CHAPTER III

THE POS SYSTEM

3.1 Introduction

The retail business in Thailand has developed from the " old mom and pop" grocery stores into retail stores in response to changes in consumer behavior and greater market segmentation. The retail sector ranks among the leaders on the list of the fastest growing industries in Thailand and has a highly competitive marketing environment. In order to survive in this situation, many retailers try to apply new systems or tools in their businesses. One is Point of Sales (POS), a technique which is widely used in order to improve efficiency of operation and data collection. The POS system is the use of automated equipment such as computers, scanners, etc. for sales activities. They are used as data capturing systems that provide efficient operations and accurate sales data.

3.2 Retail Information System

A computer system may help the firm to achieve their goals in many fields. The key success of using computer systems in retail businesses is that the flow of information is appropriate and timely. Computers improve accuracy and control, ensure that business transactions are performed accurately, and allow management to control information. For these reasons, this type of retail information system is applied to many retail businesses. It consists of several functions. Figure 3.1 is one of the examples of a retail information system. The POS system is an important component which is used to capture high volume sales data.

This system is generally used in many retail businesses such as department stores, supermarkets, convenience stores, etc. However, the system will be implemented in a different way because of the different types of requirements between businesses.
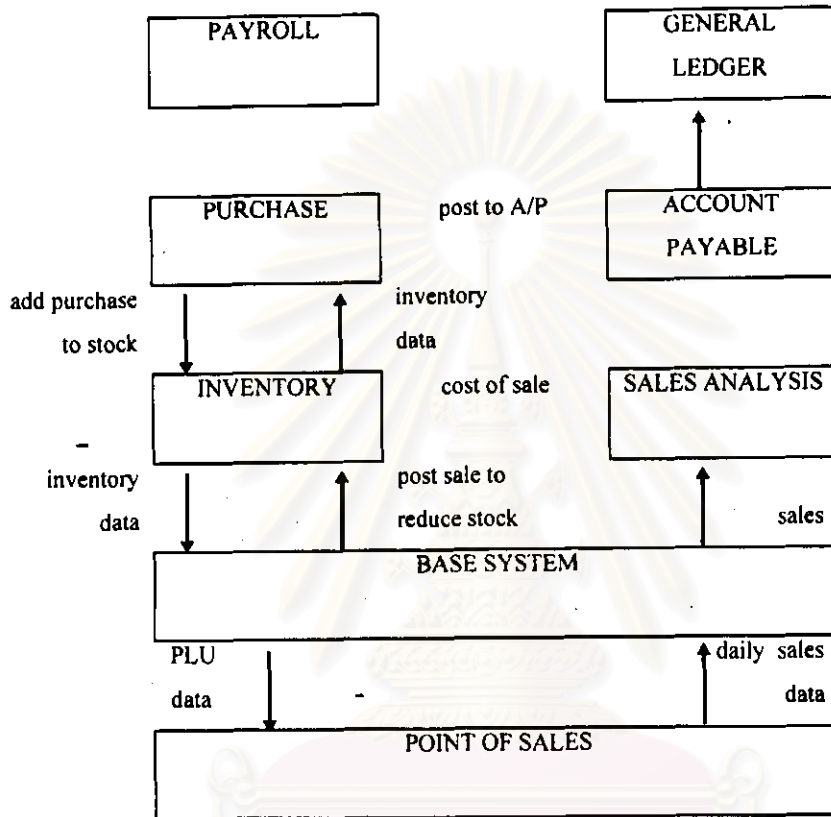

Figure 3.1 Retail Information System

3.3 POS Hardware Configuration

Point of Sales (POS) has many different functions : scanning merchandise and credit and debit card equipment. A POS hardware configuration usually consists of many different types of electronic equipment as shown in figure 3.2, i.e. customer display, POS printer, monitor, keyboard, cash drawer, and bar-code scanner.
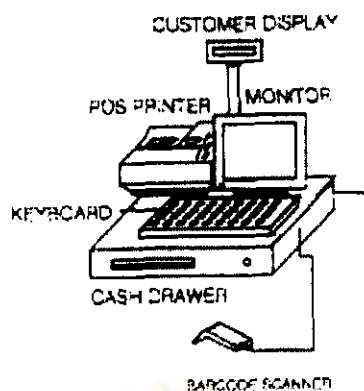
Figure 3.2 POS Hardware Configuration

The POS system can capture itemized sales data by using a bar-code scanner scanning the bar-codes which are printed or labeled at the packages of the merchandises.

