

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND**

The aggressive growth of hospitals and the healthcare business in Thailand has been increased rapidly in the past decade. Healthcare services have been identified as a major source of national income and the Thai government has planned to establish Thailand as a “Medical hub of Asia”. The fundamental factors that support this plan consist of the high skills of many specialized physicians in both government and private hospitals, the long history and success of research and development of treatment techniques at famous medical universities, the world-class service by well-known private hospitals and foreigners’ perception of diagnostics and treatment expenses in Thailand being relatively cheaper than nearby countries in Asia. Moreover, the quality of medical services, including the administrative management has also been praised.

In order to achieve world-class standards for medical management and treatment, the laboratory, also needs to strive to reach similar standards. Laboratory work is an indirect aid in medical management. It works behind the scenes, and to help patients from the beginning until the end of medical management and treatment. Its role is to assist physicians in finding out causes of diseases, to monitor symptoms and to provide early diagnosis before clinical symptoms have emerged. In short, the laboratory's role is to improve the quality of life of patients. A good laboratory should provide accurate results within a short time, which can help to save patients’ lives; for example, if a patient comes with dyspnea or shortness of breath and chest pain symptoms, and has blood drawn by the laboratory and run for cardiac markers such as Troponin-I the laboratory can potentially provide accurate results within 20 minutes, allowing doctors to diagnose the patient and plan the direction of treatment. Without the laboratory, doctors could only rely their experience in analyzing patients’ symptoms, which could lead to incorrect diagnosis and treatment. Therefore, the medical diagnostics laboratory, which is a main department in a hospital, plays a vital role in saving and improving the quality life by assisting physicians in finding out the

cause of diseases, monitoring symptoms and preventing serious illness by early diagnosis before the emergence of clinical symptoms.

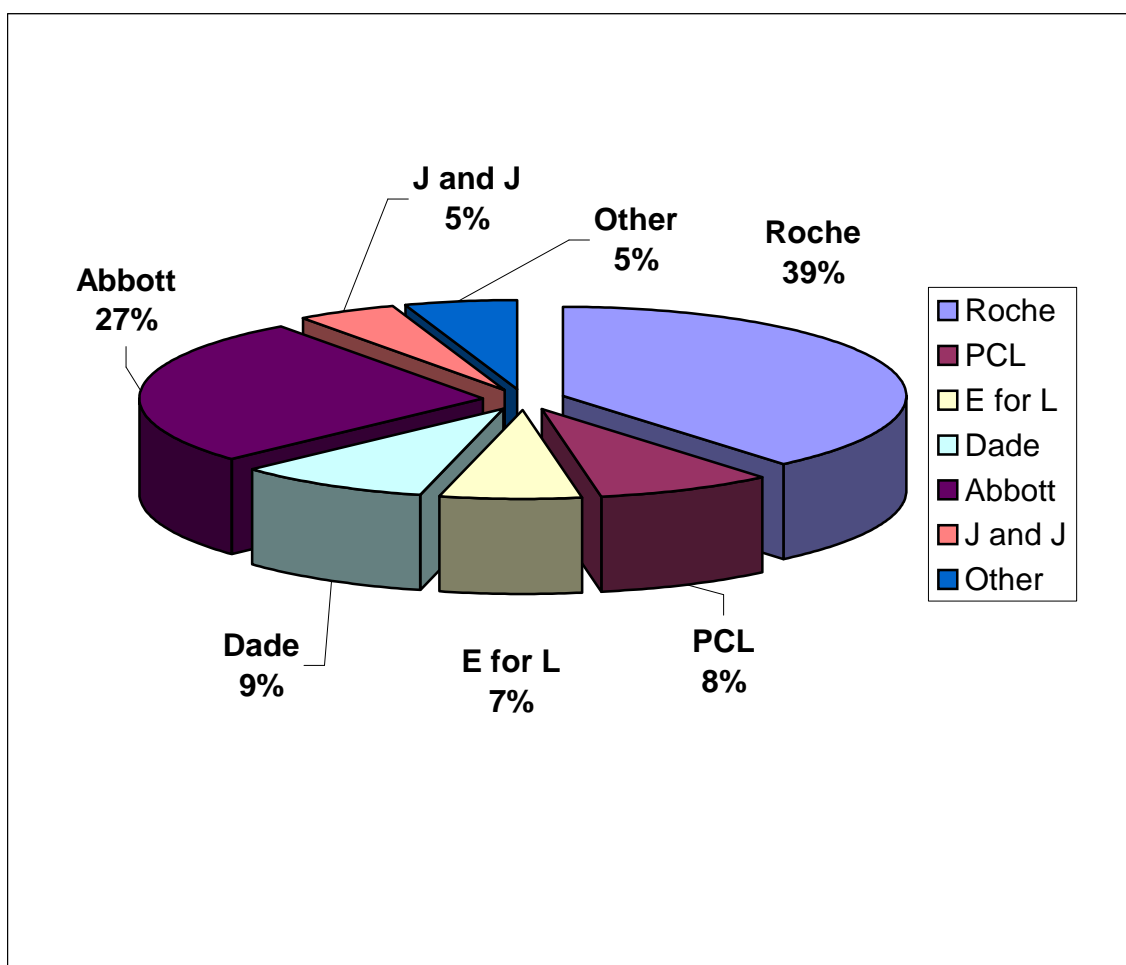
As a result of these responsibilities, medical laboratories need to improve their quality and services by applying for certification of Laboratory Accreditation (LA), ISO15189 and other global standard regulations such as Joint Commission International Accreditation (JCIA). These regulations ensure quality care for patients.

