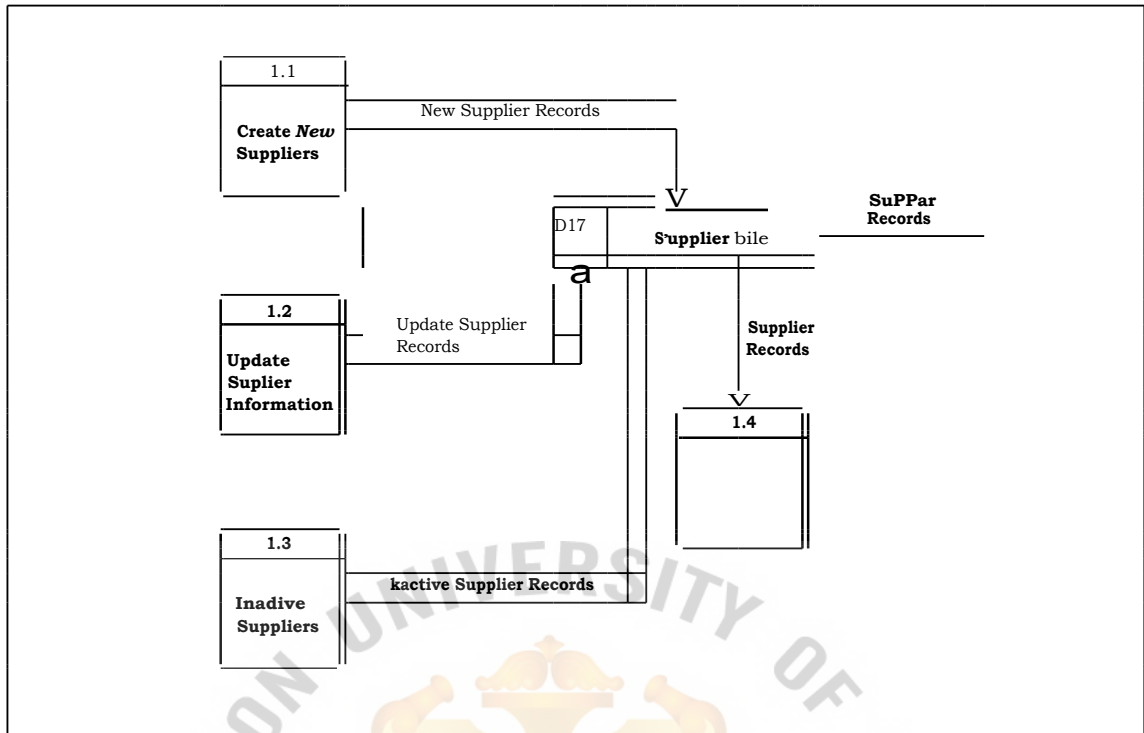


Figure 4.13. Level-2 Diagram: Supplier Maintenance Details.

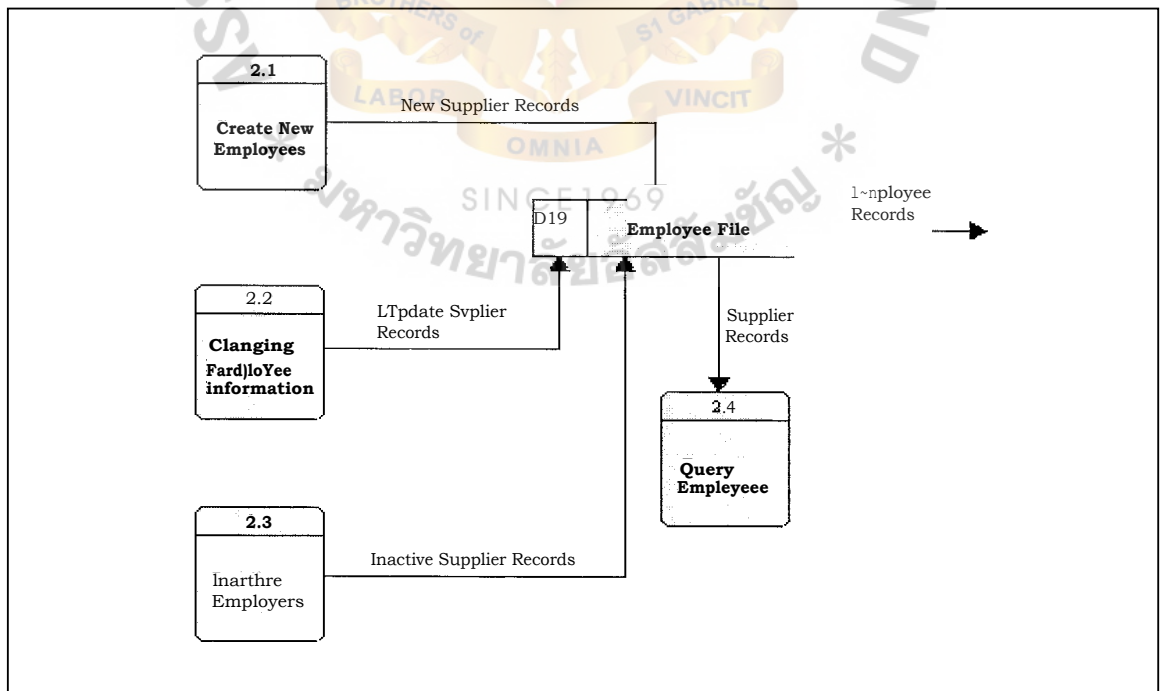


Figure 4.14. Level-2 Diagram: Employee Maintenance Details.



For the AP Invoice Entry process, it can be broken down into four sub-processes as seen in Figure 4.15, AP Invoice Entry Details. Two of sub-processes: Process 3.1, Expense Entry and Process 3.2, AP Invoice Entry will update into data store labeled AP Invoice while the Process 3.3, Approve Invoices which retrieve AP Unapproved Invoice Transaction from data store labeled AP Invoices and then format data from Unapproved Invoice to Approved Invoice and also generate accounting information for each approved invoice. Then it generate output as labeled AP Invoice Transactions to update a data store labeled AP Invoices. For last sub-process, Process 3.4, Query AP Invoices will only retrieve data from data store. Finally, data flow labeled AP Invoice Transaction will go to next process of Account Payables.

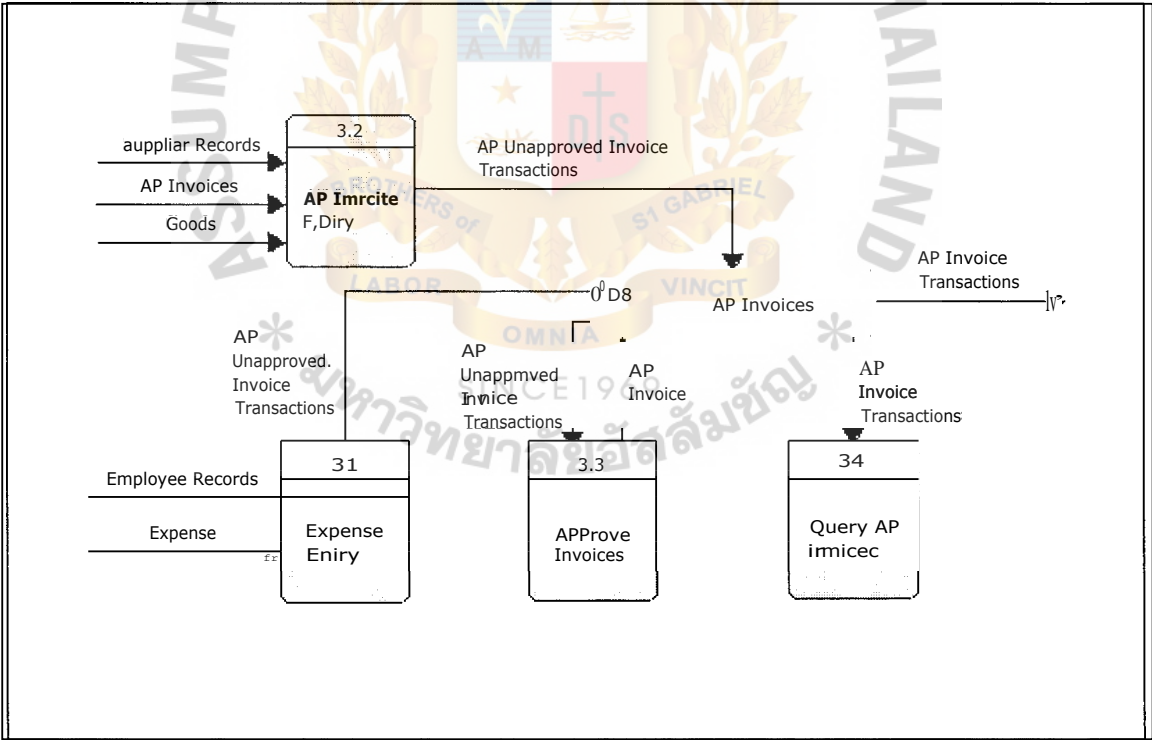


Figure 4.15. Level-2 Diagram: AP Invoice Entry Details.

For the AP Payment Entry process, it can be broken down into three sub-processes as seen in Figure 4.16, AP Payment Entry Details. For Process 4.1, Payment Entry will update the Payment Transactions into data store labeled AP Payments while the Process 4.2, Query payments will retrieve Payment Transaction. For the Process 4.3, Print Cheques will generate two output data flows as Cheques and Cash or Cheques to send back to External Entities, Suppliers and Employees.

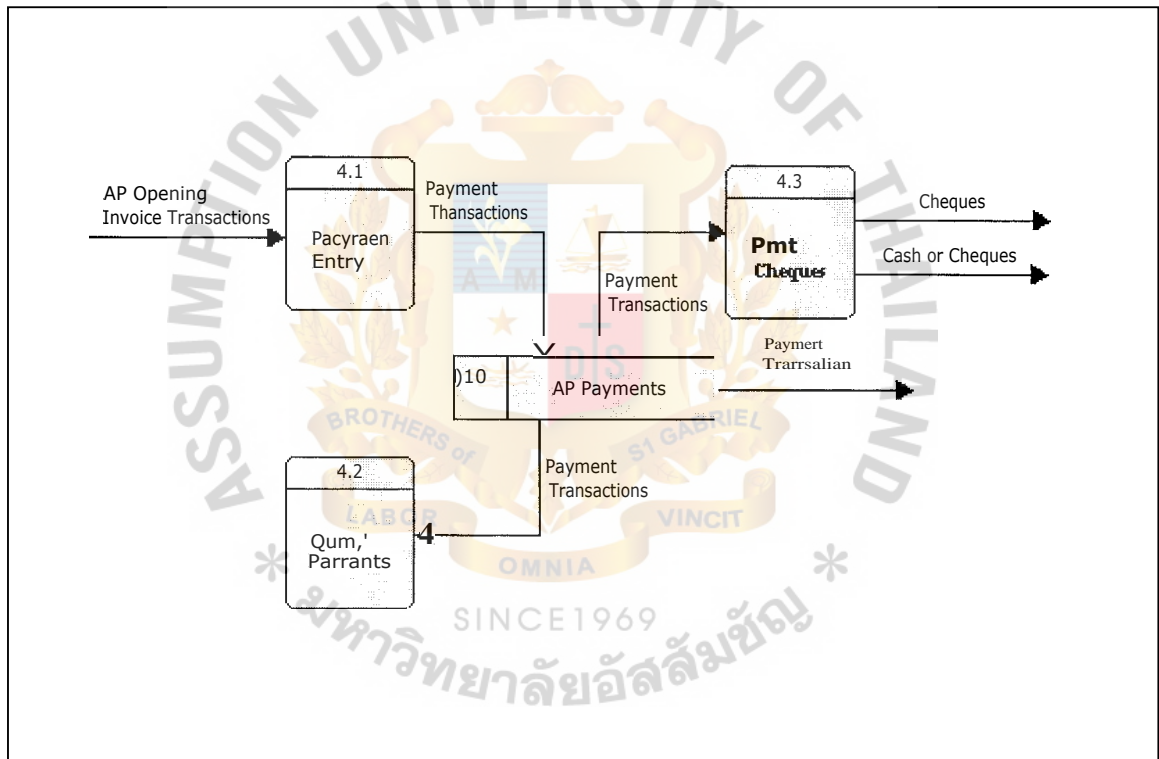


Figure 4.16. Level-3 Diagram: AP Payment Entry Details.

