



CUSTOMER SATISFACTION WITH THE SERVICE QUALITY  
OF A SEA FREIGHT FORWARDER IN THAILAND

By

JIDAPA JIRASUNANTACHAI

A Final Report of the Six-Credit Course  
SCM 2202 Graduate Project

Submitted in Partial Fulfillment of the Requirements for the Degree of  
MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT

Martin de Tours School of Management  
Assumption University  
Bangkok, Thailand

April, 2010

**CUSTOMER SATISFACTION WITH THE SERVICE QUALITY  
OF A SEA FREIGHT FORWARDER IN THAILAND**

By

**JIDAPA JIRASUNANTACHAI**



A Final Report of the Six-Credit Course  
SCM 2202 Graduate Project

Submitted in Partial Fulfillment of the Requirements for the Degree of

**MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT**

Martin de Tours School of Management  
Assumption University  
Bangkok, Thailand

April 2010

# **CUSTOMER SATISFACTION WITH THE SERVICE QUALITY OF A SEA FREIGHT FORWARDER IN THAILAND**

By

**JIDAPA JIRASUNANTACHAI**

Submitted in Partial Fulfillment of the Requirements for the Degree of  
Master of Science in Supply Chain Management  
Assumption University

Examination Committee:

1. Asst. Prof. Dr. Brian Lawrence (Chair) .....
2. A. Piyawan Puttibarncharoensri (Member) .....
3. Asst. Prof. Dr. Nucharee Supatn (Advisor) .....

Approved for Graduation on: April 07, 2010

Martin de Tours School of Management  
Assumption University  
Bangkok, Thailand

April 2010

## ABSTRACT

The main purpose of this study is to understand the relationship between logistics' service quality, pricing and scheduling, and customer satisfaction with sea freight forwarding in Thailand. Four objectives are set: 1) to examine the impact of sea freight forwarding service quality on customer satisfaction; 2) to examine the influence of the price (service charge) and scheduling of the service providers on customer satisfaction; 3) to understand the effect of each dimension of sea freight forwarding service on customer satisfaction and identify the factor that provides the highest impact on customers satisfaction, and 4) to identify the differences between customers' expectation and perception of logistics service quality, price and scheduling, and customer satisfaction. The ABC Company is selected as a proxy of a sea freight forwarder. All 78 current customers of the ABC Company are targeted as the population of the study. The nine-dimension logistics service quality proposed by Mentzer is applied. T-test and regression analysis are used as the major data analyses techniques. The results indicate that logistics service quality and scheduling are significantly related to customer satisfaction while the influence of pricing is not evident. Moreover, customer expectation on all related factors is significantly higher than their perception of the quality of those factors.

The results from this research would help the ABC Company, as well as other sea freight forwarders, to focus on the appropriate points to improve their service which in turn, would help in enhancing customer satisfaction.

## ACKNOWLEDGEMENTS

In mentioning those to be acknowledged' or their assistance, I have to stress that the research could not have been done completely and effectively if I did not have cooperation from several people. I would like firstly to express my deepest appreciation to Asst. Prof. Dr. Nucharee Supatn, my beloved advisor, for all her kindly advice, valuable guidance, and encouragement which supported me in achieving my research objective. Further, my thankfulness is extended to the committee members for their valuable recommendations to improve my research.

I also would like to thank those beloved SCM managers, sales managers, and customer service personnel of ABC Company for supporting me with information and who helped me to distribute the questionnaire to our customers. I am very lucky to have such good colleagues.

Finally, I would like to thank my mother, sister, and nephew for all their contributions, morale, sympathy, understanding, and inspiration which they gave to me, which enabled me to complete this project.

Jidapa Jirasunantachai

Assumption University

April 2010

**TABLE OF CONTENTS**

	Page
Committee's Approval Sheet .....	
ABSTRACT .....	ii
ACKNOWLEDGEMENTS .....	<b>iii</b>
TABLE OF CONTENTS .....	iv
LIST OF TABLES .....	vi
LIST OF FIGURES .....	vii
<b>CHAPTER I: GENERALITIES OF THE STUDY</b>	
1.1 Background of the Study .....	1
1.2 Statement of the Problem .....	3
1.3 Objectives of the Study .....	4
1.4 Scope of the Study .....	4
1.5 Limitations of the Study .....	5
1.6 Significance of the Study .....	5
1.7 Definitions of Terms .....	6
<b>CHAPTER II: REVIEW OF RELATED LITERATURE AND RESEARCH</b>	
<b>FRAMEWORKS</b>	
2.1 Freight Forwarding Company .....	8
2.2 Service Quality .....	10
2.3 Logistics Service Quality .....	12
2.4 Pricing .....	14
2.5 Scheduling .....	15
2.6 Customer Satisfaction .....	16
2.7 Relationship between Freight Forwarding Service Quality and Customer Satisfaction .....	17
2.8 Conceptual Framework .....	17
2.9 Research Hypotheses .....	18
2.10 Summary .....	19

## CHAPTER III: RESEARCH METHODOLOGY

3.1 Research Design	.....20
3.2 Target Population, samples and data collection	.....20
3.3 Questionnaire Development	.....21
3.4 Questionnaire Pre-Test	.....23
3.5 Data Analysis Plan	.....24
3.6 Summary	.....26

## CHAPTER IV: PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

4.1 Company Profiles	..... 27
4.2 Hypotheses Testing	.....30
4.3 Summary	.....36

## CHAPTER V: SUMMARY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussions of the Findings	.....37
5.2 Conclusions	.....39
5.3 Managerial Implications	..... 40
5.4 Recommendations for Future Research	..... 41

BIBLIOGRAPHY	..... 42
--------------	----------

APPENDICES	..... 46
------------	----------

Appendix A: Questionnaire	..... 47
Appendix B: SPSS Output	.....55

## LIST OF TABLES

TABLE	Page
2.1 Difference between Service and Physical Goods.....	11
2.2 Logistic Service Quality Definition .....	13
3.1 Measurement Items of Logistics Service Quality, Pricing, and Scheduling	22
3.2 Measurement Items of Customer Satisfaction .....	23
3.3 Reliability Analysis Results in term of Expectation and Perception	24
4.1 Product Types of ABC's Customers .....	27
4.2 Business types of ABC's Customers .....	28
4.3 Major market of ABC's Customers .....	28
4.4 Time period dealing with ABC Company .....	28
4.5 Competitors of ABC Company .....	29
4.6 Service types of ABC Company .....	29
4.7 Customer Usages per Month .....	30
4.8 Regression Analyses Results for Hypotheses 1 to 3 .....	31
4.9 Regression Analyses Results for Hypotheses 1(a) to 1(i).....	33
4.10 Mean of Service Quality, Pricing, Scheduling, and Satisfaction ....	35
4.11 Hypotheses 4 to 7 testing by using Paired Sample T-test .....	35
4.12 Hypotheses Testing Results .....	36

## LIST OF FIGURES

FIGURES	Page
1.1 The expected container throughput after completion of the Basin ..	2
2.1 The revised SERVQUAL Dimensions of the PZB Model .....	12
2.2 Customer Satisfaction or Dissatisfaction Model .....	16
2.3 Conceptual Framework Model.....	18



# CHAPTER I

## GENERALITIES OF THE STUDY

### 1.1 Background of the Study

Nowadays, in the world of business competition, logistics is one business strategy that can enhance the competitive advantage of the firm (Pollit, 1998). This is different from the past when logistics was perceived merely as supporting activities of the firm. Initially, the logistics operations process was considered as including purchasing, storing, transporting and distributing physical goods to fulfill the requirements of customers. Currently, logistics activities involve more functions such as packing, warehousing, distribution, and supply chain management. There are many new and established logistics companies in this competitive market, and all of them expand the market by getting as many customers as they can.

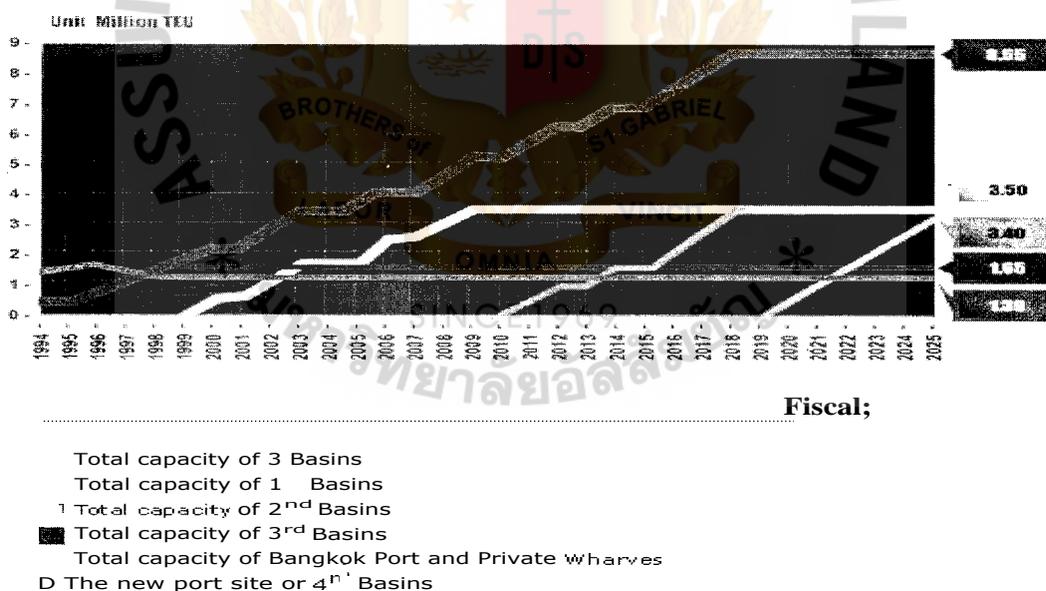
In today's highly competitive market, logistics is recognized as a critical factor in gaining competitive advantage from the logistics business world. Many companies outsource part of the logistics function rather than operate it in-house, which helps a firm to concentrate on its core competency. Outsourcing can help a firm in terms of cost reduction and service improvement. Wong et al. (2000) estimated that 40 percent of the global logistics activities are outsourced. Elmuti et al. (2000) stated that through outsourcing, companies can reduce the cost by nine percent and increase in capacity and quality by fifteen percent approximately. Hence, outsourcing logistics activities can help the firm reduce its operation cost and improve its performance since it can then focus on its core business activities.