Studying factors that influence the decisions of laboratory managers about purchasing clinical diagnostic laboratory products is also very useful. Automated analyzers have been introduced into the market and have become essential for the laboratory due to the high patient volume and samples, high throughput requirements, fast turnaround time, and the need for precise and accurate results.

Although the laboratory diagnostics industry is an oligopoly with only a few players, the diagnostics market in Thailand is extremely competitive. The total available market is 1,286 million baht for clinical chemistry and immunology. The major players in clinical chemistry and immunology and the sales volume that they have are as follows:

1. Roche Diagnostics Co., Ltd. (500.6 million baht sales in 2006), the Swiss-based company. Roche is the market leader and very strong in the chemistry market.
2. Abbott Laboratories, Diagnostics Division Co., Ltd. (346.8 million baht sales in 2006), the American based affiliate. Abbott is the market follower and very strong in immunology.
3. Dade Behring Co., Ltd. (119.40 million baht sales in 2006), the American based company and widely use in chemistry.
4. Beckman Coulter is sold and distributed by a local distributor named PCL holding Co., Ltd. (106.9 million baht sales in 2006).
5. Siemens Healthcare is sold and distributed by a local company named E for L international Co., Ltd. (84.78 million baht sales in 2006)
6. Johnson & Johnson Co., Ltd. (59.10 million baht sales in 2006), the U.S.-based company.

**Figure 1.** Percentage of clinical chemistry and immunology market in Thailand 2006.



From Market Survey by Sales-representatives of Abbott Laboratories Co., Ltd. in 2006.

In this research, the study will focus on the core laboratory with automated analyzer in two routine sections, clinical chemistry and immunology in both hospital laboratories and private laboratories. Among all hospitals in Thailand, (both private and government hospitals) there are more than 201 beds which are considered most potential targets for diagnostics companies due to their high volume of patients per day and high purchasing power. Healthcare diagnostics companies or distributors can use the results of this study as a guideline to develop their marketing strategies and improve their services to increase their sales volume and market share.

## 1.2 STATEMENT OF THE PROBLEM

The annual total available market for diagnostics laboratory products was almost 1.3 billion baht in 2006 with the increasing concern among Thai people about health and also the rapid growth of medical tourists. Therefore it's a very interesting and competitive market. The laboratory managers who are responsible for planning, managing and operating the medical laboratory and are also the persons who decide to use diagnostic products. Thus, this research tries to answer the following research questions:

1.2.1 What are the factors influencing purchasing decisions of clinical diagnostics products in medical laboratories?

1.2.2 What are the most common purchasing behaviors and the reasons for either using new products or remaining with current products among Thai laboratory managers?

## 1.3 OBJECTIVES OF THE STUDY

The objectives of this study are as follows:

*Main Objective:*

- To investigate the factors influencing purchasing decisions about clinical diagnostics products in Thailand.

*Sub-objective:*

- To explore the purchasing behaviors among Thai laboratory managers and obtain their suggestions.

## 1.4 DEFINITIONS OF TERMS

Definitions of the terms of this study are the following:

1. ***Diagnostics laboratory products*** refer to the analyzers, instruments and reagents used in the medical laboratory for diagnosing the cause of diseases or illnesses to assist the physicians in treating patients.

2. ***Laboratory managers*** refer to persons who have authority in the laboratory and whose core job responsibilities are planning, managing and decision-making in the development of laboratory services.

3. ***Quality of assay performance*** means the precise and accurate of results

4. *Specimens or samples* are any secretion collected from patients; most are blood specimens or samples drawn from patients and processed by centrifuge to separate the serum or plasma (which is the liquid protein in the blood) before going to analysis.

5. *Throughput of the analyzer* means the numbers of samples or tests that can be performed by the analyzer within an hour.

6. *STAT samples* mean the emergency samples that need results within a short time.

## 1.5 SCOPE OF THE STUDY

This research will be conducted in order to find out the factors influencing purchasing decisions about clinical diagnostics products in medical laboratories. Moreover, this study will help to identify the laboratory needs that can be used to plan company marketing strategies to obtain the laboratory managers suggestions that can be used as baseline data for improvement of the service from laboratory product suppliers and also maximize lab manager satisfaction in the future.

The samples in this study were the laboratory managers who work in private or government hospitals, which had more than 201 beds and private laboratories around the kingdom of Thailand. The sample size was 70 laboratory managers. The period of this study was 4 months, beginning in November 2007 until the end of February 2008. The time frame was divided into 4 phases: planning, implementation, analysis and reporting.

## 1.6 SIGNIFICANCE OF THE STUDY

This research is beneficial for several parties:

1.6.1 This study describes the factors influencing purchasing decisions about clinical diagnostic products in medical laboratories and the purchasing behaviors of laboratory managers.

1.6.2 The findings will give a better understanding of laboratory managers needs and expectations Diagnostics companies can use the findings as guidelines to set up their marketing strategies.

## 1.7 ORGANIZATION OF THE STUDY

The study of factors influencing purchasing decisions about clinical diagnostic products in medical laboratories in this paper is divided into five chapters. The first chapter is an introduction to the background of the study, statement of the problem, objectives of the study, definitions of terms, scope of the study and significance of the study. Chapter two presents a review of literature related to the study. Chapter three shows the methodology, consisting of subjects, materials, procedures, and data analysis. Chapter four provides the findings from the questionnaires. Chapter five deals with conclusions, discussion and recommendations.