For the second process in Figure 4.11, Account Receivables which can be decomposed into sub-processes as seen in Figure 4.17, called Account Receivables sub-processes. There are processes for Customer Maintenance which the output for this process is labeled Customer Records. This output updates a data store labeled Customer Files. This output updates a data store labeled Customer Files.

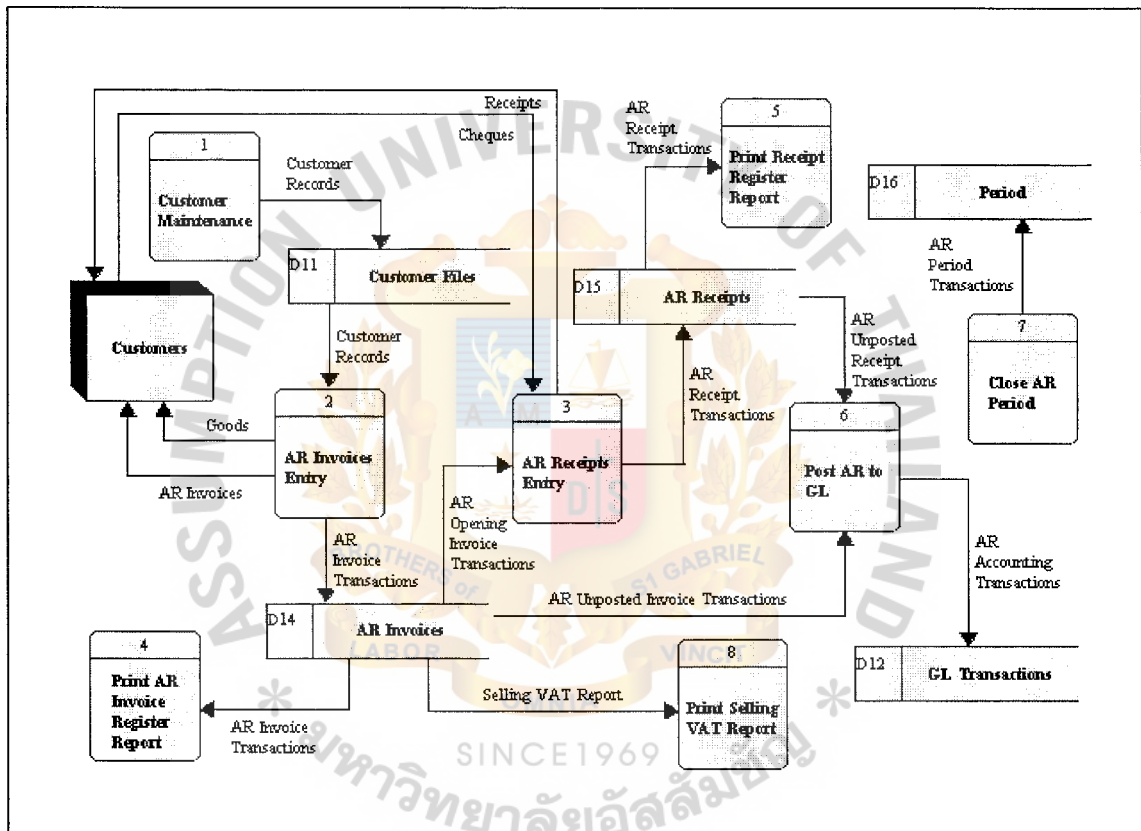


Figure 4.17. Level-1 Diagram: Account Receivables Sub-processes.

The data flow labeled Customer Records go to the second process, labeled 2 AR Invoice Entry. This process will generate AR Invoice for Customer and also generate output as labeled AR Invoice Transactions to updates a data store labeled AR Invoices. The AR Invoices are then used as input to the fourth process, Print AR Invoice Register Report and the eight process, Print Selling VAT Report. They are also used as input to

the third process, AR Receipt Entry which generate output as labeled AR Receipts Transactions. This output updates a data store labeled AR Receipts. The AR Receipts are then used as input to the fifth process, Print Receipt Register Report. Both of AR Invoice and AR Receipt are also used as input to the six process, Post AR to GL. This process update the GL Transactions data store, based on the accounting information. Finally, we have to control AR Accounting Period by using the last process, Close AR Period. This period will not allow to create new transaction after the AR Period closed.

For the Customer Maintenance, they can be broken down into four sub-processes. Three of sub-processes: Process 1.1, Create New Customers, Process 1.2, Update Customers Information and Process 1.3, Inactive Customers update data store labeled Customer Files. On the other hand, Process 1.4, Query Customers will retrieve Customer Records from data store labeled Customer Files. See Figure 4.18.

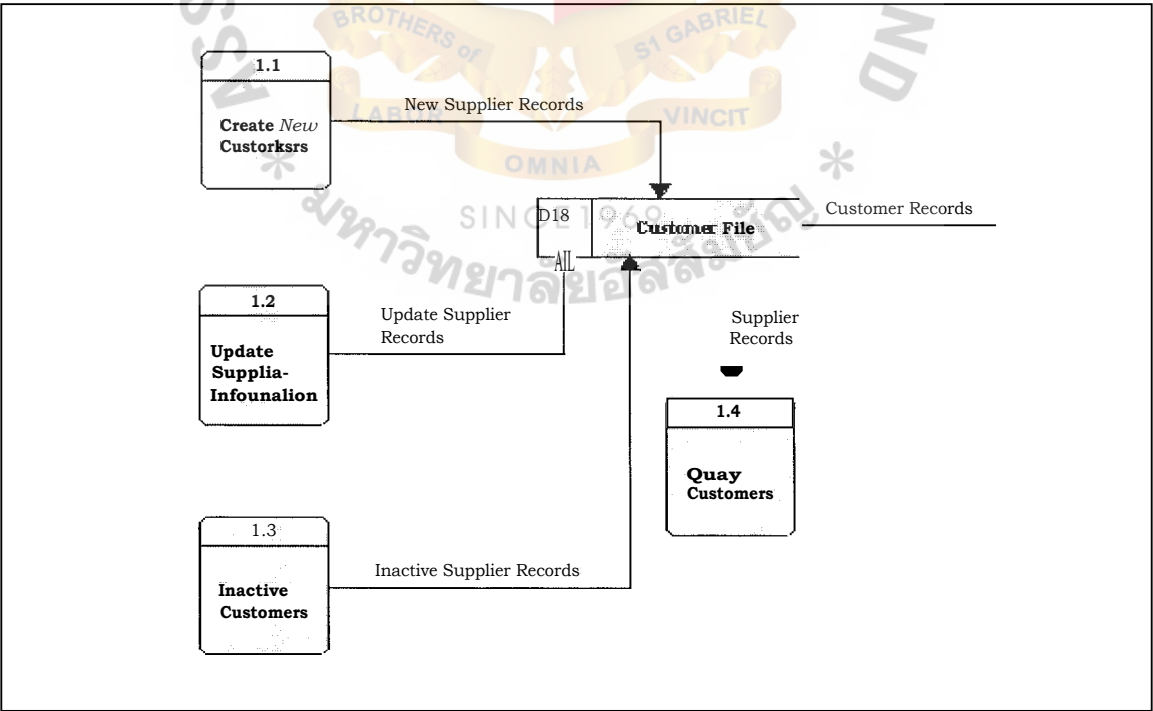


Figure 4.18. Level-2 Diagram: Customer Maintenance Details.

For the AR Invoice Entry process, it can be broken down into five sub-processes as seen in Figure 4.19, AR Invoice Entry Details. Two of sub-processes: Process 2.1, AR Invoices Entry and Process 2.4, Adjust Invoices Details will update into data store labeled AR Invoice while the Process 2.2, Approve Invoices which retrieve AR Unapproved Invoice Transaction from data store labeled AR Invoices and then format data from Unapproved Invoice to Approved Invoice and also generate accounting information for each approved invoice. Then it generates output as labeled AR Invoice Transactions to update a data store labeled AR Invoices. Then Process 2.3, Print Invoices will generate AR invoices for Customers. For last sub-process, Process 2.5, Query AR Invoices will only retrieve data from data store. Finally, data flow labeled AR Invoice Transaction will go to next process of Account Receivables.

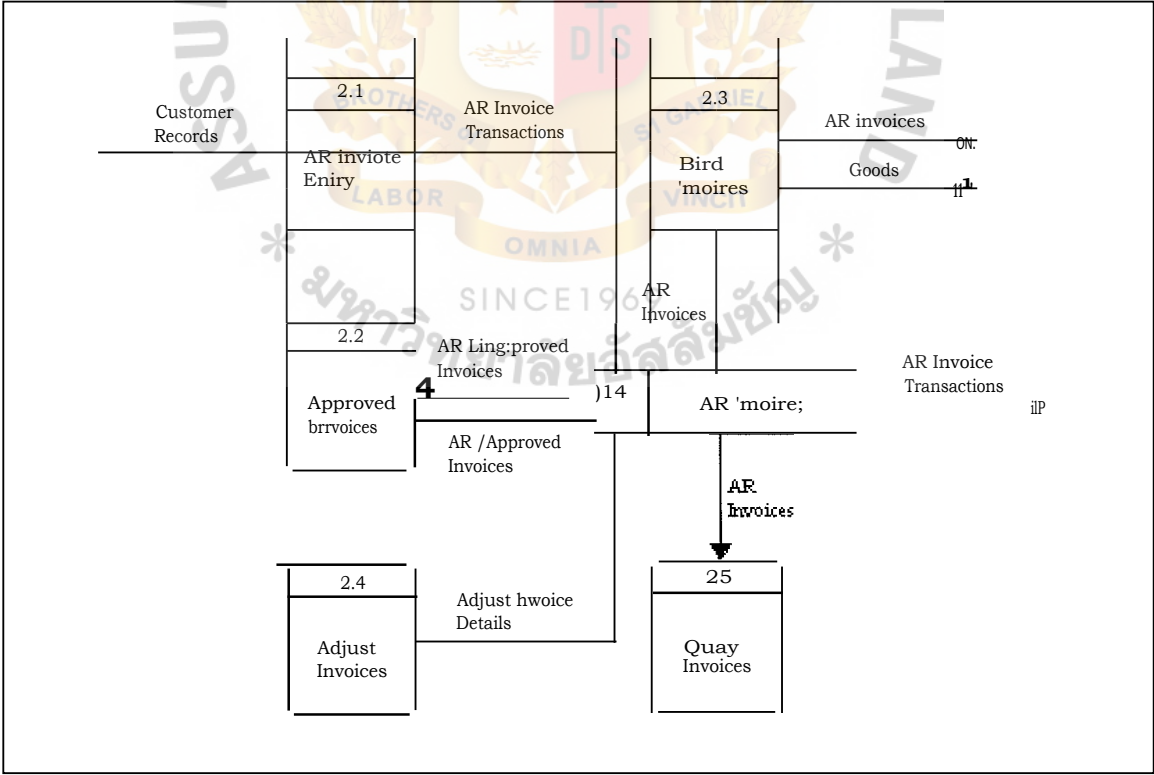


Figure 4.19. Level-2 Diagram: AR Invoice Entry Details.