Logistics service providers have currently gained more attention. Various studies indicate the strong relationships between logistic service quality and customer satisfaction and customer loyalty (Daugherty, Stank, & Ellinger, 1998; Mentzer, Flint, & Hult 2001; Johnson, Gustafson, & Andreassen, 2001; Lam, Shankar, Erramilli, & Murphy, 2004). Previous researchers found that service quality significantly affects

customer satisfaction. Moreover, Muffato and Panizzolo, (1995) mentioned that customer satisfaction is one of the major competitive components that leads to improvement of an organization's image and reputation, to reduction in customer turnover, and to increased attention to customer needs and better business relationships with their customers.

In Thailand, outsourcing the logistics activities to third-party logistics providers has become a regular practice of many firms. There is a significant increase in the use of sea freight transportation businesses since 2003-2005. In 2005, it was reported that Laem Chabang port was handling over 3,834,000 containers from/to Thailand. Moreover in year 2010, the report from Laem Chabang port showed the expected container capacity at 5 million TEU (twenty-foot equivalent units), which data is shown in Figure 1.1.

**Figure 1.1: The expected container throughput after completion of the Basin**



Source: [www.laemchabangport.com/lcp/Internet/TH/port\\_cap.php](http://www.laemchabangport.com/lcp/Internet/TH/port_cap.php)

The demands come from importers and exporters who use terminal services to import and export their merchandise in and out of Thailand. It is implicit that the sea freight transportation business becomes more attractive to business operators. Consequently, higher competition among sea freight transportation service providers would be

increased. To survive and gain more competitive advantage than other logistics service providers, a third-party logistics firm would provide the services that enhance customer satisfaction, which, in turn, would lead customers to be loyal to the firm.

## **1.2 Statement of the Problem**

As sea freight transportation is the major overseas product transportation means, there are currently lots of sea freight forwarding service providers available in the market. This makes the current sea freight forwarding market become more competitive. Even though it provides customers more choices, good service cannot be ensured. Most sea freight forwarding service providers try to compete with their competitors by offering a low price to customers. This may satisfy customers only in the short run since the export performance would be related to the service performance of freight forwarders, such as transporting those products at the right time, to the right place, with the right quality. Besides that, the responsiveness of the service providers to find for their customers the most suitable schedule of the shipping lines, is also important. Sea freight transportation schedules that fit well with, and are flexible to customers' shipment plans would help customers to ship their products at the right time. As such, customer satisfaction can be expected. However, previous researchers such as Shamwell et al. (1998) mentioned service quality as a key factor that sustains competitive advantage of a firm in the market since it directly affects customer satisfaction. Thus, the quality of a sea freight forwarding service together with the service charge or price and responsiveness of the service provider would be important factors that satisfy exporters and retain them for the freight forwarding firm.

Even though much research on logistics service quality and customer satisfaction has been done, none was done on sea freight forwarding services in the Thai context. Thus, the question, "How do sea freight forwarding service quality, service price and schedule to customer requests influence customer satisfaction?" should be answered. Thus, this research aims to identify the effects of sea freight forwarding service quality, service charge and scheduling on customer satisfaction.

### 1.3 Objectives of the Study

▸ The objectives of this study are:

- 1.3.1 To examine the impact of sea freight forwarding service quality on customer satisfaction.
- 1.3.2 To examine the influence of the price (service charge) and scheduling of the service providers on customer satisfaction.
- 1.3.3 To understand the effect of each dimension of sea freight forwarding service on customer satisfaction and identify the factor that provides highest impact on customer satisfaction.
- 1.3.4 To identify the difference between customer expectations and perceptions on logistics service quality, pricing, scheduling, and customer satisfaction.

### 1.4 Scope of the Study

This research focuses on ABC Logistics (Thailand) and its sea freight service, using Mentzer's model dimensions. A questionnaire survey is designed to collect data from customers of ABC Logistics (Thailand).

ABC Logistics (Thailand) is selected as a case study in this research since it is a medium size company that provides sea freight forwarding services which enables Thai exporters to export their products all over the world. Mentzer's model will be applied to the quality of sea freight forwarding service. The nine-dimensions of the model include personal contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling and timeliness, and these are the focus of this research.

ABC Logistics Company is an international service provider which has been established since 1988. Its head office is located in Portland, USA. Now, ABC Logistics Company has become one of the giant US enterprises that provide fully

---

<sup>1</sup> ABC Logistics (Thailand) is pseudonym.

managed supply chain solutions throughout a worldwide network. ABC Logistics (Thailand) was established in Bangkok, Thailand in 2007, and is currently having a continuously sharp increasing growth rate. It operates by providing logistics and supply chain management, freight forwarding, and transportation both by Air and Sea. In 2008, ABC invested in a new business distribution center in order to proactively provide service to its customers. ABC Logistics (Thailand) plays the role of middle man between customers i.e. exporter and importer and shipping lines. A door to door transportation service will be provided in the near future as well.

### **1.5 Limitations of the study**

The research will focus on export customers of ABC Logistics (Thailand) Company who are involved in the sea freight process. A firm which generates ideas about customer satisfaction will help the company survive in the long run as a business when compared with other freight forwarding companies. The number of the study's target group is 78 current customers of ABC Company. The results from this research apply to the ABC Company and cannot refer to another industry.

### **1.6 Significance of the Study**

Due to this research being a case study based on ABC's customers, the researcher would like to know which factors impact on customers when compared to other freight forwarding companies. The study aims to find the service quality aspects which are important for customer satisfaction in sea freight forwarding. Moreover, this research is for ABC Logistics (Thailand) organization, especially for the marketing manager, concerning their sales and customer service, in order to enhance the company's reputation and gain more market share. Finally, this research can be used as a reference for further research on service quality and customer satisfaction in other businesses.

## 1.7 Definitions of Term

**Exporter** The company or person who ships the cargo to the consignee (Hinkelman, 1999).

**Consignee** The person or firm in a freight contract to whom goods have been shipped or turned over for care (Hinkelman, 1999).

**Freight Forwarder** Referred to as international trade specialists, offering a variety of services to facilitate the movement of international shipments (Murphy et al., 1992; Murphy & Daley, 2001).

**Service Quality** Quality in service usually occurs during service delivery, which is the interaction between a customer and a service provider. Customers evaluate service quality in terms of meeting customer requirement, a fair exchange of price and value, fitness for use, and doing it right the first time (Garvin, 1987).

**Logistics** Is the art of managing the supply chain, and the science of managing and controlling the flow of goods, information and other resources such as energy and people between the point of origin and the point of consumption in order to meet customer requirements. It involves the integration of information, transportation, inventory, warehousing, material handling, and packaging (Phunhitphat, 2008).

**Logistics Service Quality** Refers to the technical and functional quality of the logistics service which includes nine quality dimensions i.e. Personnel contact quality, Order release quantity,

Information quality, Order procedure, Order accuracy, Order condition, Order quality, Order discrepancy handling, and timeliness.

**Customer Satisfaction** A person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance with his or her expectations (Kotler & Keller, 2006).

**Scheduling** The time that a freight forwarder searches and sets to deliver their product to the customer.

**Pricing** Freight forwarding offers the freight rate to customer in order to sell the service or is given in exchange for the expected service provided by service providers.



## CHAPTER II

### REVIEW OF RELATED LITERATURE AND RESEARCH FRAMEWORK

This chapter discusses the context of the freight forwarding industry as well as related theories which are sea freight forwarding service quality, pricing, and scheduling of the sea freight service. Moreover, theories related to customer satisfaction are reviewed. The details are presented in the following sections.

#### 2.1 Freight Forwarding Company

Freight Forwarding is considered as a supporting business for the country's economic growth (TIFFA, 2004). A Freight Forwarder Company tries to promote their company with the best service quality in order to gain more repurchases by customers. A freight forwarder sells intangible service that fits with customer demand, like middle man who has expertise in exporting and importing. Currently, a freight forwarding company provides service such as documentation, and performs related activities such as customs formalities, transportation, warehouse, distribution, and outsourcing, making its services meet customer requirements. Pornanun, (2007) stated that a freight forwarder practically arranges cargo to worldwide destination with their own network. Their scope of activities on documentation is concerned with a Bill of Lading, Mate Receipt, and Cargo Manifest, shipper's export declaration such as a commercial invoice, packing list, and other supporting documents of form such as C/O (Certificate of Origin), form D, and form E. These documents are necessary and requested by the country of destination for giving import tax benefit according to a Free Trade Area Agreement. Presently, the international customs process is arranged through a paperless system or E-Customs, which promotes efficiency by eliminating an unnecessary customs process and cost.

An oversea network is also important for a sea freight forwarder as it can ensure that the cargo can be delivered on time according to the promised schedule. However, it is a part of the main focus that a marketing team needs to concern itself with in order to

improve their service quality to meet the target market. Manon et al. (1998) mentioned that there are many constraints that affect the freight forwarding industry. Firstly, it contains three attributes: departure time, arrival time and a good relationship with the transport providers, which mean that regular sailing schedules are significant. Secondly, it contains four attributes: high frequency of service, fast response to any problem, punctuality of service and the availability of freight space. Thirdly, it contains four attributes; transit time, various port services, tracking, and low error freight rate, which mean that a freight forwarder should arrange delivery of the cargo to various destination ports with the fastest transit time. If any unexpected schedule problem causes delay to the cargo, they must have received an immediate notification from their oversea network tracking, and provide a good solution to re-schedule the cargo load onto another vessel at the lowest freight rate, which will enable the cargo to reach the destination on time. A freight forwarder should have a good team, which has good knowledge and experience of this business field to enable its service to maximize customer satisfaction. These guarantee that the customer will certainly re-purchase the service from them.

### **2.1.1 Job Description of a Freight Forwarder**

Kusmitse, (2007) concluded that the typical freight forwarding work activities should cover the following:

- 2.1.1a Provide and advise the best route and sailing schedule for arranging the cargo, either general cargo or sensitive cargo (such as fresh cargo or dangerous goods; chemical, toxic substances, farmable substances) with the best transit time and high security.
- 2.1.1b Provide and advise the proper packaging appropriate to the nature of the cargo.
- 2.1.1c Provide warehouse service at origin or destination to securely store the cargo.
- 2.1.1d Check and prepare documentation for the customer, i.e. commercial invoice, packing list, insurance and relevant documents which have to

meet the requirements of the destination customs regulations, such as Import Duty, Tax and others requirements.