A Bar Code is a symbol for identifying the article or item. The article number is converted to the bar symbol which can be read by the electronic scanner. It consists of dark bars and light bars which are the representatives of the numbers as shown in figure 3.3.
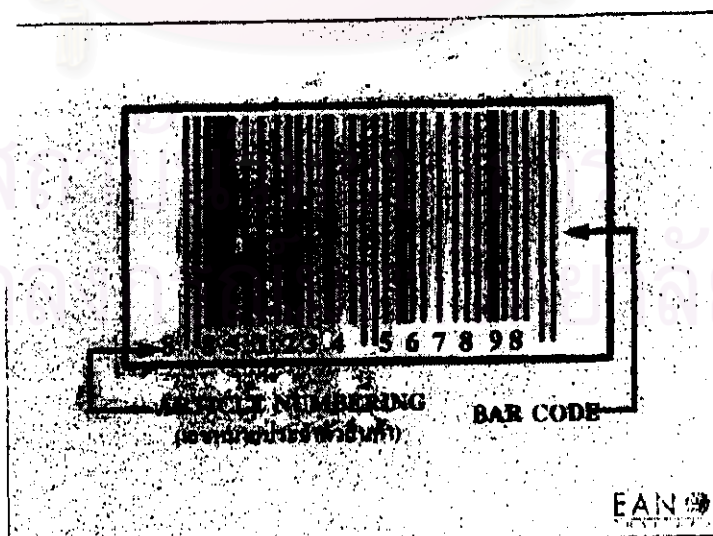

Figure 3.3 Image of a Bar Code

Source : EAN Thailand

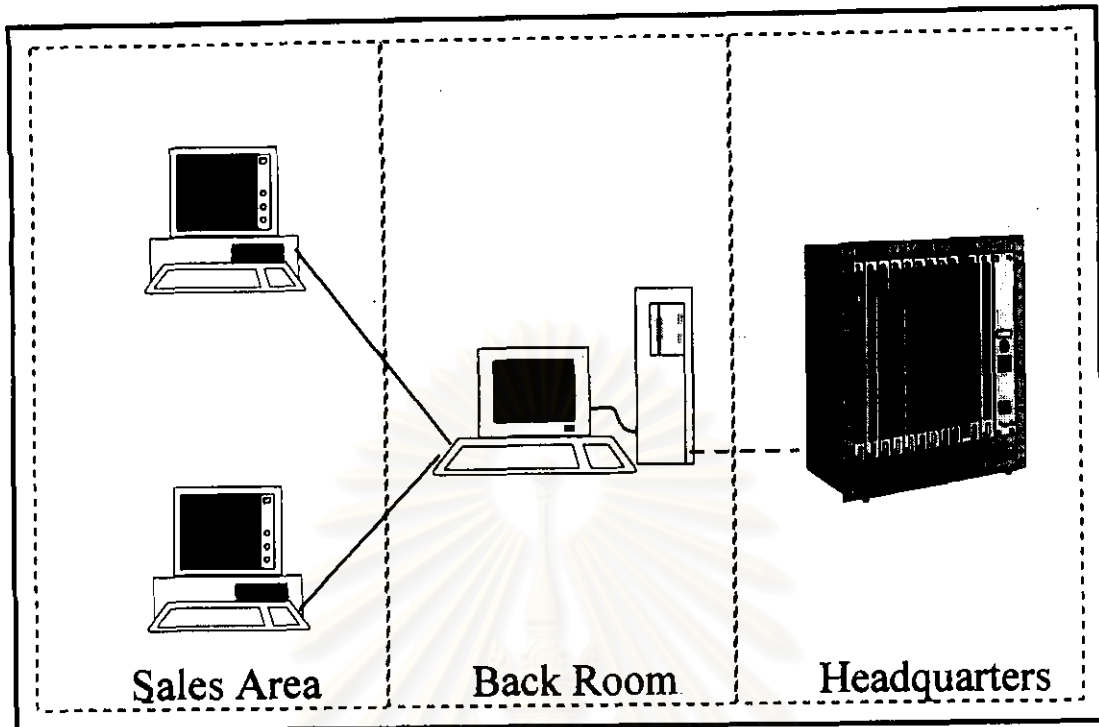| | | |
| Sales Area | Back Room | Headquarters |

Figure 3.4 Total System

Generally, the total system involving the POS system consists of three important parts namely sales area, back office, and headquarters, as shown in figure 3.4. Each POS can communicate with store controllers by using local area communication line and the store controller in each store is connected to the headquarters through wide area communication channel to exchange various information.