For the AR Receipt Entry process, it can be broken down into three sub-processes as seen in Figure 4.20, AR Receipt Entry Details. For Process 3.1, Receipt Entry will update the Receipt Transactions into data store labeled AR Receipts while the Process 3.3, Query Receipts will retrieve Receipt Transaction. For the Process 3.3, Print Receipts will generate two output data flows as Receipts to send back to Customers.

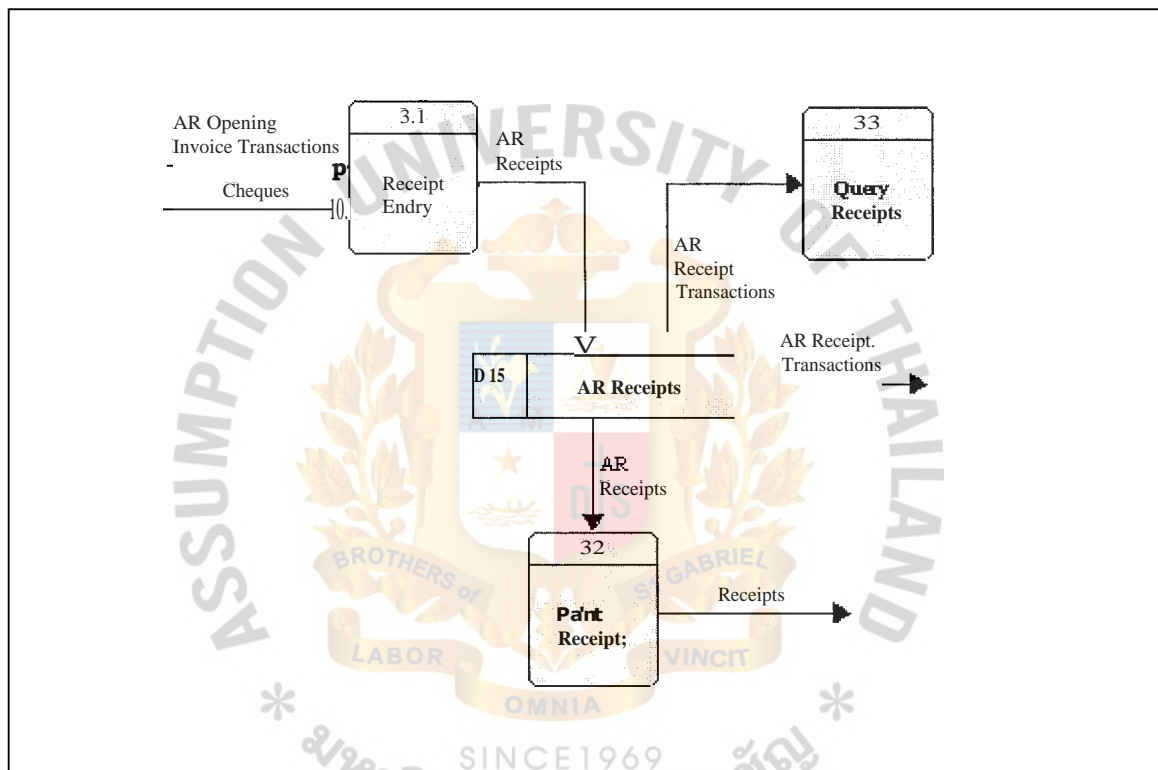


Figure 4.20. Level-2 Diagram: AR Receipt Entry Details.

For the third process in Figure 4.11, Cash Management which can be decomposed into sub-processes as seen in Figure 4.21, called Cash Management sub-processes.

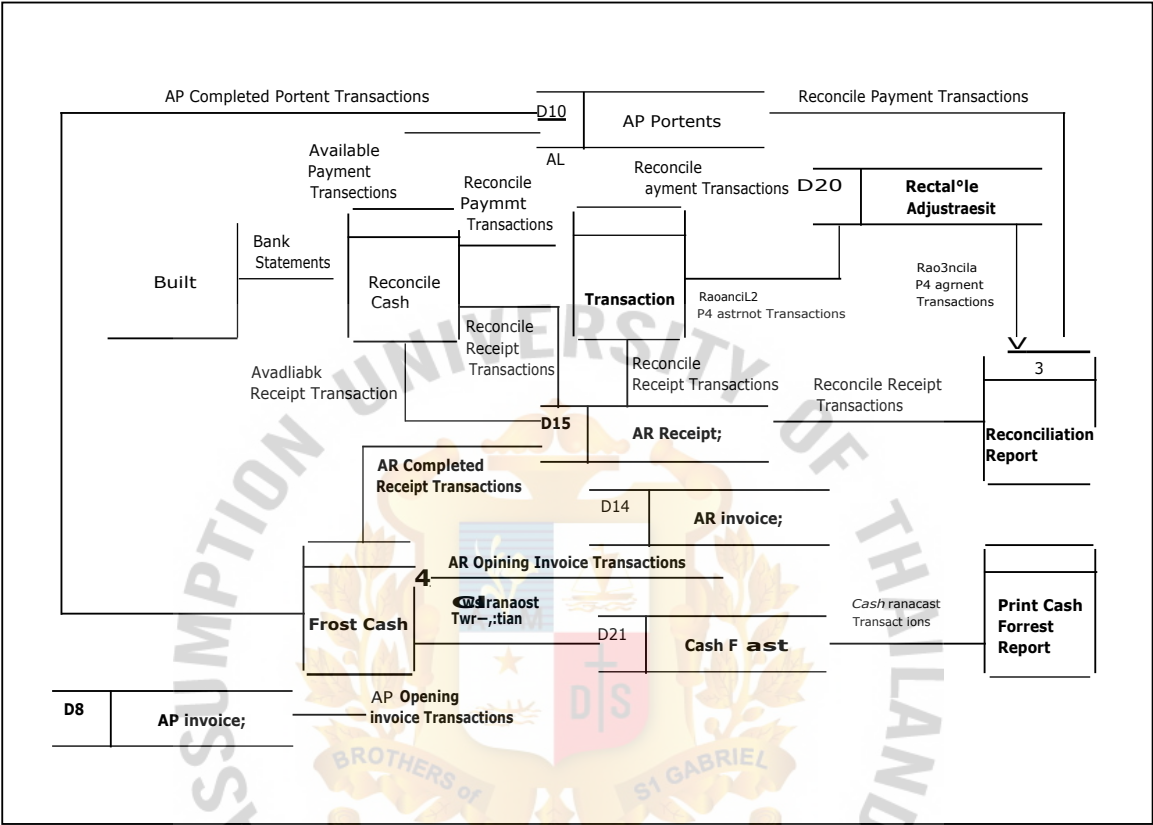


Figure 4.21. Level-1 Diagram: Cash Management sub-processes.

When Bank sends the bank statement, it will be as input data flow labeled Bank Statement for Reconcile Cash Process. This process also has the others two input data flows. The first input data flow as labeled Available Payment Transactions that can be retrieved from AP Payments data store. Another one as labeled Available Receipt Transactions that can be retrieved from AR Receipts data store. This process generates two data flows as Reconcile Payment Transaction for updating into AP Payment data store. And another one as Reconcile Receipt Transaction for updating into AR Receipt data store. After this, if there are some transactions to adjust the reconciliation then

retrieve data from AP Payment data store as labeled Reconcile Payment Transactions and also retrieve data from AR Receipts data store as labeled Reconcile Receipt Transactions. And then, the Adjust Transaction will generate output as labeled Reconcile Adjustment Transaction to update in Reconcile Adjustments data store. After completing the Reconcile and any Adjust Transactions, there are three data flow to go to the third process, Print Reconciliation Report. The first one is Reconcile Payment Transactions data flow which is retrieved from AP Payments data store. The second one is Reconcile Receipt Transactions data flow retrieved from AR Receipts. And the last one is Reconcile Adjustment Transactions data flow retrieved from Reconcile Adjustment data store. These input data flow will provide information to generate Reconciliation Report.

Next to the fourth process, Forecast Cash has four input data flows. The first one is AP Opening Invoice Transaction data store retrieved from AP Invoices data store. The second one is AP Completed Payment Transaction data flow retrieved from AP Payments data store. The third one is AR Opening Invoice Transactions retrieved from AR Invoices data store. And the last one is AR Completed Receipt Transactions retrieved from AR Receipts data store. This process will generate output as labeled Cash Forecast Transactions to update into Cash Forecast data store. The Cash Forecast Transaction are then used as input to the fifth process, Print Cash Forecast Report.

4.2.2 Entity Relationship Diagrams (ERD)

An entity-relationship diagram (ERD) is a detailed, logical representation of the data for an organization or for a business area. The ERD is expressed in terms of entities in the business environment, the relationships or associations among those entities, and the attributes or properties of both the entities and their relationship. The ERD of Dream Walkers Accounting System can be described as Figure 4.21.

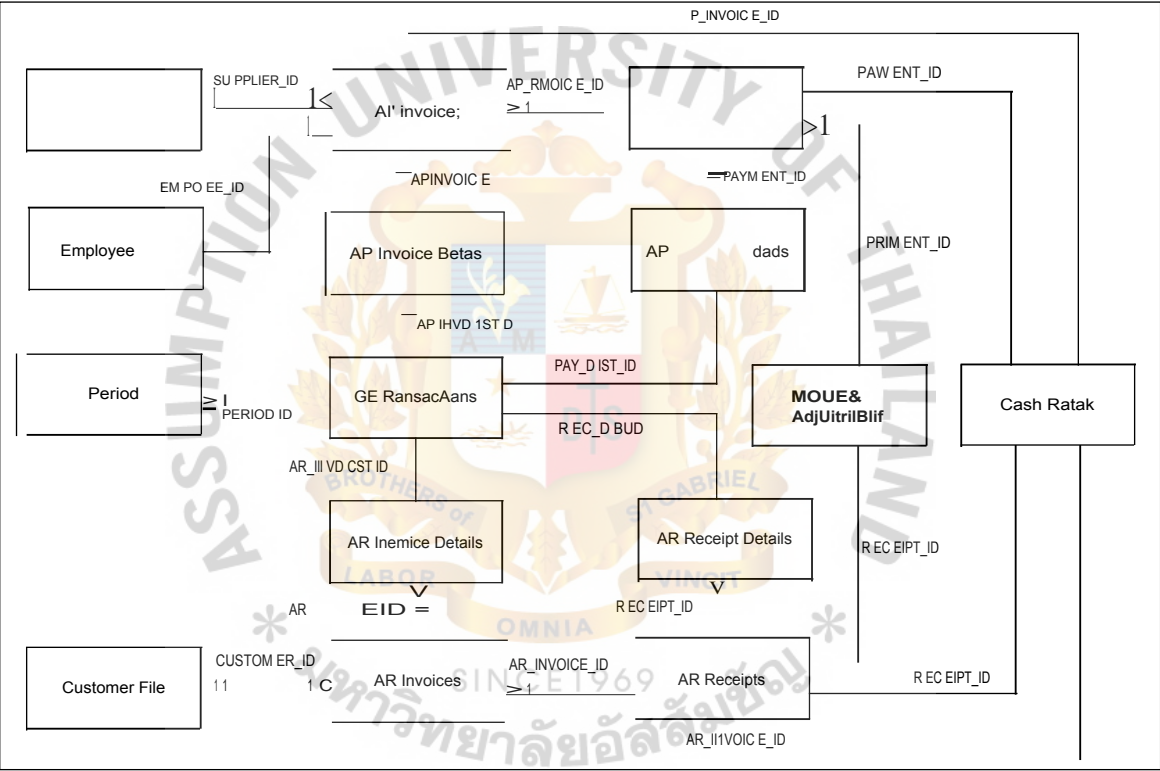


Figure 4.22. ERD of Dream Walkers Accounting System.