- 2.1.1e Offer consolidation services of sea, air, railroad, and road; liaising with other 3PL alliances to move the cargo at efficient cost.
- 2.1.1f Provide and develop IT tool to minimize time and error in operation and tracking.
- 2.1.1g Provide an Air-Sea solution for urgent cargo which needs a shorter transit time than sea mode, but with cost lower than air mode.
- 2.1.1h Provide charter service rate for a project cargo, huge cargo, or large volume of bulk freight as well as special cargo which needs an out-of-gauge container or ULD (Unit Load Device for Air Mode).
- 2.1.1i Provide a solution for arranging the customs and clear-out of the cargo.
- 2.1.1j Provide courier services for door-to-door shipments, or for special cargo which needs special handling or more security.
- 2.1.1k Learn and keep up to date with new regulation, policy, political, and other factors that might affect the cargo movement.

## 2.2 Service Quality

To learn more about the definitions of service quality, it is important to know the characteristic of the freight forwarding service before identifying its definition. Gronroos (1990) provides a definition, that it is an activity or series of activities between the customer and service employees and/or physical resources or goods and/or the service provider system, which provides the solution for the customer's problem. Palmer and Bejou (1994) identify service as any primary or complementary activity which indirectly affects physical goods, meanings it is a non-good part among the transaction between the buyer (customer) and seller (provider).

It is also defined as the difference between customer's expectations for service performance prior to the service, against their received service perception, as mentioned by Asubonteng et al. (1996). Furthermore, a contemporary definition stated by Kotler and Armstrong (2001) is that it a service activity that one party offers to

## 3514

another person that is mainly intangible, and does not result in the ownership of anything. Its production may or may not be tied to a physical product. Table 2.1 proposes differences between service and physical goods, and explains the different characteristic and activities of goods and service.

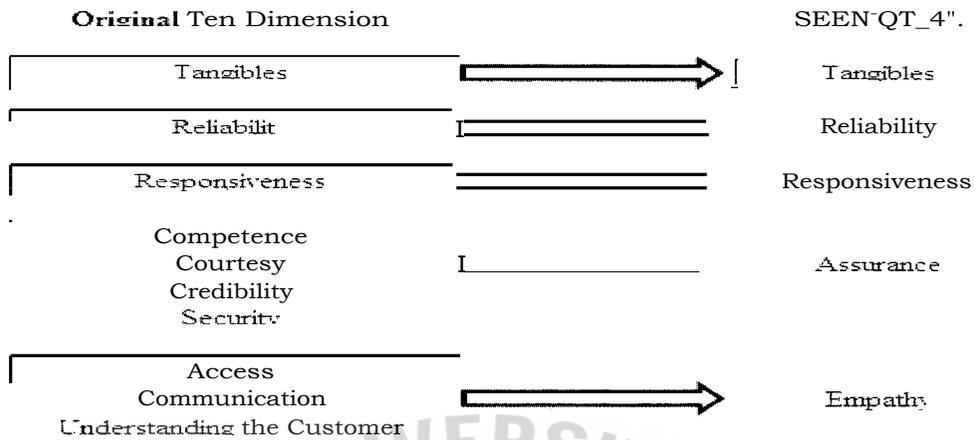
Table 2.1: Differences between Service and Physical Goods

Physical Goods	Service
Tangible	Intangible
Homogeneous	Heterogeneous
Production and distribution are separated from consumption	Production and distribution and consumption are a simultaneous process
A thing	Core value produced in buyer-seller interactions
Customers do not (normally) participate in the production process	Customer participates in the production process

Source: Gronroos (1990)

Many researchers focused on the service quality dimension. As an example, in 1985, Zeithaml, Parasuraman, & Berry developed a comprehensive conceptual foundation to understand and improve service quality by interviewing the people working in retail banking, securities brokerage and production repair. Their model, called SERVQUAL, includes tangible, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. Later, in 1988 the ten dimensions were revised to five dimensions, which are: tangible, reliability, responsiveness, assurance, and empathy. Figure 2.1 presented the original ten dimensions, but five dimensions (competence, courtesy, credibility, and security) have been combined into assurance and access, communication: understanding the customer has now become empathy in the SERVQUAL model.

**Figure 2.1: The Revised SERVQUAL Dimensions of the PZB Model**



Source: Zeithaml, Parasuraman & Berry, L.L. (1990), p.21

### 2.3 Logistics Service Quality (LSQ)

Many researchers state the meaning of logistics service quality as describing the company's ability to deliver the right quantity of the right product to the right place at the right time in the right condition at the right price with the right information (Coyle, Bardi, & Langley, 1992; Stock & Lambert, 1987). Logistics, as a function, is increasingly viewed as strategically important to the organization (Zacaria & Mentzer 2004, Bienstock, Mentzer, & Bird, 1997; Mentzer, Flint, & Hult, 2001). Moreover, Srivastava et al. (1999) stated that inbound logistics, internal logistics, and outbound logistics are important processes within the firm. Logistics within the firm creates an important role in managing international suppliers and international customers (Fawcett & Closs, 1993). Furthermore, an empirical study by Ellinger, Daugherty, & Keller, (2000) found that logistics is an important part of the company and will affect its overall performance (increased profitability and customer satisfaction). Logistics service providers have now become an important core unit of a firm, which can improve customer satisfaction as well as minimize the company's inventory cost which surely helps the business in the long run and gains more profitability. Companies have used logistics to create a competitive advantage (Bowersox, Mentzer, & Speh, 1995; Morasb, Droge, & Vickery, 1996). In 1999, Mentzer, Flint, & Hult developed a nine-dimensional model of logistics service process segmentation.

The nine-dimensions include: personal contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness. Mentzer et al (1999) explained their model in two stages, starting when an order is placed until its receipt, as follows:

2.3.1 First stage: Order placement component, including; personal contact quality, order release quantity, ordering information quality and ordering procedures.

2.3.2 Second stage: Order receipt, goods are delivered to the customer (Tangible products) including three components of order accuracy, order condition, and order quality. Timeliness is the important component for order receipt. If the customer does not receive the order on time then the service providers have to find out the reason causing the shipment delay and investigate to find the solution to avoid the discrepancy, which is considered as company cost, and certainly affects customer perception.

**Table 2.2:** Logistic Service Quality Definition

<b>LSQ Dimension</b>	<b>Meaning</b>
<b>Personnel contact quality</b>	Refers to the customer orientation of the supplier's logistics contact people. Specifically: customers care about whether customer service personnel are knowledgeable, empathize with their situation, and can help them resolve their problems.
<b>Order release quantity</b>	Refers to the concept of product availability. The 3PL provider can challenge a customer's requests to ascertain the need behind the volume requests. Customers should be most satisfied when they are able to obtain the quantities they desire.
<b>Information quality</b>	Refers to customer's perceptions of the information provided by the supplier regarding products from which customer may choose.
<b>Ordering procedure</b>	Refers to the efficiency and effectiveness of the procedures followed by the supplier.
<b>Order accuracy</b>	Refers to how closely shipments match customer's orders upon arrival. This includes having the right times in the order, the correct number of items and no substitutions for items ordered.
<b>Order condition</b>	Refers to the lack of damage to orders. If products are damaged, customers cannot use them and must engage in correction procedures with suppliers, depending on the source of the damage.
<b>Order quality</b>	Products in the order condition addresses damage levels of those items due to handling, and order quality addresses the manufacturing of products.
<b>Order discrepancy handling</b>	Refers to how well any discrepancies in orders arriving, are addressed after the orders arrive. Refers to whether orders arrive at the customer location
<b>Timeliness</b>	Refers to the length of time between order placement and receipt. This delivery time can be affected by transportation time as well as back-order time when products are unavailable.

Source: Mentzer et al (1999), p.90

As the logistics service quality model proposed by Mentzer et al (1999) focuses intensely on the service quality of the logistics service which covers product transportation service, it is more specific to the selected industry than the PZB Model. Thus, it is more suitable to be applied in this project.

## **2.4 Pricing**

Pricing is a vital part of marketing. It is the one of the four majors of the marketing mix: product, price, place and promotion. This marketing mix affects the strategic plan to expand the market. Freight forwarder should develop their product (intangible goods) at a competitive price to meet the customer in export/import industries. Price is a significant tool to drive the company to success in this business, to maximize market share and customer satisfaction. It is measured by doing a survey to find out the market share position and customer satisfaction. There are many researchers who considered the concept of pricing, including Bitner, (1990); Kutz & Clow (1991); Zeithaml et al. (1993) mentioned that price is a cue often used by customers to make patronage decisions to determine what to expect, and to evaluate the quality of a service relative to how much they paid. Furthermore, another group of researchers Banomyong, Ritthironk, Varadejsatitwong, & Supatn, (2005) considered the factors that LSPs must focus on to price a service. The final result indicated a negative relationship between price and shippers' decision in choosing a LSP. Parasuraman, Zeithaml, and Berry, (1985) stated that strong service concepts give companies the opportunity to compete for customers; A strong performance of the service concept builds competitiveness by earning customer confidence and reinforcing branding, advertising, selling and pricing. The company must avoid price competition. A high reputation company has a much stronger competitive position compared to one with inconsistent or poor reputation. Price-cutting is a strategy but it is not good enough to encourage the client to switch if they compare it to another's service. There is an increasing trend in firms who outsource logistics services. Many company use outside logistics service and find the lower cost of that service in order to cut out unnecessary cost that may occur. Hence, this researcher will select the one factor, pricing, to measure the service quality in a sea freight forwarding company.