3.4 POS Application Software

There are many applications for retail businesses which involve or utilize data from POS. An example is shown in figure 3.5.
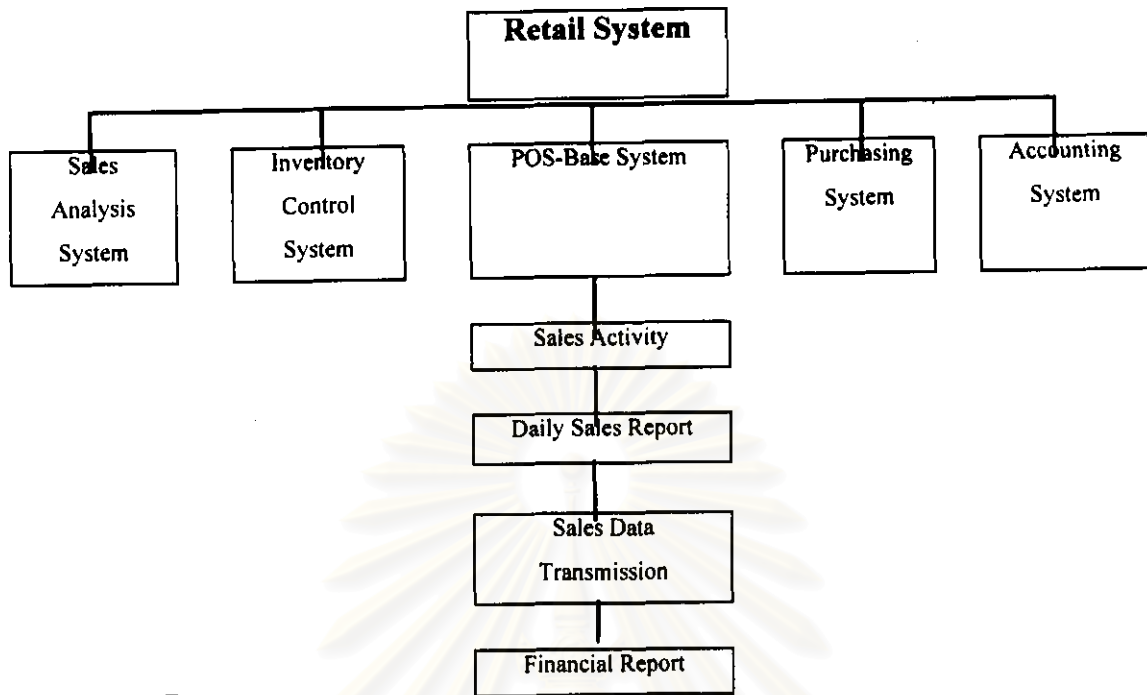
Figure 3.5 Retail System

1) POS-Base System

This application will be used by the cashier at a selling point. It is used for registering the transaction while the customer purchases the goods. It has a database system which may consist of product description, price, and discount rate, etc.. The data from this application can be sent to other applications in order to maximize the use of the data.

2) Inventory Control System

This system is used to control the inventory in the store. The users will be able to know the status or the movement of their inventory. If the communication between the POS-Base system and this system can be done as real time communication, the inventory level may be real time as well. This system may be used to control the inventory at many points; for example, inventory may be at the sales area and at the back room. The use of this application is dependent on the type of retail business.

3) Sales Analysis System

This system can create sales analysis reports in whatever format required. The user may want to use weekly sales reports, daily sales reports, hourly sales reports, or customer classification reports, etc.. The details in the report are dependent on the details of the data captured by the POS system.

4) Purchasing System

Purchasing systems are able to use the inventory status from the inventory control system to automatically generate purchase orders. When the product is delivered, the user can recall this purchase order in order to use it as a reference for product reception. The product receiving data will be sent to the inventory control system in order to update the inventory status. This data can be sent to the accounting system for use in accounting purposes.

5) Accounting System

This system uses the information from other applications to manage the accounting system. It concerns payments, credit, debit, etc..

3.5 POS System Operation

The operation of the POS system can be different in each business. Again, it is dependent on the requirements or policies of the individual business. However, the core operation may be similar to the following.

1) Business Transaction Register

Every product in the store will be registered in a database. It may consist of product description, package size, price, taxation rate, discount rate, etc.. Each package must have the product identification, usually in the form of a bar-

code which is printed or labeled on the package. Whenever the customer wants to buy the product, the cashier can process sales activity by using an equipment such as a bar-code reader or scanner to identify the item. The product description and price will be called from the database and automatically displayed on the monitor. This process simplifies the procedure for the cashier who will not need to key in the price, and reduces both working procedures and the possible mistakes from the price key-in process. Furthermore when the price of the product is changed, there is no need to change the price tag on the individual package. The price of the product is changed only once in the database. It can reduce pricing mistakes at the cash register from using outdated prices.

2) Daily Sales Report

At the completion of sales activity each day, the system will automatically generate daily sales reports in the main computer. It will not disrupt service time of the POS at the sales area. The reports will be either printed from the printer or displayed on the monitor. The report may customized the requirements of the users. It can report sales of individual items which ordinary cash register can not do.

3) Sales Data Transmission

After finishing daily sales reports, the system will send the sales data to other applications such as inventory control systems, sales analysis systems, accounting systems, etc..

4) Financial report

The financial reports will be generated to produce actual income and financial status of the store. The results represented in the report will be used as a guideline to improve financial performance of each individual store.

3.6 Advantages of the System

The POS system in the market place which is used in retail businesses may be expected to generate benefits or advantages as follows:

1) Service Quality

Use of the POS system will increase the speed of service at the selling point. Furthermore the accuracy of the price will be better than using traditional calculators or electronic cash register machines. This will help to improve or increase customer satisfaction.

2) Store Performance

The POS system will provide the itemized information requirements. The use of this information will help the store to improve both service level and inventory level. Service level of an inventory in this case is defined as the proportion of time the item is available in the store, and the inventory level is the average quantity level of that item over time.

3) Image

The use of modern equipment or information technology will help to create a positive image of the company. The customers will be more inclined to think that the company is trying to improve the quality of service for them. Then brand loyalty will be improved as well.

4) Strategic Management Tool

By using the POS system, the management can obtain a clearer picture in a shorter time allowing for faster responses to changing market conditions.