4.3 Input Screens

hw iGe Gateway-  
IG ENTRY

IT/Dice Type **Standard**  
Supp iet **LT TOY STORE**  
Inktn n. Altrniint **220**  
PO Nernbat **1003174**

10voice **1228**  
St.ppli:It "Jul" **11:1163**  
Pitri **30111el**

Et to **2/JUL.21000**  
c'ite **WEST COVINA**  
Inn rc Cmr **USD**

**1.1-a.f alone**  
Status

Invoice Lines  
IG LINE ENTRY

L	i-Ltr ber	Type	Amount	Tkr CAP	
1		Item	200	IG TAX	tl [or.TODH11PA
2		Tax	21:1	100%	1114

Rejections Create Invoices

Figure 4.23. AP Invoice Entry Screen.

Dish istiliunti MAKI „Sendix& L1SD) • L1CT1S9,MuCabeCaliteilAll

Invoice Total **36,500.00**  
pieta:lli:Jr Total **36,500.00**

Special Handling

Nutt	Type	Amount	Tad Code	Recovery Rate	Recoverable	G_COIC
1	Item	5,590.25				0W
2	Item	13,000.00				Ufinutt'Y' 1'111 111_111_1.111.1111
3	Item	17,909.75				05iNIAT <sup>1</sup> It1119 01-110-7690-000
						05:MAY1.9.99 31410_76E6-000

Status **Needs Reapprosibl** Accounted **No** PO Number

Account Description **Visio Services (ISA) Facilities Resources Miscellaneous No Product**

AI ir,atR Revisa 1 Calculate Tax

View PD View Result

Figure 4.24. AP Invoice Details Screen.



Intricise Actions

til6pprovo  
Ill'Apprceve Pelst31 Invoceo  
Itesno3'  
1Appi ijnapply Propyrno.nt..  
• > Fuli  
• itg  
■ PPIPSCP, Holrig

Hold Ndrnr  
Release Nam  
Release Reason

Print Notice  
Print  
Son 'ornh  
Sender Titt

OK Cancel

Figure 4.25. Approve AP Invoice Screen.

Find Iiwoicea

Suppllor  
4.zm€ McCabe Catering  
SitF  
PO Kull  
invoice  
Nwrbef  
Type  
Arnuuda  
0.5tee. 15/MAY/1999 31/JUL/1999  
Invoice Status  
Psi(  
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Number 10143  
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Figure 4.26. Query AP Invoice Screen.



Payment tti siun Opuratiun szti S0)

Type	Bank Account	Document	Lucrune0;r	oil.. L	ymnt Amount	Curr
Quick	AE bank acc1	AEcheck1		10V,211Dri	339.06	CAD

Accounted No

Actions 1 Enter/Adjust Invoices

Payment Overview View Invoices

WIRV:HINIMUHEM111:13dESHIEMIT M112=11110111

Figure 4.27. AP Payments Entry Screen.

Pawn nt Term (Vision Operations:USD)

4a-rc p16

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Info Discount Serial At Third Discount

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Figure 4.28. Payment Terms Setup Screen.



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[illegible]

Figure 4.29. Bank Setup Screen.

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Usage

1 Main Street, Ontario, Ontario, 080-14 Bill To

1 Main Sired, Ontario, Ontario, 080-V Ship To

Address

Usage

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Primary Site

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Location

ST LOUIS

Primary Site

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Figure 4.30. Customer Merge Screen.



Transactions {Vision Operations:USE/I -Business Worl, 113000331

%The h0000331 Dot: 1G-APR- 996 ☒ Complete

Reference 14102 Currency USD Transaction

Source Il dei Fully Class Invoice

Type ribIII GL Date 16-APR-1996

Main More Rarrit To Sales Paying Customer Notes Commitment Create

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Sari Just:, CA 95053 United States I .T.A63 United States

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Dec Data 1G-MAY-1991 Sal: rth. Barry

Tag Distributions 55 OteJits Da ariLe.

Incomplete Freight Credit Installment Line Iterri:

Figure 4.31. AR Invoice Entry Screen.

Copy Transactions (Vision Operations)

Model Transaction

Order Entry Trans Number 81000331

Ci,jreiof USD Reference 11102

Sill T.: Business World Number 10130

iPtrriz: All Net Type fills

Oat?, 2,16,4PR-19% Transx re ArriDunt ,1111 .10

NH, 1i-MAY-1916 Transaction GL Date 16-APR-199

Schedule

Pula Days Number Of Tiaras 6

1\ urnker 12 f aye. 6 First '4:area:tier Date 1fi-APR-1999

Her / :41 11744? 1N.NOV.1999 Pi:11114st 11 336490

New Transactions

Transaction Number	Do7,urrierit Number	Tfrans Date	GL Date	Dua Date	Amount
10003122		9-NOV-1999	116-MAY-199.9		2,045,800.00
1000312	1	122,AF R-1999	115-NOV-1999	122-MNY-149	2,045,000.00
10003124		23-Ar 11-1999	121-N OV-1999	28 -Tv1,8.Y-113C9	2,0-15,800.00
100312		14-N AY-1999	1-NOV-1999	103-JUN-19;0	2,045,800.01
1:01:131-c		iii rii.A.i i 199	p3 DLC 1949	'le) JUN 1999	2,015,800.0C

Figure 4.32. Copy AR Invoice Screen.



Receipts (\*US Vision Operations US USD)

Receipt Number: 1234)

Currency: USD

06 11/11

Balance Met: AI alSTOMER PAYMENTS

Status: Confirmed

A/E: epc Toe: Cash

Payment of: 100.00

3 Gate: 15:13, ttr.)

Document Num:

Functional Amount: 100.00

Cash Receipts | Remittance | A/E 411H | maritary | Misc Transaction | Reversal | Cash Management

Tr2n-; irnhp.r

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Taxaaier ID EI7-105454t1

efi-.renc e

Corrrnento Playrnt for invoice 3425,

Cu:stunlei Bank.

Bark Nitrie 11110 Limited

Account Num 5G49

Cust: Lin ii-; IIIIC

dim- Chattanooga

ex Code TSALES

Confirmation

Date: 016118.1999

GL Date: J6:111919

Confirm: 1 | Reverse: 1 | Mass Apply | kptietpri9.

Figure 4.33. AR Receipt Entry Screen.

Bank Statement iNision Operations: US@}

Acamt NunbEr: 10271-17621-619

Jar& 1'solr: Bank of America

Data: 30/AUC:21010

irrifireit

GL Date: 04.13E02001:1

Account Name: BrifA

Bank Branch: ArraYork

Currency: USD

PdimhFe: III ANN,,)11111

31erk Digits:

Contral Totals

Line Totals

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Figure 4.34. Cash Reconciliation Screen.







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Cash Forecast

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Figure 4.37. Cash Forecast Screen.

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Figure 4.38. Cash Forecast Details Screen.



## V. SYSTEM EVALUATION

### 5.1 Security and Control

Accounting information should concern about the security and control which manual system cannot provide. Therefore, we have to use an information system for security and control. For Dream Walkers Accounting System, all users must have log-in user ID and password to access it. The user ID and password authorization is handled by RDBMS since all data are stored in the database. RDBMS controls all steps necessary for the user to log-in to access the data. For each user ID can be identified the responsibility to control the feature in the system such as Accounting Staff responsibilities are not allowed to approve Invoices, Account Payable responsibilities can not update any data of Cash Management.

### 5.2 Cost and Benefit Analysis

#### 5.2.1 Cost Assumptions

Dream Walkers Accounting System can have both tangible and intangible costs. Tangible costs refer to items that you can easily measure in Baht and with certainty. From Dream Walkers Accounting system development perspective, tangible costs include items such as hardware costs, labor costs, and operational costs such as employee training and building renovations. Alternatively, intangible costs are those items that you cannot easily measure in terms of Baht or with certainty. Intangible costs can include loss of customer goodwill, employee morale or operational inefficiency.

Besides tangible and intangible costs, you can distinguish Information System-related development costs as either one-time or recurring. One-time costs refer to those associated with project initiation and development and the start-up of the system. These costs typically encompass activities such as system development, new hardware and

## St. Gabriel Library, Au

software purchases, user training, site preparation, and data or system conversion. When conducting an economic cost-benefit analysis, a worksheet should be created for capturing these expenses. Recurring costs refer to those resulting from the ongoing evolution and use of the system. These costs typically include:

- (1) Application software maintenance
- (2) Incremental data storage expense
- (3) Incremental communications
- (4) New software and hardware leases
- (5) Suppliers and other expenses

Both one-time and recurring costs can consist of items that are fixed or variable in nature. Fixed costs refer to costs that are billed or incurred at a regular interval and usually at a fixed rate. Variable costs refer to items that vary in relation to usage.

During the process of determining project costs, we identified both one-time and recurring costs for the project. These costs are summarized in Tables 5.1 and 5.2. These tables show that this project will incur a one-time cost of 200,000 Bahts and a recurring cost of 25,000 Bahts per year. One-time costs were established by discussing the system with us who felt that the system would require approximately four months to develop (at 5,000 Bahts per month). To effectively run the new system, the Accounting department would need to upgrade at least two of their current workstations (at 40,000 each). Additionally, software licenses for each workstation (at 50,000 each).

Table 5.1. One-time Costs for Dream Walkers Accounting System.

ONE-TIME COSTS WORKSHEET	
Dream Walkers Accounting System Project	
Year 0	
A. Development costs	20,000 Baht
B. New hardware	80,000 Baht
C. New (purchased) software, if any	100,000 Baht
1. Packaged applications software	
2. Other	
TOTAL One-time costs	200,000 Baht

Table 5.2. Recurring Costs for Dream Walkers Accounting System.

