



CHAPTER I

INTRODUCTION

The objective of a convenience store is to provide convenience in customers' daily lives. To satisfy customers, the store must have a good variety of merchandise available. Many store operations such as ordering, receiving, replenishment, etc. must be done effectively. These operations require appropriate information in order to maintain good service without excessive inventory.

A Point of Sales (POS) system is widely used to improve effectiveness and efficiency of store operations. However, it requires large investment and must be implemented properly. This research studies the impacts of a POS system when applied to retail store operations. A case study is used for this research.

1.1 Background

1.1.1 Retail Store Operation

In order to satisfy the customers at a retail store, the store must have the right merchandise available at the right time. So the store operations must forecast what customers will require, how much and when so that they can place order to the distribution center to have the merchandise available when needed. The performance of store operations can be measured by two important factors as :

1) Service Quality

The service quality of store identifies the level of customer satisfaction which depends on such factors as service level, service speed, and service accuracy :

- Service level in retail store operations is synonym to availability, which is measured by the proportion of the availability of goods when they are required. In order to have high service level, operators must try to protect against goods shortages.
- Service Speed is identified by the operating time per transaction, especially at the check out. Slow service will cause more customer's waiting time.
- Service Accuracy is identify by the accuracy of charges at the check out will directly impact the level of customers' satisfaction.

2) Inventory Level

Inventory is necessary for high service level. However, inventory also adds costs to the operations. Therefore, there must be a balance between service level and inventory level.

1.1.2 The POS System

A Point of Sales (POS) system is the use of automated equipment such as computer, scanner, etc. for sales activities. The objectives of using the POS system are :

- To increase operation efficiency such as sales activities, documentation, accounting, etc..
- To have information to support the operations such as ordering, inventory control, product analysis, etc..

The POS system is a part of the total system that will be implemented in the next two or three years. Before implementing the total system, the firm considers to establish a pilot project of the POS implementation. The scope of the pilot project is concentrated on the use of the POS system in retail stores. The objective is to study the impacts of the POS system when implementing in retail store operations.

1.1.3 General Description of the Case Study

This research is based on a case study. The case study is a chain of convenience stores which open 24 hours a day. It has many small shops in residential areas, business districts, along roads, etc. around the country. Currently it is the biggest chain which has nearly 1,000 branches. In the near future, the firm will implement a Point of Sales (POS) system to capture sales data by individual items in most of its stores. The data from POS is expected to solve some problems in providing good quality of services at low costs. This study attempts to study the performances of the POS system by implementing it at some pilot stores.

Nowadays the store staffs are responsible for forecasting, ordering and receiving most products (around 2,000 items). Each type of product is ordered by different procedures. Some products can be ordered every Monday, Wednesday, and Friday while others once a week together with a different delivery lead time. With the current information, sales data and inventory data are collected by group of products called "Product Movement Analysis (PMA)". It is very hard for the staff to keep both good inventory level and good service level because of insufficient data for analyzing or forecasting. To solve these problems, the firm decides to implement the POS system.

1.2 Statement of Problems

The POS system is a new system for the firm and requires large investment. To make decision for implementing this kind of system, the firm needs to know the impacts of this system on the business process. However, the impacts will depend on how the system is implemented. This leads to three critical questions that must be answered :

1) What is the suitable level of using the POS system?

The levels of using the POS system are different in many retail stores. It can be used for many functions such as sales activities, store management, replenishment, inventory control, etc.. Every function will have more or less impact on service and inventory. Suitable applications of using POS must be determined.

2) What are the suitable parameters or conditions for using the POS system?

Every firm is unique so the suitable parameters or conditions for using the POS system will depend on each environment.

3) What is the suitable procedure of the operation?

Successful applications of the POS system are not possible without proper procedure of operations.

1.3 Objective of the Study

The objective of this research is to evaluate the performances of the POS system when applied to the case study.

1.4 Scope of the Study

The study is conducted at three pilot stores. It involves representatives of fast, medium, and slow moving items. The evaluation is done by comparing the performances obtained from the POS system and the present practice. The criteria for evaluating the system are service quality, inventory level, quality of information, store image and other intangibles. Service quality consists of service level, service speed, and service accuracy.

1.5 Expected Benefits

Recognizing the impacts of the POS system on store's performances, the expected performances to be improved are service performance and inventory performance. Moreover the experience gained from this case study will inform the major factors affecting the implementation of the POS system.

1.6 Methodology of the study

1) Study Retail Store Operations

The first step of the system design is users' requirements collection. The proposed system aims to improve store operation performances. In order to understand the requirements of the major users, retail store operations are studied. Then the requirements of operation are collected.

2) Study Technology of the POS System

There are several POS systems proposed to the case study. In order to select the appropriate system, the project team have to study the technology of the POS system.

3) Select Pilot Sites and Items

The appropriate pilot sites and pilot items are selected in order to reduce the obstacles of system implementation. The pilot items are the representatives of fast, medium, and slow moving merchandises.

4) Collect Data from the Current System

The data of the current or existing system are collected in order to compare with the performances of the proposed system. There are three types of data are collected. First is the data of representative items, second is the data of time study, and the last is the percentage of incorrect transaction.

5) Design System

The system is designed in order to match the users' requirements. It is modified from the software package until it meets the users' requirements.

6) Implement the Proposed System

After modifying the software package in order to match the users' requirements, the proposed system is implemented the right way. The critical step of the project is the implementation step. This step requires a well planning and management.

7) Modify the Proposed System

After implementing the proposed system, the unsuitable functions or procedures appeared. The system modification is applied in order to improve the system.

8) Collect Data from the Proposed System

The proposed system is evaluated after the period of testing time. In order to have the data for evaluating the system, the data of the proposed

system is collected. Three types of data are collected by the same procedure as applied when collecting the data of the current system.

9) Evaluate the System

The system evaluation is done by comparing the performances of the two systems, the proposed system and the existing system. The criteria for evaluating the system are service quality, inventory level, quality of information, store image and other intangibles.

10) Prepare Thesis

The thesis is prepared in order to collect and report the results of the system implementation.

1.7 Outline of the Report

This report consists of six chapters. The first chapter is the introduction which aims to brief the background, the structure, and the steps of the study. The second chapter introduce the retail store operations in order to make the reader understand the factors, the operation, and the performance measurements of convenience store. The third chapter describes the POS system which is widely used in any retail business. It briefly mentions about the general POS hardware configuration, POS application software, POS system operation, and the advantages of the system.

The forth chapter reports the details of this study. It begins from system design until it is implemented to the case study. The results of system implementation are evaluated and reported in the fifth chapter. It reports the evaluation factors which reflect the performances of the system. It also includes the evaluation procedure which begins from data collection, data analysis, and

interpretation of results. The cost of system also reported in this chapter. The last chapter concluded the results of system implementation. Furthermore, in the last part of this chapter, there are some recommendation which are individual opinion of those involved in the pilot project.



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