## 2.5 Scheduling

A good freight forwarder must be able to provide a shipping line schedule to suit the customer's tentative loading time, its nature of products, and arrival destination on time. Cargo should be handled to the destination completely in accordance with the customer's order time as well as the journey being completed without damage at the end. In previous studies, (Mattsson, 2004; Forslund & Jonsson, 2007) stated that even though customers required high on-time delivery and flexibility, the perceived performance was on average low. When the products are in place or sent to the end users, they can be used on time. With this result, it will make customers satisfied with the service and will increase the customer satisfaction of that service and they will re-order this freight forwarding service next time. This means that freight forwarding services should consider how important is the sailing schedule navigation, which is the main factor that may have an effect first on domestic manufacturers and may affect the further customers. Providing an efficient service will result in the decision making of the service fees. For example, a researcher of graduate students said a limitation of the company was that it could not deliver goods to the USA because there is no company branch in the U.S.A. For this reason, the company will lose the customer because they can find other providers. It is the comparison of the service of freight forwarding which should be considered such a most important matter because if freight forwarding cannot meet the customer needs, the company would not be able to stay in this business in the long-term.

An appropriate schedule would be beneficial for customers since there is then no need for them to keep so many goods or raw materials in stock, which means a lot of customers or factories will have to shoulder the burden of higher warehouse costs and if there is a long time to collect products this might cause product damage or lost sales of the export products because overdue as well as being delayed from the ship: Cooke (2002) mentioned that seventy-one percent of respondents in the research ranked "Cost control/Cost reduction" as their top concern. With this problem, the researcher uses scheduling as a measurement in term of performance of the company ABC in looking at the response from the customers. Scheduling will have an impact on the

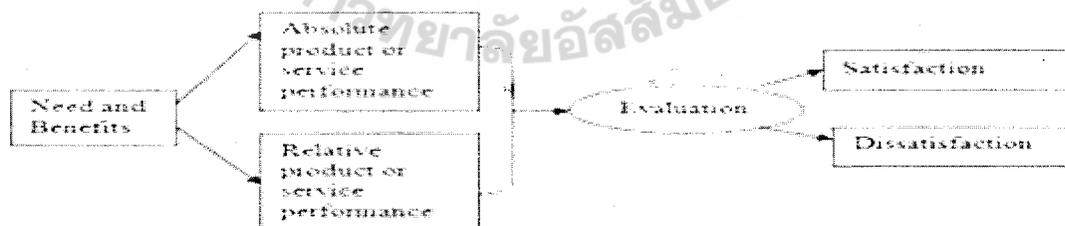
decision making on how to choose a provider. This research also is able to be used to make the business more efficient.

## 2.6 Customer Satisfaction

Sheth, Mittal and Newman (1990) mentioned that there are two approaches to understanding why customers feel the way they do. The two approaches (Satisfied or Dissatisfied) with sea freight forwarder service attributes can be used to measure the customer's overall satisfaction with its service. If it meets the customer's requirement, they might come back to use service and spread positive word of mouth to other companies. On the other hand, if customers are dissatisfied they might complain and change to competitors. It is mentioned by Oliver (1980) that customer satisfaction can be used to evaluate and enhance the performance of firms, industries, economic sectors and national economies, as it measures the quality of goods and service as experienced by customers who buy them.

Customer satisfaction is mentioned as a key driver of long-term relationships between suppliers and buyers by Geyskens et al. (1999); Woodruff & Flint (2003) and is also mentioned by Lam et al. (2004) for its positive relationship to customer loyalty.

**Figure 2.2: Customers satisfaction or dissatisfaction Model**



Source: Well & Prenskey (1996), p.412.

## 2.7 Relationship between Freight Forwarding Service Quality and Customer Satisfaction

Rafiq, Mohammad, Jaafar & Harlinas (2007) stated that logistics service quality has an effect on market share through customer satisfaction and loyalty. Moreover, Mentzer et al (2001) mentioned a logistics perspective, that logistic service capabilities can be leveraged to create customer and supplier value through service performance quality, increase market share, enable mass customization, create the system response-based by customers, positively affect customer satisfaction and corporate performance. Today's freight forwarding companies are complex operations that require a high combination of technology function, process and human talent service in order to improve their performance to provide customer satisfaction as well.

## **2.8 Conceptual Framework**

This research will be based on the conceptual framework model below of the effect of service quality on customer satisfaction in a sea freight forwarder. The study aims to apply the logistics service quality model to the freight forwarding company. The nine-dimensions of Mentzer's model are: personal contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness. Lastly, the researcher has to measure the pricing and scheduling in order to compare them with another variable that may be significant to the firm.

**Figure 2.3 Conceptual Framework Model**

**Logistics Service Quality (LSQ)**

- Personal contact quality
- Order release quantity
- Information quality
- Ordering procedures
- Order accuracy
- Order condition
- Order quality
- Order discrepancy handle
- Timeliness

Customer's Satisfaction

Pricing

112

Scheduling

113

## 2.9 Research Hypothesis

According to the research conceptual framework, this project studies the level of logistics service quality on Customer satisfaction in a sea freight forwarding company. The researcher formulates the hypotheses of this research as below:

**Hypothesis 1:** There is a positive relationship between logistics service quality and customer satisfaction.

**Hypothesis 1a:** There is a positive relationship between personnel contact quality and customer satisfaction.

**Hypothesis 1b:** There is a positive relationship between order release quantities and customer satisfaction.

**Hypothesis 1c:** There is a positive relationship between information quantities and customer satisfaction.

**Hypothesis 1d:** There is a positive relationship between ordering procedures and customer satisfaction.

**Hypothesis 1e:** There is a positive relationship between order accuracy and customer satisfaction.

**Hypothesis 1f:** There is a positive relationship between order condition and customer satisfaction.

- Hypothesis 1g:** There is a positive relationship between order quality and customer satisfaction.
- Hypothesis 1h:** There is a positive relationship between order discrepancy handling and customer satisfaction.
- Hypothesis 1i:** There is a positive relationship between timeliness and customer satisfaction.
- Hypothesis 2:** There is a positive relationship between pricing and customer satisfaction.
- Hypothesis 3:** There is a positive relationship between scheduling and customer satisfaction.
- Hypothesis 4:** There is a difference between expectation and perception of logistics service quality.
- Hypothesis 5:** There is a difference between expectation and perception of pricing.
- Hypothesis 6:** There is a difference between expectation and perception of scheduling.
- Hypothesis 7:** There is a difference between expectation and perception of customer satisfaction.

## 2.10 Summary

The literature review of the use of the logistics service quality model of Mentzer, pricing and scheduling, are relevant to the study in this project. Service quality and customer satisfaction were found to be the main factors.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

Research methodology will be explained in this chapter. Research designs will be firstly discussed, followed by questionnaire development, target population, data collection, and also the data analysis plan. The details are as follows:

#### **3.1 Research Design**

A research survey is designed to have structured questions in which response options are predetermined choices for the respondents (Burns & Bush, 2008). Customer satisfaction is selected as the dependent variable of this model. The three independent variables are logistics service quality, pricing, and scheduling. Mentzer's logistics service quality model, with its nine-dimensions of personnel contract quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, timeliness and order discrepancy handling, is used in this research.

A questionnaire survey was selected as the main primary data for this study of ABC Logistics (Thailand). All data was collected from the users who are involved in the ABC Logistics (Thailand) service process.

#### **3.2 Target population, samples and data collection**

A census survey is selected to measure the process and describe characteristics of users, and to measure users' perception of service quality which is provided by ABC Logistics (Thailand). The respondents are 78 current customers of ABC Logistics (Thailand). The questionnaire survey was distributed directly to the customer by the customer service staff of ABC Logistics (Thailand).

### 3.3 Questionnaire Development

This research used a questionnaire as the survey tool, which was developed based on the literature review in Chapter II and the conceptual framework. The questionnaire can be classified into three parts as:

#### Part I: Demographic data of Respondents

This part includes customer background such as type of business, frequency of service use, and size of the company.

#### Part II: Measurement of Logistics Service Quality, Pricing, and Scheduling

This part is designed to measure the level of service quality by using Mentzer, nine dimensional model of logistics service quality, pricing, and scheduling, in order to measure the level of service quality. This part requires the respondents to rate the level of service quality by selecting Scale 1 (low) to 5 (high) to measure customer satisfaction.

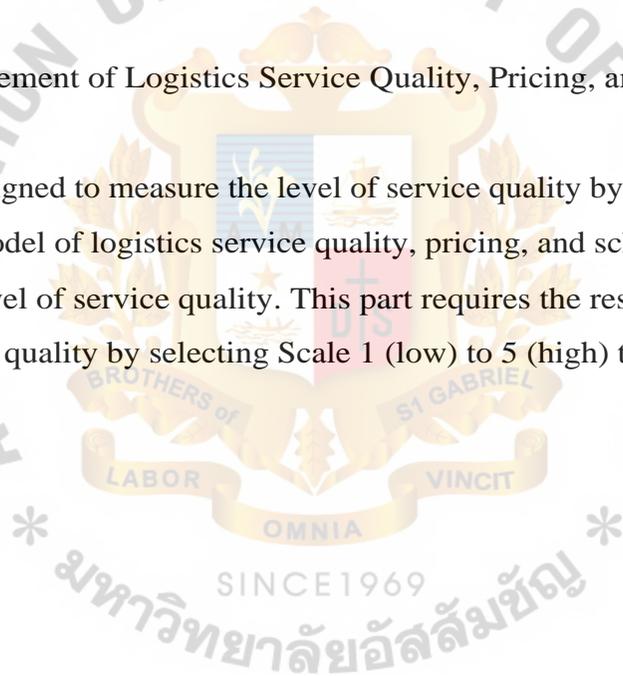


Table 3.1: Measurement Items of Logistics Service Quality, Pricing, and Scheduling