RECURRING COSTS WORKSHEET	
Dream Walkers Accounting System Project	
Year 1 through 5	
A. Application software maintenance	4,000 Baht
B. Incremental data storage required	2,000 Baht
C. Incremental communications (lines, messages,...)	5,000 Baht
D. New software or hardware leases	8,000 Baht
E. Supplies	6,000 Baht
TOTAL Recurring costs	25,000 Baht

As shown in Table 5.2, we believe the proposed system will be highly dynamic and will require, on average, five months of annual maintenance, primarily for enhancements as users expect more from the system. Other ongoing expenses such as increased data storage, communications equipment, and supplies should also be expected. After determining project costs, project benefits must be identified.

### 5.2.2 Expected Benefits

Similar to costs, an information system can provide many benefits to an organization. For example, a new or renovated information system can automate monotonous jobs, reduce errors, provide innovative services to customers and suppliers, and improve organizational efficiency, speed, flexibility, and morale. In general, the benefits can be viewed as being both tangible and intangible.

Tangible benefits refer to items that can be measured in Baht and with certainty. Examples of tangible benefits might include reduced personnel expenses, lower transaction costs, or higher profit margins. It is important to note that not all tangible benefits can be easily quantified. Most tangible benefits will fit within the following categories:

- (1) Cost reduction and avoidance
- (2) Error reduction
- (3) Increased flexibility
- (4) Increased speed of activity
- (5) Improvement of management planning and control
- (6) Opening new markets and increasing sales opportunities

Within the Dream Walkers Accounting System, we identified several tangible benefits, summarized on a tangible benefits worksheet shown in Table 5.3 We had to establish the values in Table 5.3 after collecting information from users of the current customer tracking system. They first interviewed the person responsible for collecting, entering, and analyzing the correctness of the current customer tracking data. This person estimated that they spent 10 percent of their time correcting human error. Given that this person's salary is 80,000 Bahts, we estimated an error reduction benefit of 8,000 Bahts. We also interviewed managers who used the current customer tracking

reports. Using this information we were able to estimate other tangible benefits. They learned the cost reduction or avoidance benefits could be gained due to better inventory management. Also, increased flexibility would likely occur from a reduction in the time normally taken to manually reorganize data from different purposes. Further, improvement in management planning or control should result from a broader range of analyses in the new system. Overall, this analysis forecasts that benefits from the system would be approximately 100,000 Bahts per year.

Table 5.3. Tangible Benefit for Dream Walkers Accounting System.

TANGIBLE BENEFITS WORKSHEET	
Dream Walkers Accounting System Project	
Year 1 through 5	
A. Cost reduction or avoidance	10,000 Baht
B. Error reduction	8,000 Baht
C. Increased flexibility	20,000 Baht
D. Increased speed of activity	12,000 Baht
E. Improvement in management planning or control	50,000 Baht
TOTAL Tangible benefits	100,000 Baht

Intangible benefits refer to items that cannot be easily measured in Baht or with certainty. Intangible benefits may have direct organizational benefits such as the improvement of employee morale or they may have broader social implications such as the reduction of waste creation or resource consumption. Potential tangible benefits may have to be considered intangible during project initiation and planning since you may not be able to quantify them in Baht or with certainty at this stage in the life cycle. During later stages, such intangibles can become tangible benefits as you better understand the ramifications of the system you are designing. You should now have an understanding of the types of benefit and cost categories associated with an information

systems project. It should be clear that there are many potential benefits and costs associated with a given project. Additionally, since the development and useful life of a system may span several years, these benefits and costs must be normalized into present-day values in order to perform meaningful cost-benefit comparisons.

### 5.2.3 Time Value of Money

Most techniques used to determine economic feasibility encompass the concept of the time value of money (TVM). TVM refers to the concept of comparing present cash outlays to future expected returns. As previously, the development of an information system has both one-time and recurring costs. Furthermore, benefits from systems development will likely occur sometime in the future.

Table 5.4. Summary Spreadsheet Reflecting the Present Value Calculations of All Benefits and Costs for the Dream Walkers Accounting System.

Dream Walkers Accounting System Economic Feasibility Analysis							
	Year of Project						TOTALS
	Year 0	Year 1	Year 2	Year 3	Year 4	Years	
Net economic benefit	0	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	
Discount rate (12%)	1.0000	0.9292	0.8375	0.7519	0.6750	0.6070	
PV of benefits	0	89,290.00	79,720.00	71,180.00	63,550.00	56,740.00	
<b>NPV of all Benefits</b>	<b>0</b>	<b>89,290.00</b>	<b>169,010.00</b>	<b>240,190.00</b>	<b>303,740.10</b>	<b>360,480.10</b>	<b>360,480.10</b>
<b>One-time Costs</b>	<b>-200,000</b>						
Recurring Costs	0	-25,000	-25,000	-25,000	-25,000	-25,000	
Discount rate (12%)	1.0000	0.9292	0.8375	0.7519	0.6750	0.6070	
PV of Recurring Costs	0	-22,322.5	-19,930	-17,795	-15,887.5	-14,185	
<b>NPV of all Costs</b>	<b>-200,000</b>	<b>-222,322.5</b>	<b>-242,252.5</b>	<b>-260,047.5</b>	<b>-275,935</b>	<b>-290,120</b>	<b>-290,120</b>
Overall NPV							<b>70,360.00</b>
Overall ROI - (Overall NPV/NPV of all Costs)							<b>0.24</b>
<b>Break-even Analysis</b>							
Yearly NPV Cash Flow	-200,000	66,967.50	59,790.00	53,385.00	47,662.50	42,555.00	
Overall NPV Cash Flow	-200,000	133,032.50	73,242.50	19,857.50	27,805.00	70,360.00	
Project break-even occurs between years 3 and 4 Use first year of positive cash flow to calculate break-even fraction - $((47,662.50 - 27,805) / 19,857.50) = 0.417$ Actual break-even occurred at 3.4 Years							



Final analysis shown in Figure 5.2, is a break-even analysis. The objective of the break-even analysis is to discover at what point benefits equal costs. To conduct this analysis, the NPV of the yearly cash flows are determined. Here, the yearly cash flows are calculated by subtracting both the one-time cost and the present values of the recurring costs from the present value of the yearly benefits. The overall NPV of the cash flow reflects the total cash flows for all preceding years. Therefore, project break-even occurs at approximately 3.4 years.

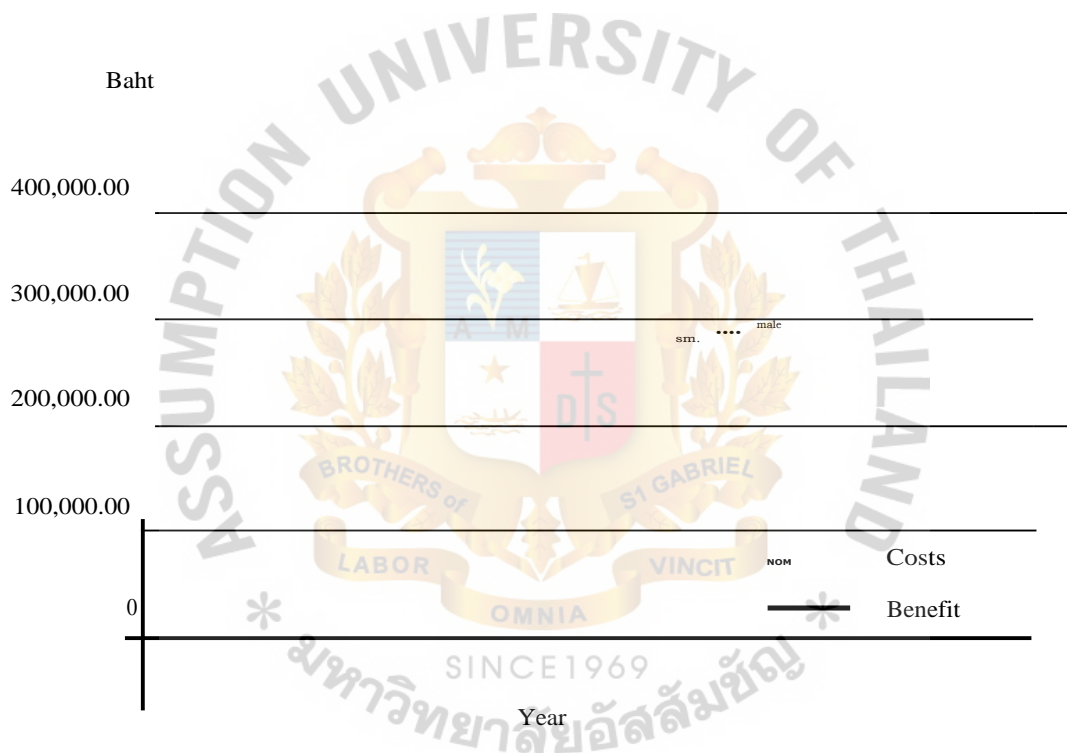


Figure 5.1. Break-even Analysis for Dream Walkers Accounting System.

VI. PROJECT MANAGEMENT APPROACH

6.1 Project Organization Structure

The project organization structure shown in Figure 5.3 is designed to minimize risk through extensive coordination structures. The project manager will have overall responsibility for coordinating the efforts of the various groups and reporting to the Executive Steering Committee on progress and major issues. Supporting the project manager will be a process quality advisor who will conduct periodic reviews of project materials to ensure that standards and practices are being followed. The project manager has day-to-day responsibility for the conduct of all project activities. In addition, an information architect will provide IT support for requirements identified during analysis and design. This ensures that technical conflicts are resolved quickly and in one place.

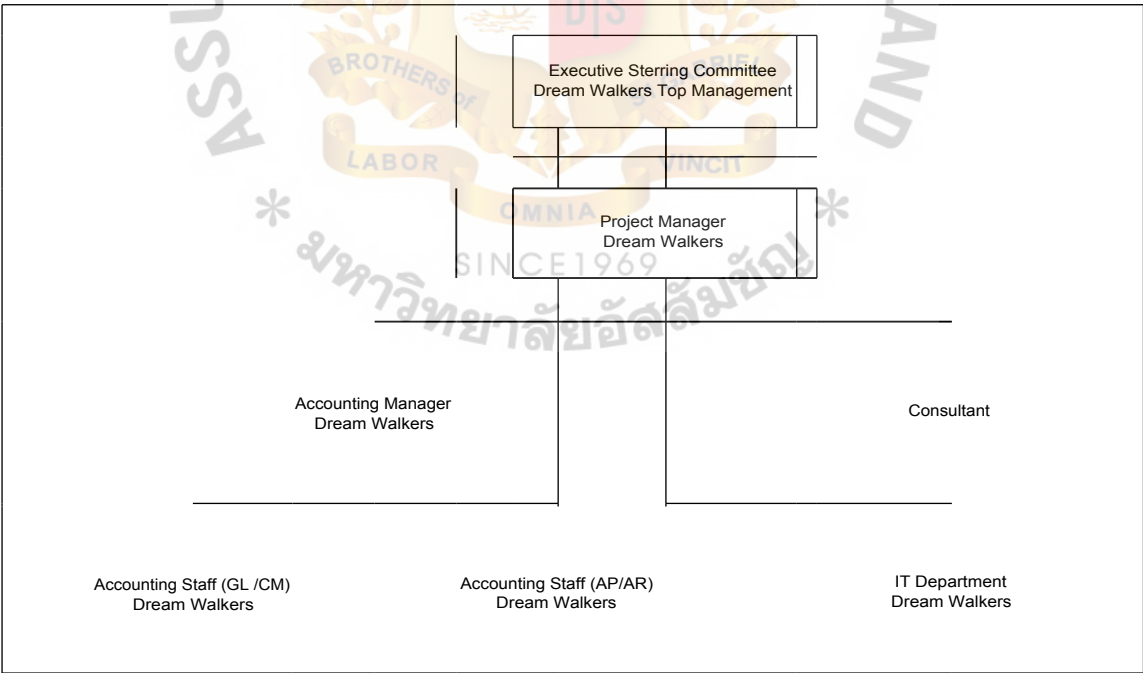


Figure 6.1. Project Organization Structure.

