

CHAPTER FIVE

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

This chapter presents (1) a summary of the study, (2) a summary of the findings, (3) discussion, (4) conclusions, and (5) recommendations for further research.

5.1 SUMMARY OF THE STUDY

Services from product specialists, engineers and delivery of goods were the most influential factors in purchasing decisions about clinical diagnostic products in medical laboratories by the laboratory managers. Consequently, the quality of the results is a key in maintaining business with customers since the outcome of the in vitro diagnostic tests are vital to doctors in diagnosing and treating patients. Therefore, diagnostic companies need to learn how to offer effective services and create marketing strategies to attract customers. In addition, this can help them to have a clearer view of what areas need to be improved to sustain the growth of their business.

5.1.1 Objectives of the Study

This research study intended to find out the factors influencing purchasing decisions about clinical diagnostic products in medical laboratories around Thailand. In addition, it aimed to identify the characteristics of customers' purchasing behavior and to find out their needs and suggestions for further business plans and marketing strategy improvements.

5.1.2 Subjects, Materials, and Procedures

The investigation was conducted at more than 201 beds private and government hospital laboratories and also private laboratories throughout the kingdom of Thailand. The subjects of this study were 70 laboratory managers. A total of 70 questionnaires were distributed to the respondents at each laboratory randomly. The researcher retrieved 70 completed questionnaires.

The research was conducted through a questionnaire, which was divided into four parts. The first part elicited general information from the respondents including gender, age, educational background, occupation, bed size and number of specimens per day. The second part was about the characteristics of the respondents' purchasing behavior. The third part was designed to explore the factors influencing purchasing decisions about diagnostic products. In the last part, they were asked for suggestions.

The data was collected from 70 target respondents as specified above in "Subjects". Data analysis was done using the SPSS program for Windows version 12.0. The data was processed according to frequency, percentage, mean and rank. The findings are presented in descriptive statistics form.

5.2 SUMMARY OF THE FINDINGS

The results of the study can be summarized as follows:

5.2.1 General Information of the Respondents

The respondents consisted of 29 males and 41 females with ages between 27 – 54 years, mostly between 31-40 years (44.3%) and 41-50 years (30%). The majority of the respondents had Bachelor's degrees (82.9%). The largest proportion of the respondents worked in government hospitals (62.9%), whereas 34.3% of them worked in private hospitals. Most of the respondents worked in larger than 501 bed hospitals (37.1%) and 201–300 bed hospitals (35.7%). The majority of the respondents handled 100–200 tubes of specimens/day (32.9%) and 201-300 tubes/day (27.1%).

5.2.2 The Purchasing Behavior of the Respondents

The largest proportion of the respondents replaced their analyzers with new chemistry and immunology instruments every 4-5 years (45.7%) whereas 34.3% of the respondents replaced their analyzers after more than five years. Most of the respondents (51.4%) received product information from sales representative and attended both local and international exhibitions or symposiums (31.4%). The main reasons that the changed products or suppliers were low quality the results (46.5%) and biggest reason that respondents remained with current products or suppliers was their confidence in the results (77.1%).

5.2.3 The Factors Influencing the Purchasing Decisions of the Respondents

The overall rankings of influential factors for purchasing decisions of the respondents were service (4.42), sales representatives (4.22), products (4.15), price (4.13), company & executives (4.11) and promotions (3.54). The top three services factors were fast response to problems (4.67), on-time reagent delivery (4.63) and the ability to fix instrument problems within a short time (4.61). The top three sales representatives factors were attentiveness and responsiveness (4.69), ease of contact (4.57) and ethics and honesty (4.41). The top three product factors were the quality of assay performance (4.87), the durability of the analyzers and few service calls per year (4.50) and new technology products with continuous research and development (4.46). The top three price factors were the perception of good value for money (4.59), the inclusion of accessories in the price (4.43) and a free reagent kit during the installation and training period (4.04). The top three company & executives factors were listening to customers' requirements and complaints (4.51), working with transparency, ethics and under code of business conduct (4.29) and the stability and company reputation (4.24). The frequency of launching promotional campaigns (3.81), support at international exhibitions and symposiums (3.61) and free gimmicks during exhibitions (3.20) were the lowest ranked of promotional factors.

5.3 DISCUSSION

This section discusses how the findings of the study relate to the theories discussed earlier.

5.3.1 Demographic Information

This research addressed several issues related to factors influencing purchasing decisions about clinical diagnostic products in medical laboratories.

In terms of educational background, the results show that all of the diagnostic laboratory managers graduated with at least Bachelor's degree from the faculty of medical technology or allied medical science since all of them need to have a medical technologist professional working license per Thai law and regulations; however, some of the laboratory managers had master's degrees very few a doctoral degree.

As for working experience, since most of laboratory managers were between 31-50 years of age, the information shows that they needed to have eight years of experience in working in a medical lab before becoming a laboratory manager. This is to ensure laboratory competency, as well as analysis, and managerial skills.

There were three kinds of medical laboratory organizations. Most of laboratory managers worked in government and private hospitals while a few worked in private laboratories because of the small number of private laboratories in Thailand. The government hospitals can be segmented by the number of beds that the hospitals provide. The regional hospitals had more than 500 beds, such as Khonkaen hospital, Maharaj Nakornratchasima hospital, Saraburi hospital and Yala hospital, while the general hospitals had 150–500 beds, such as Rayong hospital, Tak hospital and Lopburi hospital. The community hospitals had less than 120 beds, such as Photong hospital, Vichienburi hospital and Tungsong hospital. For the private hospitals, the number of beds depended on the location, landscape of area, amount of capital investment and good reputation of the hospitals such as Bumrungrad hospital, Phyathai hospital and Vichaiyuth hospital.