	Original Items	Modified Items
<i>Personnel Contact Quality</i>	The contact person makes an effort to understand your situation.	The contact person makes an effort to understand your situation.
	Problems are resolved by contact person.	Problems are resolved by contact person.
	The product knowledge/experience of the contact personnel is adequate.	The product knowledge/experience of the contact personnel is adequate.
<i>Order Release Quantities</i>	Requisition quantities are not challenged.	Requisition quantities are not challenged.
	Difficulties never occur due to maximum release quantities.	Difficulties never occur due to maximum release quantities.
	Difficulties never occur due to minimum release quantities.	Difficulties never occur due to minimum release quantities.
<i>Information Quality</i>	Product specific information is available.	Product specific information is available.
	Product specific information is adequate.	Product specific information is adequate.
	ABC always gives the information immediately.	ABC always gives the information immediately.
<i>Ordering Procedures</i>	Requisitioning procedures are effective.	Requisitioning procedures are effective.
	Requisitioning procedures are easy to use.	Requisitioning procedures are easy to use.
	Requisitioning procedures not damaged.	Requisitioning procedures not damaged.
<i>Order Accuracy</i>	Shipments rarely contain the wrong items.	Shipments rarely contain the wrong items.
	Shipments rarely contain an incorrect quantity.	Shipments rarely contain an incorrect quantity.
	Shipments rarely contain substituted items.	Shipments rarely contain substituted items.
<i>Order Condition</i>	Material received from depots is undamaged	Packaging material provided is durable.
	Material received direct from vendors is undamaged	Packaging material provided is suitable.
	Damage rarely occurs as a result of the transport mode or carrier.	Damage rarely occurs as a result of the transport mode or carrier.
<i>Order Quality</i>	Substituted items (if any) work fine.	Substituted items (if any) work fine.
	Products ordered meet technical requirements.	Products ordered meet technical requirements.
	Equipment and /or parts are rarely nonconforming.	Equipment and /or parts are rarely nonconforming.
<i>Order Discrepancy Handling</i>	Correction of delivered quality discrepancies is satisfactory.	Correction of delivered quality discrepancies is satisfactory.
	The report of discrepancy process is adequate.	The report of discrepancy process is adequate.
	Response to quality discrepancy report is satisfactory.	Response to quality discrepancy report is satisfactory.
<i>Timeliness</i>	Time between placing requisition and receiving delivery is short.	Time between placing requisition and receiving delivery is short.
	The amount of time a requisition is on back-order is short.	Deliveries are picked up on the date promised.
	Deliveries arrive on the date promised.	Deliveries arrive on the date promised.
<i>Pricing</i>	Price suitable for the service when compared with others.	Price suitable for the service when compared with others.
	Freight charge is a reasonable price when compare with others.	Freight charge is a reasonable price when compared with others.
	Quotation from ABC is accurate. Billing from ABC is always correct.	Quotation from ABC is accurate. Billing from ABC always correct.
<i>Scheduling</i>	ABC arrange schedule suited to the production line.	ABC arrange schedule suited to the production line.
	ABC always arrange schedule as customer needs.	ABC always arrange schedule as customer needs.
	ABC arrange schedule support immediately and on-time delivery.	ABC arrange schedule support immediately and on-time delivery.
	In case of emergency ABC can arrange schedule match on the date promised.	In case of emergency ABC can arrange schedule match on the date promised.

Source: Adapted from Mentzer et al (1999), p. 98

### Part III: Level of Service Satisfaction

This part is designed to measure customer satisfaction. It is modified from the previous work in the literature illustrated by using Scale 1 (low) to 5 (high) to measure customer satisfaction.

**Table 3.2: Measurement Items of Customer Satisfaction**

<i>Measurement Items</i>
You are satisfied with the overall service provided by ABC
You have been satisfied constantly with ABC
You have a very good impression of ABC.
The service provided by ABC usually exceeds your expectations.
You feel good any time you use ABC service.
Overall, ABC provided good service to customers.

#### 3.4 Questionnaire Pre-Test

The pre-test is used for a trial basis in a small pilot study to decide the questionnaire content before being distributed to the respondents. The pre-test was developed to test its reliability by distributing 30 questionnaires to the current customers of a freight forwarder. The researcher could thus envisage some question problems that could cause confusion and could rewrite them in order to save time and money. Zigmund, (2000) stated that editing the questionnaire during the pretest state can prove very valuable. Therefore, in this research it was necessary to perform a pretest to prove the questionnaire's adequacy before it was applied to those who were later used in the actual study. After the pretest process was completed, some questions had to be revised and wording improved to eliminate wrong information and problems.

##### 3.4.1 Reliability

Reliability is a tool used in research for the pretest and analysis procedure, and to measure scale reliability and information about relationships between individual

items in the scale. Nunnally (1978) indicated that 0.7 would be an acceptable reliability coefficient.

**Table 3.3: Reliability Analysis Results in term of Expectation and Perception**

Constructs	Items	Cronbach's Alpha	
		Expectation	Perception
Logistics Service Quality	27	0.962	0.963
Pricing	4	0.939	0.903
Scheduling	4	0.933	0.881
Customer Satisfaction	6	0.929	0.957

From the results of the reliability tests shown in Table 3.3, the alpha coefficients of all variables are greater than 0.7, and this outcome implies that the questionnaire used for this study is reliable.

### 3.5 Data Analysis Plan

The researcher used Multiple Linear Regression (MLR) to conduct descriptive data analysis and regression analysis. Multiple linear regression analysis will be presented in the hypotheses to measure the relationship all variables.

#### 3.5.1 Descriptive Data Analysis

Zikmund, (2003) mentioned descriptive data analysis by referring to its transformation of raw data into a form that will make them easy to understand and interpret. In this research, descriptive data analysis will be selected to summarize the demographic characteristics data of respondents.

#### 3.5.2 Regression Analysis

Multiple regression is an extension of bivariate correlation. Multiple regression analysis is the analysis of association that is used when one or more independent variable affect the dependent variable (Zigmund, 2003). However, the dependent

variable must be measured on an interval or ratio scale. The multiple regression equation can be explained as

$$y = a + b_1x_1 + b_2x_2 + \dots + b_nx_n$$

Where:

y = the predicted value of the dependent variable

a = the constant, where the regression line intercepts the y axis

b = the regression coefficients

x = the independent variables

Y is the dependent variable (customer satisfaction) based upon a specific managerially selected X which is an independent variable (Logistics Service Quality, Pricing, and Scheduling). In this research, multiple linear regression (MLR) was selected as a tool to test the hypotheses. The variables of Logistics Service Quality, Pricing, and Scheduling, are independent variables, and Customer satisfaction is used as the dependent variable.

### 3.5.3 t-test Analysis

Paired t-test is used to compare two population means of the same (or related in case of two samples) that are correlated by setting up the hypothesis and selecting the level of significance. In most cases setting up the paired sample t-test significance level is 5%. t-test Analysis can be explained as

$$t = \frac{d}{s/\sqrt{n}}$$

Where:

d = mean

s = standard deviation

n = number of pairs considered

### 3.6 Summary

This chapter explains all the related methodology of the study which includes research design, population, data collection, pre-test, and questionnaire development, and the design to collect the data. The respondents, 78 persons, are the target group for this research.



## CHAPTER IV

### PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

This chapter presents the results analysis of the primary data collected from 78 current customers of the ABC Company. Research hypotheses are tested by multiple linear regression (MLR) and paired t-test. The data analysis can be categorized into three parts: (1) Company profiles (2) Hypothesis testing (3) summary.

#### 4.1 Company Profiles

The profile of samples includes type of product, business types of company, their major market, time period of dealing with ABC, their alternative ranking, service usage per month, and service types of ABC. These data will be analyzed descriptively, and the details of each type are presented in the table below.

**Table 4.1: Product Types of ABC's Customers**

Type of product	Frequency	Percent
Garments	16	20.5
Electronic equipment	11	14.1
Auto parts and Spare parts	12	15.4
Food and Drugs	5	6.4
Dangerous chemicals	3	3.8
Flowers, Vegetables, and Fruits	2	2.6
Plastic	13	16.7
Other	16	20.5
Total	78	100.0

Table 4.1 shows that the highest percentage product types of ABC's customers served are garments and others (20.5% each), plastic (16.7%), auto parts and spare parts (15.4%), electronic equipment (14.1%), food and drugs (6.4%), dangerous chemicals (3.8%), flowers, vegetables, and fruits (2.6%).

**Table 4.2: Business types of ABC's Customers**

Type of business	Frequency	Percent
Exporter	63	80.8
Importer	5	6.4
Both Exporter and Importer	10	12.8
Total	78	100.0

Table 4.2 shows the percentage business type based on ABC's customers. The highest number are exporters (80.8%) followed by both exporters and importers (12.8%), and importers (6.4%).

**Table 4.3: Major markets of ABC's Customers**

Major market	Frequency	Percent
Domestic	6	7.7
International	32	41.0
Both domestic and international	40	51.3
Total	78	100.0

Table 4.3 shows the percentage major markets of ABC's customers, which are both domestic and international (51.3%), international (41%), and domestic (7.7%).

**Table 4.4: Time period of dealing with ABC Company**

Number of years dealing with ABC	Frequency	Percent
less than 1 year	25	32.1
1 - 3 years	40	51.3
more than 3 years	13	16.7
Total	78	100.0

Table 4.4 shows that the highest number of years is 1 - 3 years (51.3%), less than 1 year (32.1%), and more than 3 years (16.7%).

**Table 4.5: Competitors of ABC Company**

Company	Rank 1	Rank 2	Rank 3	Rank 4	Weight Score
ABC	17	26	22	10	175
Maersk Logistics	21	16	6	6	9 <sup>5</sup>
Wice Freight	18	18	3	3	75
Dominator	12	5	13	12	109

Table 4.5 shows that the lowest total score indicates the highest preference ranking. The results show the following rank ordering: (1) WICE Freight, (2) MAERSK Logistics, (3) Dominator, and (4) ABC.

**Table 4.6: Service types of ABC Company**

Service Types	N	Percent
Transportation	26	12.8
Air freight	38	18.7
Sea freight	72	35.5
Warehouse	7	3.4
Shipping	57	28.1
Others	3	1.5
Total	203	100

Table 4.6 shows that the highest percentage of customer select the sea freight service from ABC Company (35.5%), shipping (28.1%), air freight (18.7%), transportation (12.8%), warehouse (3.4%), and others (1.5%).

**Table 4.7: Customer Usage per Month**

<b>Time</b>	<b>Frequency</b>	<b>Percent</b>
Less than 1 time	8	10.3
1 - 5 times	54	69.2
6 - 10 times	11	14.1
More than 10 times	5	6.4
Total	78	100.0

Table 4.7 shows that the highest percentage of service usage per month was 1 - 5 times per month (69.2%), then 6 - 10 times per month (14.1%), less than 1 time per month (10.3%), and more than 10 times (6.4%).