## 6.2 Issue Management Approach

The approach to issue management will be a partnership between the project manager and the project members. The project manager is responsible for the issue management process but works with the project sponsor to resolve issues. The Work Group will be used for the effective implementation of the issue management procedure.

- (1) Create an issue worksheet
- (2) Log the issues and create the project issue log
- (3) Screen the issues
- (4) Evaluate the issues to identify the possible resolutions
- (5) Approve the issue resolution
- (6) Assign responsibility for resolving issues
- (7) Close the issues

## 6.3 Risk Management Approach

Risk reduction is an important element which will contribute to the success of the project. The following will be incorporated into the approach to managing risk:

- (1) Emphasizing change management
- (2) Using accelerated techniques
- (3) Leveraging lessons learned
- (4) Deploying an experienced team
- (5) Applying the industry's best practices
- (6) Involving Accounting user experience to the fullest extent possible.

evaluation also considered based on cost and benefit analysis then normalize the cost and benefit into present-day value in order to perform meaningful cost-benefit comparisons.

This project also suggests the project management approach such as project organization structure to minimize risk through extensive coordination structure, procedure to manage project issues and approach for risk reduction, which are used for efficiency project.

## 7.2 Recommendations

This project conducted the Analysis Stages and Design Stages. The Analysis Stages determined about the Existing System and identified the problems and user's requirements. For Design Stages, we provided the Proposed System and System Design to present the prototype of the new system. According to the System Development Life Cycle (SDLC), next stage is the Implementation. There are two alternatives to acquire the software for implementation. The first alternative is the developing of new software. Another alternative, we can select software from any packages. The software package alternative is better than the developing the new software because the accounting process of Dream Walkers are not more complicated and the business rule is not a special business such as the Government Business. Therefore, it is not necessary to develop the new software which wastes time and project team have to involve and concentrate during the program development such as conduct the details of functional specification of software before develop, prepare the technical specification of all procedures and functions, etc.

With the Proposed Accounting System for Dream Walkers, there are several software packages that provided feature as similar as function in To Be Design. Oracle Financial Application is the most interested to be a new system. According to Oracle

Financial Application is the global software that is well known and used in many businesses. This package is powerful, user-friendly, easy to maintain and flexible to extend quickly on a global level with minimum risk. However, the costs for implementation have to be considered. Therefore, we should use the other lowest price for implementation. Oracle Financial Application also provides way for lowest price implementation called Fast Forward Implementation. The price of this implementation is cheaper than the standard implementation by almost fifty percent. It will provide only main function of this software and the time for implementation is also shorter than standard one. It is used for the simple business that processes are not complicate. In long term, we can add-in more functions that we need.

For program training, we can learn on the job by studying the Oracle Financial Application during the implementation because this package provides the User Guide which is the document to use the Application.

The implementation of new system, the performance and program modification can be reduced tremendously by implementing the software with a more efficient development tool. Oracle also provides the development tools as Oracle Developer 2000 that contains Oracle Forms to generate Forms, Oracle Reports to generate Reports, etc. However, Oracle Database is also available to link with other development tools such as PowerBuilder, Microsoft Access or Business Object Report.

In addition, Oracle Database are running on a mini-computer IBM RISC-6000 which can improve data manipulation and response time enormously. Another advantage of implementing the new system is the multi-user environment that allows users to access to the database more than one user and mass amount of data can be manipulated more efficiently and security can be improved.



## APPENDIX A

### EXAMPLE DOCUMENTS OF EXISTING SYSTEM



บริษัท ดีเอ็ม คอมพิวเตอร์ จำกัด  
 รายละเอียดการขอ  
 ประจำเดือน กุมภาพันธ์ 2544

[illegible]

Figure A.1. AP Invoice Details Files.

บริษัท ดรีม วอลส์เกสส์ จำกัด รายละเอียดการจ่ายเช็ค ประจำเดือน กุมภาพันธ์ 2544									
วันที่	เลขที่เช็ค	รายการ	จำนวนเงิน	ภาษีซื้อ	หัก ณ ที่จ่าย	เงินหน้าเช็ค	ภาษีซื้อ - จอ		
01/02/1944	618717	เจ้าหนี้ บจก. พรินซ์ปรีดเซอร์ - ค่าบริการงานแม่โคร	270,872.00	41,272.00	17,888.00	247,184.00	41,272.00		
		จาลได้อื่น ๆ					6,000.00		
05/02/1944	618720	คุณทองดี - ค่าเช่าบ้าน	10,844.00		325.32	10,518.68			
07/02/1944	619446	บจก. พรินซ์ปรีดเซอร์ - ค่าบริการอุปกรณ์ไฟ	20,000.00	1,400.00	600.00	20,800.00			
07/02/1944	619445	เจ้าหนี้ บจก. 85 เด สกีน - ค่าตัดเล็บพนักงาน	3,638.00	238.00	102.00	3,536.00	238.00		
08/02/1944	619443	คุณสมศักดิ์ - ค่าเช่า & ค่าบริการ	8,500.00	371.00	319.00	8,562.00			
09/02/1944	619449	บจก. แอดแอนด์อาร์ต - ค่างานแม่โคร	20,000.00	1,400.00	600.00	20,800.00			
12/02/1944	619450	By Flower - ค่าชอกลีโอด	10,380.00			10,380.00			
13/02/1944	619452	บจก. ก้อยโอ - ค่ามัดจำสินค้า	100,000.00			100,000.00			
15/02/1944	619442	บจก. ดรีมไลน์ - ค่าพิมพ์โปสเตอร์	4,560.00	319.20	136.80	4,742.40			
15/02/1944	619453	บจก. เพชรหินเดินท์ - เงินมัดจำค่าเช่ารถมอเตอร์	30,000.00			32,100.00			
		ภาษีซื้อ - จอ	2,100.00						
09/02/1944	619448	เจ้าหนี้ บจก. แสงมงคลออปติคัลฟิล์ม - ค่าเช่าห้องฟอฉาย	115,025.00	7,525.00	3,225.00	111,800.00	7,525.00		
15/02/1944	619454	บจก. ทรูสเตย์มาร์ท - ค่าเช่าแม่โคร	33,000.00	2,310.00		35,310.00			
06/02/1944	619441	คุณบุญมา - ค่าจ้างแม่โคร	87,500.00			87,500.00			
07/02/1944	619444	กรมสรรพากร - ภ.จ. 53	21,786.70			21,786.70			
22/02/1944	1245132	บจก. ดีเอสแอล - ค่าขนส่ง	396.00	14.00		410.00			
23/02/1944	619466	ธนาคารกรุง - ค่าเช่ารถตู้ไปโคราช	5,500.00		165.00	5,335.00			
28/02/1944	619468	คุณพิชิต - เงินมัดจำค่าเช่าที่ดิน	30,000.00			30,000.00			
09/02/1944	619447	คุณเอกราช - ค่าขายหน้า	2,972.80			2,972.80			
09/02/1944	หักบัญชี	อ. กรุงเทพฯ - ค่าขอเปิด L/C	2,510.40			2,510.40			
27/02/1944	เงินสด	จ่ายเงินเดือนพนักงาน	44,000.00		342.00	43,658.00			
			828,683.80	54,849.20	23,503.12	799,894.88	55,035.00		
				878,432.80		878,432.80			

Figure A.2. AP Payment Details Files.

บริษัท ซีเอ็ม กอสส์เคสท์ จำกัด รายละเอียดการขาย / ประจำเดือน กุมภาพันธ์ 2544						
วันที่	เลขที่	รายการ	จำนวนเงิน	ภาษี	เงินรวม	วันที่รับเงิน
02/02/1944	01-02/001	บจก.ซีเอ็มเอ็นเนล - ค่าลิขสิทธิ์ลิขสิทธิ์	239,800.00	16,786.00	256,586.00	
02/02/1944	01-02/002	บจก.ซีเอ็มเอ็นเนล - ค่าแรงงานติดตั้งเคสเคส (2 คน 2 วัน)	988.00	67.76	1,055.76	
02/02/1944	01-02/003	บจก.ซีเอ็มเอ็นเนล - ค่าติดตั้ง TOP 500 ชิ้น	850.00	61.60	941.60	
05/02/1944	01-02/004	บจก. มัลติยูติลิตี้เมคเคนิกส์ - ค่าจ้างงานปฏิบัติงานติดตั้งจักร	176,000.00	12,320.00	188,320.00	
01-02/005		ยกเลิก				
05/02/1944	01-02/006	บจก.ไทยฮาร์ดแวร์ - ค่าซื้อโปรแกรมด้าน มัลแวร์	83,500.00	4,445.00	87,945.00	
05/02/1944	01-02/007	บจก.ฮาร์ดแวร์ (กรุงเทพฯ) - ค่าซื้อโปรแกรมด้านมัลแวร์	83,450.00	4,441.50	87,891.50	
05/02/1944	01-02/008	บจก.มิกซ์ ๗ - ค่าจ้างงานติดตั้ง จอคอมพิวเตอร์	270,000.00	18,900.00	288,900.00	
05/02/1944	01-02/009	บจก.มิกซ์ ๗ - ค่าจ้างงานติดตั้ง จอคอมพิวเตอร์	270,000.00	18,900.00	288,900.00	
13/02/1944	01-02/010	บจก.มัลติยูติลิตี้เมคเคนิกส์ - ค่าซื้อโปรแกรมด้านมัลแวร์	2,966.00	207.62	3,173.62	
15/02/1944	01-02/011	บจก.ซีเอ็มเอ็นเนล - ค่าซื้อโปรแกรมด้านมัลแวร์	167,100.00	11,697.00	178,797.00	
15/02/1944	01-02/012	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	16,710.00	1,169.70	17,879.70	
15/02/1944	01-02/013	บจก.ซีเอ็มเอ็นเนล - ค่าซื้อโปรแกรมด้านมัลแวร์	330,300.00	23,121.00	353,421.00	
15/02/1944	01-02/014	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	33,030.00	2,312.10	35,342.10	
15/02/1944	01-02/015	บจก.ซีเอ็มเอ็นเนล - ค่าซื้อโปรแกรมด้านมัลแวร์ 398,000.00 ชิ้น	75,620.00	5,293.40	80,913.40	
15/02/1944	01-02/016	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	7,562.00	529.34	8,091.34	
16/02/1944	01-02/017	บจก.ซีเอ็มเอ็นเนล - ค่าจ้างงานติดตั้งเคสเคสไฟฟ้า	2,200.00	154.00	2,354.00	
16/02/1944	01-02/018	บจก.ซีเอ็มเอ็นเนล - ค่าจ้างงานติดตั้งเคสเคสไฟฟ้า (2 คน 2 วัน)	880.00	61.60	941.60	
16/02/1944	01-02/019	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	88.00	6.16	94.16	
16/02/1944	01-02/020	บจก.ซีเอ็มเอ็นเนล - ค่าซื้อโปรแกรมด้านมัลแวร์	630,000.00	44,100.00	674,100.00	
16/02/1944	01-02/021	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	63,000.00	4,410.00	67,410.00	
16/02/1944	01-02/022	บจก.ซีเอ็มเอ็นเนล - ค่าบริการซื้อโปรแกรมด้านมัลแวร์	220.00	15.40	235.40	
16/02/1944	01-02/023	บจก.ซีเอ็มเอ็นเนล - ค่าจ้างงานติดตั้งเคสเคส 150 %	75,000.00	5,250.00	80,250.00	
28/02/2004	01-02/024	บจก.ซีเอ็มเอ็นเนล - ค่าจ้างงานติดตั้งเคสเคส 150 %	24,500.00	1,715.00	26,215.00	
28/02/1944	01-02/025	บจก.มิกซ์ ๗ - ค่าจ้างงานติดตั้ง ๗ วันตามใบบิล	50,000.00	3,500.00	53,500.00	
28/02/1944			2,553,774.00	179,464.18	2,743,238.18	

Figure A.3. AR Invoice Details Files.