Focusing on the number of samples/day, most of hospitals had 100-300 specimens/day and the number tended to increase each year since Thai people have increasing concern for their health and they can easily access health information; therefore, many people check their blood chemistry and immunology annually to prevent serious disease or illness, such as cancer, or heart attack. The other factors were the growing number of foreign tourists who came to rest and check up health, as overall costs were cheaper than in their countries. Those who work in foreign countries must have their blood checked prior to departing from Thailand and the hospitals' advertising and promotions for check up programs also increased the number of samples/day.

5.3.2 Purchasing Behaviors

The results showed the length of usage time for analyzers before the laboratory managers needed to replace with new instruments was 4-5 years or more than five years. The reasons behind these were the difficulty to follow up on regular patients result compared to the old method versus new method. The technicians

needed to correlate those two methods and set up for new reference values before implementing the new instruments. They also needed to be trained how to use the new instruments. These factors could be defined as a barrier to entry for the new product.

Focusing on the channel of product information, the study showed that the main source of product information was the information from the sales representatives. Diagnostic laboratory products are industrial goods and highly complicated which need to be explained by highly skilled and experienced sales representatives. Attendance at meetings, symposiums and seminars held by professional organizations was also a source of product information because the suppliers had an opportunity to demonstrate their products and discuss and clarify with laboratory managers. Talking to other reference laboratory managers and searching the Internet were easy ways to get information but less significant in this study.

In terms of the reasons for using with new products or suppliers, the inaccurate results of current product was the most important reason since inaccurate results may lead to wrong diagnosis, treatment failure and legal cases which damage the laboratory reputation. Increasing number of specimens or running new tests was also a reason for laboratory managers to look for new products. These were to enhance the laboratory services, revenue and productivity. The other reasons were the hospitals' policy and regulations, seeking cost reduction, being the pioneer for new technology and dissatisfaction with the service of the current suppliers, while other reasons were not significant.

In addition, the main reason for continuing to use current products or suppliers was confidence in results, which was highly significant in this study. Therefore, product quality and performance was the most significant point for the laboratory managers. Other factors such as price, relationship, lack of a substitute product and high switching costs were not significant.

5.3.3 Factors Influencing Purchasing Decisions

The results of the analysis on the factors influencing purchasing decisions showed the biggest of customer concern was service followed by sales representatives, products, price, company and executive factors, while promotions was the least influential factor.

Since the diagnostic laboratories needed to provide 7 day 24 hour service to patients and physicians, and many of the cases were emergencies fast response from suppliers was the most important factor for lab managers. Engineering skill, the accuracy of invoices and the ability to provide around-the-clock service were also important to laboratory managers.

Focusing on the sales representatives' factors, attentiveness and responsiveness ease of contact and the ethics of sales representatives were considered as the most influential factors. It is notable that loyalty to the company, highly experienced sales representatives and the frequency of visits were less important in this study.

Good of product performance, durability of analyzers and up-to-date technology were the most important product factors ensuring accurate results; hence it can lead to the correct diagnosis and successful treatment of patients. Accurate results also improved the reputation, goodwill and led to laboratory certification for hospitals, which enhances the business growth. Open systems, the size of analyzers and the low consumption of water, electricity and supply were less important product factors to laboratory managers.

In terms of price factors, if the laboratory managers perceived the product as providing good value for money, they purchased those products with little concern about special discounts since they can offset these costs by charging patients in private hospitals and the government hospitals received a budget and financial support from the government. The inclusion of accessories and a free reagent kit during the installation and training period were also important to laboratory managers since these can help to save time in managing the accessory inventory.

Listening to customers' complaints and transparency of the executives of the company were also influential to the customers. The stability and strong reputation of the company and teamwork were also important because these can increase the

customers' confidence in post purchase services. While the frequency of new products and being a world-class company were less important factors to the customers.

The promotional factors were least influential to laboratory managers. However, the marketing through launching promotional campaigns and support for attending international exhibitions and symposiums also impacted the customers. Free gimmicks were the least important promotional factor to customers.

Therefore, diagnostic companies which understand all the important factors will be able to design services and marketing strategies to support and satisfy the customers' needs, and will gain a competitive advantage to expand their businesses, leading to sustainable growth.

5.4 CONCLUSIONS

The following conclusions can be drawn from the discussion above.

5.4.1 Regarding the factors influencing purchasing decisions about of clinical diagnostic product in medical laboratories, the most important factors were service, sales representatives, product, price, company and executives and promotional factors.

5.4.2 According to the findings of the study, the laboratory managers tended to replace new analyzers after using the old instruments more than 4-5 years and the product information mostly came from sales representatives. The main reason for changing products was inaccurate results from current products and the increasing number of specimens or the demands of new assays. While the reasons for laboratory managers remaining with current products or suppliers were confidence in results due to the quality of the product.

5.5 RECOMMENDATIONS FOR FURTHER RESEARCH

Based on the findings and conclusions of this study, the following recommendations are made for future research.

5.5.1 The weakness of this research was the limitation to only more than 201 bed hospitals as there are many small provincial hospitals and district hospitals which have less than 200 beds. For a more complete picture future surveys should be conducted with a greater number of subjects in a variety of hospital laboratories.

Then, the data and results can be generalized to diagnostics laboratories throughout Thailand.

5.5.2 Since there were no previous studies of this specific niche market in Thailand, the researcher interviewed only three laboratory managers who worked in private laboratories and private and government hospitals in the pilot study, obtaining their opinions and modifying the questionnaire. However, these interviews don't represent all segments of the laboratory diagnostic market; hence, more research should be done in the future.