## **4.2 Hypothesis Testing**

All proposed hypotheses can be categorized into two groups. First, relationships between logistics service quality, pricing and scheduling are proposed in Hypotheses 1-3, while another nine sub-hypotheses which hypothesize relationships between nine dimensions of logistics service quality and customer satisfaction are proposed as H1a to H1i. These hypotheses are tested by regression analysis technique. Two regression models are performed and their results are illustrated in Sections 4.2.1 and 4.2.2. Second, the differences between customer expectation and perception on all factors are proposed in Hypotheses 4-7. The paired t-test is used to test them and their results are shown in Section 4.2.3 as follows:

### **4.2.1 The Hypothesis Testing Results of Hypotheses 1-3**

As Hypothesis 1, 2, and 3 proposes the relationships between logistics service quality, pricing, and scheduling and customer satisfaction, one regression model is performed. The first three hypotheses are:

**Hypothesis 1:** There is a positive relationship between logistics service quality and customer satisfaction.

**Hypothesis 2:** There is a positive relationship between pricing and customer satisfaction.

**Hypothesis 3:** There is a positive relationship between scheduling and customer satisfaction.

**Table 4.8: Regression Analyses Results for Hypothesis 1 to 3**

Variables	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Logistic Service Quality	.709	.514	5.586	.000
Pricing	-.051	-.051	-.462	.646
Scheduling	.388	.413	3.788	.000

Remark: F = 39.507; p-value = .000  
Adjusted R<sup>2</sup> = .600

The significant F-value as seen from its p-value that is less than .05, which indicates that the relationships between all proposed constructs and customer satisfaction is significant. Sixty percent of customer satisfaction can be explained by logistics service quality, pricing, and scheduling (Adjust R Square = 0.600).

An examination of t-values of the unstandardized coefficients indicates that logistic service quality contributes to the prediction of customer satisfaction (B = .709; t = 5.586). The significant value of a relationship between logistic service quality and customer satisfaction is less than .05 (.000 < .05); therefore, the null hypothesis is rejected. It means that there is a positive relationship between logistics service quality and customer satisfaction. Thus, Hypothesis 1 is supported.

The t-value of the unstandardized coefficients of the relationship between pricing and customer satisfaction (B = -.051; t = -.462) shows that there is no significant relationship as its p-value exceeds .05 (.646 > .05). Hence, Hypothesis 2 is not supported.

As the t-value of the unstandardized coefficients of the influence of scheduling on customer satisfaction ( $\beta = .388$ ;  $t = 3.788$ ,  $p = 0.00$ ), a significant value relationship between scheduling and customer satisfaction is illustrated. Thus, Hypothesis 3 is supported.

The standardized coefficient results show that logistics service quality provides the highest impact on customer satisfaction compared to pricing and scheduling.

#### 4.2.2 The Hypothesis Testing Results of Hypotheses 1 a-1i

To test sub-hypotheses 1, i.e. Hypotheses 1 a, 1b, 1c, 1 d, 1e, 1 f, 1 g, 1h, and 1i that explain the relationship between each dimension of logistic service quality and customer satisfaction, another regression model is performed. Personnel Contact Quality, Order Release Quantity, Information Quality, Ordering Procedures, Order Accuracy, Order Condition, Order Quality, Order Discrepancy Handling, Timeliness are the focus as independent variables, while customer satisfaction is the dependent variable of the regression model. The details of all sub-hypotheses are presented in the following, while its results are illustrated in Table 4.9.

Hypothesis 1a: There is a positive relationship between personnel contact quality and customer satisfaction.

Hypothesis 1b: There is a positive relationship between order release quantity and customer satisfaction.

Hypothesis 1c: There is a positive relationship between information quality and customer satisfaction.

Hypothesis 1d: There is a positive relationship between ordering procedures and customer satisfaction.

Hypothesis 1e: There is a positive relationship between order accuracy and customer satisfaction.

Hypothesis 1f: There is a positive relationship between order condition and customer satisfaction.

**Hypothesis 1g:** There is a positive relationship between order quality and customer satisfaction.

**Hypothesis 1h:** There is a positive relationship between order discrepancy handling and customer satisfaction.

**Hypothesis 1i:** There is a positive relationship between timeliness and customer satisfaction.

**Table 4.9: Regression Analyses Results for Hypothesis 1(a) to 1(i)**

Variables	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Perception of Personnel Contact Quality	.180	.160	1.348	.182
Perception of Order Release Quantity	.385	.356	3.525	.001*
Perception of Information Quality	.495	.480	3.753	.000*
Perception of Ordering Procedures	-.236	-.202	-1.866	.066
Perception of Order Accuracy	.062	.051	.584	.561
Perception of Order Condition	-.221	-.211	-1.786	.079
Perception of Order Quality	.246	.258	2.032	.046*
Perception of Order Discrepancy Handling	.016	.017	.160	.873
Perception of Timeliness	-.025	-.026	-.271	.787

Remark: F = 16.188; p-value .000  
Adjusted R<sup>2</sup> = .640

In Table 4.9, the F-value is significant as p-value is less than .05, thus the significant relationships among all dimensions of logistics service quality and customer satisfaction are revealed. The 64 percent of the variance (R Square) explained the impact from the nine dimensions of service quality toward customer satisfaction. The results indicate that order release quantities, information quality, order quality are significantly related to customer satisfaction (B = .385, .495, and .246; t = 3.525, 3.753, and 2.032; all p-values < 0.05). Therefore, Sub-Hypotheses 1b, 1c, and 1g are supported.

The insignificant unstandardized coefficients of the relationship between personnel contact quality, ordering procedures, order accuracy, order condition, order discrepancy handling, and customer satisfaction ( $B = .180, -.236, .062, -.221, .016,$  and  $-.025$ ;  $t = 1.348, -1.866, .584, -1.786,$  and  $.160$ ; all  $p\text{-value} > 0.05$ ) indicate that personnel contact quality, ordering procedures, order accuracy, order condition, order discrepancy handling, timeliness have no significant impact on customer satisfaction. Hence, Sub-Hypotheses 1 a, 1 d, 1 e, 1 f, 1 h, and 1 i are not supported.

The standardized coefficient result shows that perception of information quality has the highest value, followed by order release quantity, order quality, personnel contact quality, order accuracy, order discrepancy handling, timeliness, ordering procedures, and order condition, respectively. It can be implied that information quality influences customer satisfaction more than other variables.

#### 4.2.3 The Hypothesis Testing Results of Hypotheses 4-7

Hypothesis 4, 5, 6 and 7 hypothesize the difference between customer perception and expectation of logistic service quality, pricing, and scheduling. To test these hypotheses, paired-sample t-test is utilized. The details of these hypotheses statements are illustrated in the following part. The mean and standard deviation of each construct are shown in Table 4.10 while their t-test results are presented in Table 4.11.

Hypothesis 4: There is a difference between expectation and perception toward logistics service quality.

Hypothesis 5: There is a difference between expectation and perception toward pricing.

Hypothesis 6: There is a difference between expectation and perception toward scheduling

Hypothesis 7: There is a difference between expectation and perception toward customer satisfaction.

**Table 4.10: Mean of Service Quality, Pricing, Scheduling, and Customer Satisfaction**

Variables	Expectation		Perception	
	Mean	S.D.	Mean	S.D.
Logistics Service Quality	4.60	0.41	3.74	0.55
Pricing	4.75	0.49	3.50	0.76
Scheduling	4.73	0.54	3.39	0.81
Customer Satisfaction	4.37	0.53	3.44	0.76

Table 4.10 shows the means and standard deviations of the expectation and perception of logistics service qualities, pricing, scheduling, and customer satisfaction

**Table 4.11: Hypothesis 4 to 7 testing by using Paired Sample T-test**

Variables	t	Sig.
Expectation - Perception of Logistics Service Quality	12.170	.000
Expectation - Perception of Pricing	11.377	.000
Expectation - Perception of Scheduling	11.945	.000
Expectation - Perception of Customer Satisfaction	12.032	.000

According to the analysis of the paired sample t-test in Table 4.11, this indicates that the significance level at .000 is less than .05 ( $.000 < .05$ ). It means that there is a significant difference between expectation and perception toward logistics service quality.

Similarly, the t-value of the differences between expectation and perception on logistics service quality, pricing, scheduling, and customer satisfaction are significant ( $t = 12.170, t = 11.377, 11.945, \text{ and } 12.032$ ; all p-value = 0.00). Thus, the perceived logistics service quality, pricing quality, scheduling quality, and customer satisfaction are significantly less than the customer expectation of those particular issues. Therefore, Hypotheses 4, 5, 6, and 7 are supported.

The results confirmed that logistics service quality and scheduling have an impact on customer satisfaction. Information quality shows the highest impact on customer

satisfaction compared to other dimensions of logistic service quality. Significant differences between perception and expectation of logistics service quality, pricing, scheduling, and customer satisfaction are shown. All hypotheses testing results are summarized in Table 4.12, as follows:

Table 4.12: Hypotheses Testing Results

	Hypotheses	Results
H1.	There is a positive relationship between logistics service quality and customer satisfaction.	Supported
H2.	There is a positive relationship between pricing and customer satisfaction.	Not supported
H3.	There is a positive relationship between scheduling and customer satisfaction.	Supported
H4.	There is a difference between expectation and perception Toward logistics service quality	Supported
H5.	There is a difference between expectation and perception toward pricing.	Supported
H6.	There is a difference between expectation and perception toward scheduling	Supported
H7.	There is a difference between expectation and perception toward customer satisfaction	Supported

#### 4.3 Summary

From all the above findings, the answer can be concluded that customers expected to have a high service level from ABC Company in any dimension. The highest impacts to customer satisfaction are logistics service quality and scheduling.

## CHAPTER V

### SUMMARY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter provides the research results. There are four main sections in this chapter which are: discussions of the findings, conclusions, managerial implication, and recommendation for future study.

#### 5.1 Discussions of the Findings

This research focused on the ABC Logistics Company, and a questionnaire was delivered by the customer service department to 78 current customers. The questionnaire used census survey based on the primary data analysis, and most findings are consistent with the literature.

This study used nine-dimensions to measure logistics service quality which are personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness. Lastly, the two dimensions of pricing and scheduling will be the main focus of this study. Also, the three dimensions of order release quantities, information quality, and order quality are significantly related to customer satisfaction. The results found that the most satisfied dimension is information quality which shows the highest standardized beta coefficient of 0.480.