บริษัท ดีเอ็ม วอลส์แอนด์ กอยส์ จำกัด

รายละเอียดรายการรับ

ประจำเดือน กุมภาพันธ์ 2544

วันที่	เลขที่รับ	รายการ	จำนวนเงิน	หัก ณ ที่จ่าย	รับทั้งสิ้น	หมายเหตุ
06/02/1944	02/001	บจก.ไทยสกายไต่ - รับชำระค่าสินค้า	488,497.80	13,696.20	474,801.60	
20/02/1944	02/002	บจก.จิราเนชั่นแอนด์ - รับชำระค่าสินค้า	317,613.45	8,906.05	308,707.40	
26/02/1944	02/003	กรมการ - เงินกู้ยืมกรมการ (อัลเฟรด)	100,000.00		100,000.00	
26/02/1944	02/004	บจก.ดีเยี่ยมเทรดดิ้ง - ค่าจ้างแม่พิมพ์กล่องฟางแรก	80,250.00	2,250.00	78,000.00	
26/02/1944	05/005	บจก.บิกี้ซูเปอร์มาร์เก็ต - ค่าจ้างแม่พิมพ์กระดาษ	288,900.00	8,100.00	280,800.00	
			1,275,261.25	32,961.25	1,242,310.00	
				1,275,261.25		
				-		

Figure A.4. AR Receipt Details Files.

สมุดรายวัน

ประจำเดือน กุมภาพันธ์ 2544

เลขที่ใบสกร	วันที่	รายละเอียด	รหัสบัญชี	หน่วยบัญชี	เดบิต	เครดิต
JV01-02/001	01-Feb	BEL - สรรพากรวัน	11010201	พ.จ.	247,184.00	
JV01-02/001	01-Feb	BEL - วม.พหุ	11010301	พ.จ.		247,184.00
JV01-02/001	01-Feb	โอนเงินจากบัญชี วม.พหุ ไปบัญชี สรรพากร วัน				
JV01-02/002	01-Feb	เงินสด	11010100	พ.จ.	40,000.00	
JV01-02/002	01-Feb	BEL - วม.พหุ	11010301	พ.จ.		40,000.00
JV01-02/002	01-Feb	โอนเงินจากบัญชี วม.พหุ ไปบัญชี เงินสด				
PV01-02/001	01-Feb	BEL - สรรพากรวัน	11010201	จ.2		247,184.00
PV01-02/001	01-Feb	เงินมัดจำ	11030100	จ.2		360,000.00
PV01-02/001	01-Feb	สามัญ	11050401	จ.2	41,272.00	
PV01-02/001	01-Feb	สามัญ - วม. ไม่จำกัดสมาชิก	11050404	จ.2		41,272.00
PV01-02/001	01-Feb	เงินปันผล - บริษัท อีที	21020100	จ.2	630,372.00	
PV01-02/001	01-Feb	สามัญ - วม. จำกัด (ม.จ. 53)	21030300	จ.2		17,688.00
PV01-02/001	01-Feb	รายได้	42050000	จ.2		6,000.00
PV01-02/001	01-Feb	จ่ายค่าจัดรายการธนาคารออมสิน - บริษัท อีที				
AR01-02/001	02-Feb	เงินสด - ม.จ. 53 จำกัด	11020400	จ.1	256,586.00	
AR01-02/001	02-Feb	สามัญ	11050402	จ.1		16,786.00
AR01-02/001	02-Feb	รายได้จากบริการ	41010000	จ.1		239,800.00
AR01-02/001	02-Feb	เงินปันผลจากบริษัท (ก.จ. 53)				
AR01-02/002	02-Feb	เงินสด - ม.จ. 53 จำกัด	11020400	จ.1	941.60	
AR01-02/002	02-Feb	สามัญ	11050402	จ.1		61.60
AR01-02/002	02-Feb	รายได้จากบริการ	41010000	จ.1		880.00
AR01-02/002	02-Feb	เงินปันผลจากบริษัท จำกัด TCP 500 จำกัด				
UV01-02/001	02-Feb	สามัญ - วม. ไม่จำกัดสมาชิก	11050404	จ.1	8,064.00	
UV01-02/001	02-Feb	เงินสด - เงินสด	21020100	จ.1		123,264.00
UV01-02/001	02-Feb	ค่าเช่าโดยบริษัท	51040100	จ.1	115,200.00	
UV01-02/001	02-Feb	เงินปันผลจากบริษัท จำกัด โดยบริษัท อีที				
AR01-02/003	05-Feb	เงินสด - ม.จ. 53 จำกัด	11020500	จ.1	188,320.00	
AR01-02/003	05-Feb	สามัญ	11050402	จ.1		12,320.00
AR01-02/003	05-Feb	รายได้จากบริการ	41010000	จ.1		176,000.00
AR01-02/003	05-Feb	เงินปันผลจากบริษัท จำกัด				

Figure A.5. Journal Ledger – 1.



บริษัท ดรีมเวลล์ จำกัด

สมุดรายวันทั่วไป

ประจำเดือนธันวาคม 2544

วันที่	เลขที่	รายละเอียด	จำนวนเงิน	
01/12/2544	02/001	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	247,134.00	
01/12/2544	02/002	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...		40,000.00
05/12/2544	02/003	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	98,013.58	
06/12/2544	02/004	โฉนดที่ดิน BEL 22 บ้านเลขที่ 123 หมู่ 1 ตำบล...	160,000.00	
07/12/2544	02/005	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...		220,000.00
07/12/2544	02/006	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	54,673.70	
09/12/2544	02/007	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	135,572.50	
12/12/2544	02/008	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	10,380.00	
13/12/2544	02/009	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	100,000.00	
15/12/2544	02/010	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	56,642.40	
16/12/2544	02/011	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	132,585.00	
22/12/2544	02/012	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...		40,000.00
23/12/2544	02/013	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	5,335.00	
23/12/2544	02/014	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	926,250.00	
28/12/2544	02/015	BEL - โฉนดที่ดินขั้วหน้าบ้าน บ้านเลขที่ 123 หมู่ 1 ตำบล...	30,000.00	
28/12/2544	02/016	TFB 123 บ้านเลขที่ 123 หมู่ 1 ตำบล...	410.00	
28/12/2544	02/017	รวมยอด	179,396.42	
		รวมยอด		17,426.05
		รวมยอด - สรรพากร		93,187.97
		รวมยอด - สรรพากร		68,782.40
28/12/2544	02/018	ค่าเสื่อมราคา	1,909.86	
			2,138,357.56	479,396.42

Figure A.6. Journal Ledger – 2.

บริษัท ตรีเม วอร์ลด์เกสต์ จำกัด

งบประมาณเงินสด

ณ วันที่ 21 สิงหาคม 2544

	สิงหาคม	กันยายน		ตุลาคม		พฤศจิกายน
		ต้นเดือน	ปลายเดือน	ต้นเดือน	ปลายเดือน	
เงินรับชำระจากลูกค้า	465,880.68	253,438.70	431,305.02	2,769,076.75	178,988.00	
	465,880.68	253,438.70	431,305.02	2,769,076.75	178,988.00	
ชำระเจ้าหนี้ค่าสินค้า	227,573.03	50,700.00	744,160.05	33,525.24	1,891,972.00	112,000.00
จ่ายค่าใช้จ่าย	167,500.00		397,730.00		150,500.00	150,500.00
	395,073.03	50,700.00	1,141,890.05	33,525.24	1,842,472.00	262,500.00
เงินสดที่เพิ่มขึ้น (ลดลง) ระหว่างเดือน	70,807.65	202,738.70	- 710,585.03	2,735,551.51	-1,663,484.00	- 262,500.00
เงินสดคงเหลือยกมา	448,259.33	180,672.58	383,411.28	- 327,173.75	2,408,377.76	744,893.76
เงินสดที่จัดหาเพิ่มเติม :- จากเงินกู้						
	519,066.98	383,411.28	- 327,173.75	2,408,377.76	744,893.76	482,393.76
เงินสดใช้ไป เพื่อจ่ายคืนเงินกู้ยืม						
จ่ายเงินมัดจำค่าสินค้า 20%	338,394.40					
เงินสดคงเหลือยกไปเดือนหน้า	180,672.58	383,411.28	- 327,173.75	2,408,377.76	744,893.76	482,393.76

Figure A.8. Cash Forecast Summary Report.

รวมปัจจัยรวม สม. ปัจจัยรวมเงินคง

แนบลงรายละเอียดเงินคง มีค่าเงินคง

	ฐานเงิน	ประมาณ รวมเงิน	เงินคง	จำนวน		มูลค่า		มูลค่ารวม
				ต้นเดือน	ปลายเดือน	ต้นเดือน	ปลายเดือน	
	1,186,389.15		465,880.68	253,438.70	471,305.02	26,776.75	8,988.00	
เงินคง		170,000.00					170,000.00	
จำนวน		2,742,300.00			2,742,300.00			
มูลค่า								
มูลค่ารวม								
			465,880.68	253,438.70	3,213,605.02	26,776.75	178,988.00	

รวมปัจจัยรวม สม. ปัจจัยรวมเงินคง

แนบลงรายละเอียดเงินคง มีค่าเงินคง

	ฐานเงิน	ประมาณ รวมเงิน	เงินคง	จำนวน		มูลค่า		มูลค่ารวม
				ต้นเดือน	ปลายเดือน	ต้นเดือน	ปลายเดือน	
	575,438.27		227,573.03	50,700.00	263,640.00	33,525.24		
เงินคง								
จำนวน		2,142,366.40			480,520.05		1,691,972.00	112,000.00
มูลค่า								
มูลค่ารวม								
			227,573.03	50,700.00	744,160.05	33,525.24	1,691,972.00	112,000.00

รวมปัจจัยรวม สม. ปัจจัยรวมเงินคง

แนบลงเงินคง มีค่าเงินคง มีค่าเงินคง

	เงินคง	จำนวน	มูลค่า	มูลค่ารวม	เงินคง
ค่าเงินคง	150500	150500	150500	150500	150500
ค่าเงินคง			33,525.24		
เงินคง (10 % ของรวมเงินคง 170,000)	17,000.00				
จำนวน (10 % ของรวมเงินคง 2,742,300)		247,230.00		1,691,972.00	112,000.00
มูลค่า					
มูลค่ารวม					
	167,500.00	397,730.00	184,025.24	1,842,472.00	262,500.00

Figure A.9. Cash Forecast Details Report.

# รายงานภาษีขาย

หน้า.....1.....

เดือนภาษี ..... ค.ศ. ๒๕๔๔

ชื่อผู้ประกอบการ ..... บริษัท ด.พี. จำกัด ..... เลขประจำตัวผู้เสียภาษีอากร

๙ ๐ ๖ ๐ ๕ ๔ ๘ ๕ ๖ ๗

ชื่อสถานประกอบการ ..... บริษัท ด.พี. จำกัด ..... ☐ สำนักงานใหญ่ ☐ สาขาที่

- - - -

ในกำกับภาษี		ชื่อผู้ซื้อสินค้า / ผู้รับบริการ	มูลค่าสินค้าหรือบริการ		จำนวนเงินภาษีมูลค่าเพิ่ม	
วัน เดือน ปี	เล่มที่/เลขที่					
๒/๒/๒๕๔๔	๐๑-๐๒/๐๐๑	จิรา - เนชั่นเนล	๒๙๙,๘๐๐	-	๑๕,๙๙๕	-
	๐๑-๐๒/๐๐๒	ยอดเล็ก	๙๕๕	-	๔๖	๙๕
๒/๒/๒๕๔๔	๐๑-๐๒/๐๐๓	จิรา - เนชั่นเนล	๘๙๐	-	๔๑	๖๐
๕/๒/๒๕๔๔	๐๑-๐๒/๐๐๔	มิตรสุวิทย์ แบทเทอริ	๑๔๕,๐๐๐	-	๖,๙๖๐	-
	๐๑-๐๒/๐๐๕	ยอดเล็ก	-	-	-	-
๕/๒/๒๕๔๔	๐๑-๐๒/๐๐๖	ไพฑูริย์ ไซโก	๖๓,๕๐๐	-	๓,๐๖๗	-
๕/๒/๒๕๔๔	๐๑-๐๒/๐๐๗	เอสไอโอ (กรุ๊ป)	๖๓,๕๐๐	-	๓,๐๖๗	๕๐
๕/๒/๒๕๔๔	๐๑-๐๒/๐๐๘	มิตรสุวิทย์ แบทเทอริ	๒๙๐,๐๐๐	-	๑๓,๙๐๐	-
๕/๒/๒๕๔๔	๐๑-๐๒/๐๐๙	มิตรสุวิทย์ แบทเทอริ	๒๙๐,๐๐๐	-	๑๓,๙๐๐	-
๑๓/๒/๒๕๔๔	๐๑-๐๒/๐๑๐	มิตรสุวิทย์ แบทเทอริ	๒,๙๕๕	-	๑๔๖	๖๒
๑๕/๒/๒๕๔๔	๐๑-๐๒/๐๑๑	จิรา - เนชั่นเนล	๑๕๗,๑๐๐	-	๗,๖๙๙	-
๑๕/๒/๒๕๔๔	๐๑-๐๒/๐๑๒	จิรา - เนชั่นเนล	๑๕,๗๑๐	-	๗๖๙	๙๐
๑๗/๒/๒๕๔๔	๐๑-๐๒/๐๑๓	จิรา - เนชั่นเนล	๕๖๐,๐๐๐	-	๒๖,๖๔๐	-
๑๗/๒/๒๕๔๔	๐๑-๐๒/๐๑๔	จิรา - เนชั่นเนล	๒๖,๐๐๐	-	๑,๒๕๐	๑๐
๑๗/๒/๒๕๔๔	๐๑-๐๒/๐๑๕	จิรา - เนชั่นเนล	๗๕,๐๐๐	-	๓,๕๗๕	๔๐
๑๗/๒/๒๕๔๔	๐๑-๐๒/๐๑๖	จิรา - เนชั่นเนล	๗๕,๐๐๐	-	๓,๕๗๕	๓๕
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๑๗	จิรา - เนชั่นเนล	๒,๒๐๐	-	๑๐๕	-
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๑๘	จิรา - เนชั่นเนล	๘๙๐	-	๔๑	๖๐
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๑๙	จิรา - เนชั่นเนล	๙๙	-	๕	๑๕
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๐	จิรา - เนชั่นเนล	๕๙๐,๐๐๐	-	๒๘,๑๐๐	-
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๑	จิรา - เนชั่นเนล	๕๙,๐๐๐	-	๒,๘๐๕	-
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๒	จิรา - เนชั่นเนล	๒๒๐	-	๑๐	๔๐
๑๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๓	มิตรสุวิทย์ แบทเทอริ	๗๕,๐๐๐	-	๓,๕๗๕	-
๒๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๔	มิตรสุวิทย์ แบทเทอริ	๒๘,๕๐๐	-	๑,๓๖๕	-
๒๘/๒/๒๕๔๔	๐๑-๐๒/๐๒๕	มิตรสุวิทย์ แบทเทอริ	๕๐,๐๐๐	-	๒,๕๐๐	-

Figure A.10. Selling VAT Reports.

..... ก.พ. รายงานภาษีซื้อ หน้า.....1.....

เดือนภาษี ..... กุมภาพันธ์ ..... ปี ..... 2544

ชื่อผู้ประกอบการ: บริษัท ก.พ. 2000000 จำกัด เลขประจำตัวผู้เสียภาษีอากร: 3030049677

ชื่อสถานที่ประกอบการ: บริษัท ก.พ. 2000000 จำกัด ☐ สำนักงานใหญ่ ☐ สาขาที่


☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

ลำดับที่ ใบกำกับภาษี	วันที่ใบกำกับภาษี ออก	วันที่ได้รับ ใบกำกับภาษี	ชื่อผู้ขายสินค้า/ผู้ให้บริการ	มูลค่าสินค้า หรือบริการ	จำนวนเงิน ภาษีมูลค่าเพิ่ม
02/001	01/12/43	01/12/43	นวก. เอมะมอลด์ ก.พ.	319 69	22 31
02/002	02/12/43	19/12/43	คุณสมศักดิ์	100 -	4 -
02/003	02/12/43	19/12/43	คุณสมศักดิ์	3,672 -	259 04
02/004	04/12/43	19/12/43	นวก. โชน ไปรษณีย์เซ็นเตอร์	611 21	42 39
02/005	10/12/43	19/12/43	นวก. เอมะมอลด์ ก.พ.	789 72	55 28
02/006	11/12/43	19/12/43	คุณสมศักดิ์	5,300 -	371 -
02/007	12/12/43	05/01/44	นวก. ไมล์โครซอฟท์	1,260 74	88 15
02/008	16/12/43	19/12/43	คุณสมศักดิ์	1,552 -	94 64
02/009	16/12/43	05/01/44	นวก. วีอาร์ ไปรษณีย์	574 -	40 18
02/010	27/12/43	03/01/44	นวก. วีอาร์ ไปรษณีย์	20,000 -	1,400 -
02/011	27/12/43	05/01/44	นวก. 'จ' เค สก๊ว	3,000 -	210 -
02/012	27/12/43	05/01/44	นวก. 'จ' เค สก๊ว	400 -	28 -
02/013	27/12/43	17/12/43	นวก. เสริมสุข	82 16	2 94
02/014	01/12/43	02/00/43	นวก. แฟ้มเอกสาร	107,500 -	7,525 -
02/015	10/12/43	00/01/44	นวก. แอคโนมิคส์	20,000 -	1,400 -
02/016	11/12/43	19/12/43	คุณสมศักดิ์	1,255 -	84 95
02/017	14/12/43	04/01/44	นวก. เสริมสุข	165 41	11 58
02/018	15/12/43	29	นวก. อรรถาภิธาน	33,000 -	2,310 -
02/019	15/12/43	19/12/43	นวก. กวิค	4,560 -	319 20
02/020	16/12/43	10/12/43	นวก. นวัตกรรม	423 93	31 07
02/021	19/12/43	19/12/43	นวก. นวัตกรรม	286 45	20 05
02/022	20/12/43	04/12/43	นวก. วีอาร์ ไปรษณีย์	1,095 -	75 95
02/023	21/12/43	06/12/43	นวก. นวัตกรรม	200 -	14 -
02/024	26/12/43	19/12/43	นวก. นวัตกรรม	12,900 -	933 -
02/025	27/12/43	19/12/43	นวก. เอมะมอลด์ ก.พ.	106 54	14 46
02/026	27/12/43	05/01/44	นวก. เสริมสุข	84 11	5 89

Figure A.11. Buying VAT Reports.







บริษัท ดรีม วอล์กเกอร์ จำกัด

ใบสำคัญการตั้งเจ้าหนี้

เลขที่ .....  
 วันที่ .....

รายการ	รหัสบัญชี	เดบิต	เครดิต


\_\_\_\_\_  
 ผู้ลงบัญชี

\_\_\_\_\_  
 ผู้ตรวจสอบ

\_\_\_\_\_  
 ผู้อนุมัติ

Figure B.1. Payment Voucher Form.

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บริษัท ดรีม วอล์กเกอร์ จำกัด

ใบสำคัญการตั้งลูกหนี้

เลขที่ .....  
 วันที่ .....

รายการ	รหัสบัญชี	เดบิต	เครดิต

\_\_\_\_\_  
 ผู้ลงบัญชี

\_\_\_\_\_  
 ผู้ตรวจสอบ

\_\_\_\_\_  
 ผู้อนุมัติ

Figure B.2. Receipt Voucher.

**DREAM  
WALKERS**

บริษัท ดรีม วอล์กเกอร์ จำกัด

ใบเบิกเงินสดย่อย

เลขที่ .....

จ่ายให้ .....

วันที่ .....

รายการ	จำนวนเงิน	
		การเงิน
		ผู้รับเงิน
		ผู้อนุมัติ

รายการ	รหัสบัญชี	เดบิต	เครดิต

ผู้ลงบัญชี

ผู้ตรวจรับ

ผู้อนุมัติ

Figure B.4. Petty Cash.



DREAM  
WALKERS

บริษัท ดรีม วอล์กเกอร์ จำกัด  
โบสถ์ผู้จ่าย

เลขที่ .....

วันที่ .....

จ่ายให้ .....

รายการ	จำนวนเงิน	
		การเงิน
		ผู้รับเงิน
		ผู้อนุมัติ

จ่ายเป็น ๐ เงินสด ๐ เช็ค ธนาคาร..... เลขที่..... วันที่..... จำนวน.....


รายการ	รหัสบัญชี	เดบิต	เครดิต

ผู้ส่งบัญชี

ผู้ตรวจสอบ

ผู้อนุมัติ

Figure B.5. Payment Remittance Advice.



บริษัท ดรีม วอล์กเกอร์ จำกัด

ใบสำคัญรับ

เลขที่ .....

วันที่ .....

รับจาก .....

รายการ	จำนวนเงิน	
		การเงิน
		ผู้รับเงิน
		ผู้อนุมัติ

รับเป็น ☐ เงินสด ☐ เช็ค ธนาคาร..... เลขที่..... วันที่..... จำนวน.....

รายการ	รหัสบัญชี	เดบิต	เครดิต

ผู้ลงบัญชี

ผู้ตรวจสอบ

ผู้อนุมัติ

Figure B.6. Receipt Remittance Advice.

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