The results show that expectation of service quality, pricing scheduling, and customer satisfactions are higher than perception in any dimension. Paired sample t-test results, the test for difference between perception and expectation, has a significance of less than .05 ( $.000 < .05$ ) which means that there is a difference between expectation and perception. The key findings can be concluded as follows:

Hypothesis 1: There is a positive relationship between logistics service quality and customer satisfaction.

The conclusion is that the three factors (order release quantity, information quality, and order quality) are significant at levels lower than .05, which affects decisions on the use of customer service. It is clearly revealed that the significant information quality has affected most customers. This result shows that customers need precise information in order to make the right decision.

**Hypothesis 2:** There is a positive relationship between pricing and customer satisfaction.

Price does not have any impact on customer satisfaction. It is noticed that the output is higher the significant level at .05 (.646 > .05) and this means that the price of ABC has no relationship with the customer's satisfaction if compared to other companies.

**Hypothesis 3:** There is a positive relationship between scheduling and customer satisfaction.

The conclusion is that the significance level of scheduling is less than .05. This shows that the shipment table of ABC offered to customers has impacted the level of satisfaction. It is because ABC cannot arrange a shipment table which is suitable to the timing. This result will impact the delivery process and delay shipment. Furthermore it will effect customers by increasing the shipping cost or the company may be unable to sell products on schedule.

**Hypothesis 4:** There is a difference between expectation and perception toward logistics service quality.

The conclusion is that expectation and perception toward logistics service quality reveal a difference. (t= **12.170**, p-value = 0.00).

**Hypothesis 5:** There is a difference between expectation and perception toward pricing.

The conclusion is that expectation and perception toward pricing are different. (t= 11.377, p-value = 0.00).

**Hypothesis 6:** There is a difference between expectation and perception toward scheduling.

The conclusion is that expectation and perception toward scheduling are different. (t=11.945 p-value = 0.00).

**Hypothesis 7:** There is a difference between expectation and perception toward customer satisfaction.

The conclusion is that expectation and perception toward customer satisfaction are different. (t=12.032, p-value = 0.00).

## 5.2 Conclusions

The research identifies what significant levels influence customer satisfaction regarding service from a sea freight forwarder. It is important to explore whether there are any relationships between logistics service quality, pricing, and scheduling on customer satisfaction. The objectives of this study are to determine the criteria relating to the decision-making on the customer side. The results from regression analysis imply that the three factors of logistics service quality have an impact on customer satisfaction, such as order release quantities, information quality, and order quality. Another factor is scheduling which has an impact on customer satisfaction. This may be because ABC's staff should arrange schedules to match the production line. If the cargo is not on-time delivery it may affect the product life cycle or result in obsolescence. On the other hand, pricing has no impact on customer satisfaction. This may be because service charges from ABC are lower than other competitors and also customers always get the best service from ABC Company, as promised.

### 5.3 Managerial Implications

The study aims to identify the impact of logistics service quality, pricing, and scheduling on customer satisfaction and its level. The results strongly assist sales managers to understand service quality and customer satisfaction.

According to the analysis, ABC Company should concentrate on information quality because of its direct impact on customer satisfaction. If the information quality is not accurate, their perception of ABC will be lower than they expected. Managers of ABC should closely monitor their operation staff so that more attention is given to providing information to customers and to make sure that data have to be true and correct. It was found that order release quantity and order quality also affect customer satisfaction, lower than information quality. Whatever the quantity the customer needs, ABC provides a service to arrange the dispatch of cargo to them as order and must keep this standard and develop the unit of vehicle maintenance, manpower skill, and documentation to avoid errors in the quantity of goods during transportation.

Another area of improvement relates to service quality, Scheduling is the significant factor which directly impacts on customer satisfaction. ABC should pay more close attention, and arrange schedules suited to the production line. This can help customers to manage their inventory at minimized levels with a minimized possibility of shortage. Besides that, its products can be launched faster into the market for extending the product life cycle before obsolescence occurs.

The study of Hypothesis 4-7 found that customers expect to perceive good service from ABC but it does not match their expectation. Perception is not more significant than expectation for all questions, consequently ABC should find the solution to make the customer feel satisfied at their maximum level of expectation based on the data of this study

#### **5.4 Recommendations for Future Research**

This research was developed to measure only the sea freight department and its customers in ABC Company. Consequently it may not be generalizable to other companies. The next study should focus on customer loyalty, and frequency of repeat order support. A study on customer loyalty should assist the management committee to have ideas how to build up customer loyalty towards the company. The rapidly growing Thailand economy has found that many entrepreneurs, both exporters and importers, are now moving to establish their plant outside Bangkok. Some entrepreneurs have set up their plant near to the sea port of Laem Chabang. Some entrepreneurs have set up their plant near to their supplier or market, for cut transport costs, and arrange for raw material or delivery of their goods. Therefore, the next study might be conducted in an upcountry area, to develop marketing strategies.



## BIBLIOGRAPHY

- Asubonteng, P. (1996). A comparison of attitudes and emotions as predictors of behavior at diverse levels of behavioral experience. *Journal of Consumer Research*, 18, 493-504.
- Banomyong, R., Ritthironk, N., Varadejsatitwong, P., and Supatn, N. (2005). Selecting Logistics Providers in Thailand: A Shippers' Perspective. Proceedings of the 10th ISL Conference, University of Lisbon, Portugal
- Bienstock, C. C., Mentzer, J. T., & Bird, M. M. (1997). Measuring Physical Distribution Service Quality, *Journal of the Academy of Marketing Science*, 25(2), 35-4.
- Burns, A.C., & Bush, R. (2008). *Marketing Research*, Upper Saddle River, NJ: Pearson Education, 5<sup>th</sup> edition.
- Cooke, J. (2002) Inventory velocity accelerates, *Logistics Management*, 42(9) 33-8.
- Coyle, J., Edward, B., & Langley, J. (1992). *The Management of Business Logistics*, (5). St.Paul, MN: West Publishing Company. 5<sup>th</sup> edition.
- Daugherty, P.J., Stank, T.P. and Ellinger, A.E. (1998). Leveraging Logistics/Distributions Capabilities: The effect of logistics service on market share, *Journal of Business Logistics*, 19(3), 35-51.
- Ellinger, A. E., Daugherty, P. J. & Keller, S. B. (2000). The Relationship Between Marketing/Logistics Interdepartmental Integration and Performance in U.S. Manufacturing Firms: An Empirical Study, *Journal of Business Logistics*, 21(1), 1-22.
- Elmuti, D., & Kathawala, Y. (2000). The effects of global outsourcing strategies on participants' attitudes and organizational, *International Journal of Manpower*, 21 (2), 112-128.
- Fawcett, S. E. And Closs, D. J. (1993). Coordinated global manufacturing: The logistics manufacturing interaction and firm performance, *Journal of Business Logistics*, 14(1), 1-25.
- Forslund, H. & Jonsson, P. (2007). Dyadic integration of the performance management process: a delivery service case study, *International Journal of Physical Distribution and Logistics Management*, 37(7), 546-567.

- Garson, G.D. (2009). Multiple Regression, Retrieved February 17, 2010.  
<http://faculty.chass.ncsu.edu/garson/PA765/regress.htm>
- Garvin, D. (1987). *Competing on the Eight Dimensions of Quality*, MA: Harvard Business.
- Geyskens, I., Steenkamp, J-B.E.M. and Kumar, N. (1999). A meta-analysis of satisfaction in marketing channel relationship, *Journal of Marketing Research*, 40(May), 223-238.
- Gronroos, C. (1990). *Service Management and Marketing*, Lexington Books, Lexington, MA.
- Hinkelman, G. (1999). *International Trade*. 3<sup>rd</sup> edition.
- Johnson, M.D., Gustafsson, A., Andreassen, T.W., Lervik, L. & Cha, J. (2001). The evolution and future of national customer satisfaction index models, *Journal of Economic Psychology*, 22, 217-45.
- Kotler P., & Keller K. L. (2006), *Marketing Management*, New Jersey: Pearson Education, 12<sup>th</sup> edition,
- Kusmitse, K. (2007). Factors relating to the decision to use the service of freight forwarders of Thai food exporters, *Master of Science in Management*, 11-12.
- Lam, S.Y., Shankar, V., Erramilli, M.K. & Murphy, B.(2004). Customer value, satisfaction, loyalty, and switching cost: an illustration from a business-to-business service context, *Journal of the Academy of Marketing Science*, 32(3), 293-311.
- Mattsson, S.A. (2004). Logistical implications of delivery lead time variability and flexibility, *Proceedings of the NOFOMA Conference in Linkoping*, Linkoping University, Linkoping.
- Mentzer, J., Flint, D., & Hult, T. (1999). Developing a logistics service quality, *Journal of Business Logistics*, 20(1), 82-104.
- Mentzer, J., Flint, D., & Hult, T. (2001). Logistics Service Quality as a Segment Customized Process, *Journal of Marketing*, 65, 82-104.
- Muffatto, M., & Panizzolo, R. (1995). A process based viewed for customer satisfaction, *International Journal of Quality and Reliability Management*, 12, 154-169.

- Murphy, P. R., Daley, J. M. (2001). Profiling international freight forwarders: an update, *International Journal of Physical Distribution and Logistics Management*, 31,152-168.
- Murphy, P.R., Daley, J.M., & Dalenberg, D. R. (1992). Profiling international forwarders: a benchmark, *International Journal of Physical Distribution and Logistics Management*, 22, 35-41.
- Nunnally, J. (1978). *Psychometric Theory*. New York: McGraw-Hill.
- Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions, *Journal of Marketing Research*, 17(3), 460-469.
- Parasuraman, A., Zeithaml, V., & Berry, L. (1985). A conceptual model of service quality and its implication for future research, *Journal of Marketing*, 44 (4), 41-50.
- Phunphitphat, T. (2008). The relationship between service quality and service recovery toward customer retention in ocean liner business, *Master of Science in Management*, 8-9.
- Pollit, D. (1998). View Point: Getting Logistics on to Boardroom Agenda, *International Journal of Physical Distribution and Logistics Management*, 28(3), 168-9.
- Pornanun, A. (2007). Relationship between service quality dimensions and customer satisfaction towards air freight forwarder companies, *Master of Science in Management*, 13-14.
- Rafiq, M., & Jaafar, H. (2007). Measuring customers' perceptions of logistics service quality of 3PL service providers, *Journal of Business Logistics*, 28(2), 159-175.
- Shemwell, D., Yavas, U., & Bilgin, Z. (1998). Customer-service provider relationships: An empirical of test of the model of service quality, satisfaction and relationship-oriented outcomes, *International Journal of Service Industry Management* , 9 (2), 155-168.
- Srivastava, R. K., Shervani, T. A., & Fahey L. (1999). Marketing, Business Process, and Shareholder Value: An Organizationally Embedded View of Marketing Activities and the Discipline Marketing, *Journal of Marketing*, 63(4), 168-180.
- Stock, J., & Douglas, M. (1987). *Strategic Logistics Management*, Homewood, IL: Irwin. 2n<sup>d</sup> edition.

TIFFA (2004): Thailand Freight Forwarding Handbook 2004, Cosmic Publication Bangkok.

Wells, W., & Prentsky, D. (1996). Customer Behavior. New York: John Wiley and Sons.

Woodruff, R.B., & Flint, D.J. (2003). Research on business-to-business customer value and satisfaction, *Advances in Business Marketing and Purchasing*, 12, 515-547.

Zacharia, Z. G., & Mentzer, J. T. (2004). Logistics Salience in a Changing Environment, *Journal of Business Logistics*, 25(1), 187-210.

Zeithaml, V.A., Berry, L.L., & Parasuraman, A. (1993). The nature and determinants of customer expectations of services, *Journal of the Academy of Marketing Science*, 21, 1-12.

Zikmund, W.G. (2003), *Business Research Methods*, Ohio: Thomson 7<sup>th</sup> edition.









## ABC Service Quality towards Customer Satisfaction Survey

This survey is completely anonymous. No attempt will be made to identify responses by any individual. Your replies are an important part of my research. Please answer all questions as candidly and completely as possible. Thank you for your time.

---

### Part I: Demographic of Respondents

1. What is the type of your product?

- |   |   |
|---|---|
| <input type="checkbox"/> Garments                 | <input type="checkbox"/> Electronic equipment           |
| <input type="checkbox"/> Auto parts & Spare Parts | <input type="checkbox"/> Food & Drugs                   |
| <input type="checkbox"/> Dangerous chemicals      | <input type="checkbox"/> Flowers, vegetables and fruits |
| <input type="checkbox"/> Plastic                  | <input type="checkbox"/> Other (specify) _____          |

2. What is the type of your business?

- |  |                                   |
|--|-----------------------------------|
| <input type="checkbox"/> Exporter              | <input type="checkbox"/> Importer |
| <input type="checkbox"/> Other (specify) _____ |                                   |

3. What is your major market?

- |  |  |
|--|--|
| <input type="checkbox"/> Domestic                        | <input type="checkbox"/> International |
| <input type="checkbox"/> Both Domestic and International |  |

4. How long have you dealt with ABC?

- < 1 year       1-3 years       >3years

5. Is your company using service from another company? Please rank 1-4 (1 = the most)

- |                                    |  |                                       |
|------------------------------------|--|---------------------------------------|
| <input type="checkbox"/> ABC       | <input type="checkbox"/> MAERSK Logistics      | <input type="checkbox"/> WICE FREIGHT |
| <input type="checkbox"/> DOMINATOR | <input type="checkbox"/> Other (specify) _____ |                                       |

6. Is your company using these services from ABC? (You can choose more than one.)

- |   |                                      |  |
|---|--------------------------------------|--|
| <input type="checkbox"/> Transportation | <input type="checkbox"/> Air Freight | <input type="checkbox"/> Sea Freight           |
| <input type="checkbox"/> Warehouse      | <input type="checkbox"/> Shipping    | <input type="checkbox"/> Other (specify) _____ |

7. How often do you use the ABC freight service per month?

- < 1-5 times       6-10 times       >10 times

**Part II: Measurement of Logistics Service Quality, Pricing, and Scheduling**  
 (Please ✓ your opinion towards the service quality provided by ABC Logistics  
 Thailand

<i>Opinion</i>	Level of Expectation					Level of Perception				
	High	F	4	Low		High	4	Low		
<i>Personnel Contact Quality</i>	5	4	3	2	1	5	4	3	2	1
The contact person makes an effort to understand your situation.										
Problems are resolved by the contact person.										
The product knowledge/experience of contact personnel is adequate.										
<i>Order Release Quantities</i>	5	4	3	2	1	5	4	3	2	1
Requisition quantities are not challenged.										
Difficulties never occur due to maximum release quantities.										
Difficulties never occur due to minimum release quantities.										
<i>Information Quality</i>	5	4	3	2	1	5	4	3	2	1
Product specific information is available.										
Product specific information is adequate.										
ABC give the information to customers immediately										
<i>Ordering Procedures</i>	5	4	3	2	1	5	4	3	2	1
Requisitioning procedures are effective.										
Requisitioning procedures are easy to use.										
Requisitioning procedures do not damage										
<i>Order Accuracy</i>	5	4	3	2	1	5	4	3	2	1
Shipments rarely contain the wrong items.										
Shipments rarely contain an incorrect quantity.										
Shipments rarely contain substituted items.										
<i>Order Condition</i>	5	4	3	2	1	5	4	3	2	1
Material of the package provided is durable.										
Material of the package provided is suitable.										
Damage rarely occurs as a result of the transport mode or carrier.										
<i>Order Quality</i>	5	4	3	2	1	5	4	3	2	1
Substituted items (if any) work fine.										
Products ordered meet technical requirements.										
Equipment and /or parts are rarely nonconforming.										
<i>Order Discrepancy Handling</i>	5	4	3	2	1	5	4	3	2	1
Correction of delivered quality discrepancies is satisfactory.										
The report of the discrepancy process is adequate.										
Response to quality discrepancy report is satisfactory.										
<i>Timeliness</i>	5	4	3	2	1	5	4	3	2	1
Time to deliver the cargo is short.										
Deliveries are picked up on the date promised.										
Deliveries arrive on the date promised.										
<i>Pricing</i>	5	4	3	2	1	5	4	3	2	1
Price suitable for the service when compare with other										
Freight charge reasonable price when compare with other										
Quotation from ABC is accuracy.										
Billing from ABC always correct.										
<i>Scheduling</i>	5	4	3	2	1	5	4	3	2	1
ABC arrange schedule suit for the production line.										
ABC always arrange schedule as customer need.										
ABC arrange schedule support immediately and for on-time delivery										
In case of emergency ABC can arrange a schedule match on the date promised.										

**Part III: Level of Service Satisfaction**

Please ✓ your opinion towards customer satisfaction provided by ABC Logistics (Thailand)

<i>Opinion</i>	Level of Expectation					Level of Perception				
	High ←→Low					High ←→Low				
<i>Customer Satisfaction</i>	5	4	3	2	1	5	4	3	2	1
You are satisfied with the overall service provided by ABC										
You have been satisfied constantly with ABC										
You have a very good impression of ABC.										
The service provided by ABC usually exceeds your expectations.										
You feel good any time you use ABC service.										
Overall, ABC provided good service to customers.										

\*\* Thank you for your cooperation. \*\*





แบบสอบถาม ระดับคุณภาพบริการและความพึงพอใจต่อบริษัท เอ บี โลจิสติกส์  
(ประเทศไทย)

แบบสอบถามนี้ ได้จัดทำขึ้นเพื่อทำกรวิจัยเรื่อง ผลกระทบของคุณภาพบริการด้านโลจิสติกส์ต่อความพึงพอใจ  
ของผู้ใช้บริการบริษัท เอ บี โลจิสติกส์ (ไทยแลนด์) ซึ่งเป็นส่วนหนึ่งในการทำรายงานการวิจัยระดับศึกษา  
มหาวิทยาลัยอัสสัมชัญ ปีการศึกษา 2553 ข้อมูลที่ได้จากแบบสอบถามนี้ จะเก็บเป็นความลับและถูก  
นำไปใช้เพื่อการวิจัยเท่านั้น จึงใคร่ขอความก อดชอบแบบสอบถามนี้ตามความคิ เห็นของท่าน

=====  
ส่วนที่ 1: ข้อมูล บริษัท

- บริษัทของท่านประกอบธุรกิจ  
\_\_\_\_\_ เสอผา \_\_\_\_\_ ชิ้นส่วนอิเล็กทรอนิกส์ \_\_\_\_\_ ชิ้นส่วนและอะไหล่ยนต์  
\_\_\_\_\_ พ ดิก \_\_\_\_\_ อนุฯ ระบุน \_\_\_\_\_ ดอกไม้ ผักและผลไม้
- ลักษณะ กิจของท่าน  
\_\_\_\_\_ ผู้ส่งออก \_\_\_\_\_ ผู้นำ
- ตลาดหลักของท่านคืออะไร
- \_\_\_\_\_ มานานเท่าไร  
\_\_\_\_\_ น้อยกว่า 1 ปี \_\_\_\_\_ 1-3 ปี \_\_\_\_\_ มากกว่า 3
- บริษัทของท่านใช้บริการจากบริษัทอื่นหรือไม่ (Nan เล็ก เรียงล ัดบจ เกม เกไปหาน้อย 1=มาก  
ที่สุด ; 5=น้อยที่สุด)  
\_\_\_\_\_ เอ ซี \_\_\_\_\_ เม ร์ส โลจิสติกส์ \_\_\_\_\_ ไช เฟรท  
\_\_\_\_\_ ันฯ ระบุน \_\_\_\_\_
- บริษัทของท่านใช้บริการอะไรจากบริษัท เอ (เลือกได้มากกว่า 1 ข้อ)  
\_\_\_\_\_ รถขนส่ง \_\_\_\_\_ Air Freight \_\_\_\_\_ Sea Freight  
\_\_\_\_\_ Warehouse \_\_\_\_\_ Shipping \_\_\_\_\_ อื่นๆ
- ในแ ะเดือนที่ เนใช้บริการของบริษัทเอ บี 1 บ่อยแค่ไหน  
\_\_\_\_\_ น้อยกว่า 1 mil \_\_\_\_\_ 1-5 ครั้ง \_\_\_\_\_ 6-10 ครั้ง  
\_\_\_\_\_ มากกว่า 10 ครั้ง

## 2: คุณภาพกา บริการขนส่งสินค้าทางเรือของบริษัท เอจ

คำชี้แจง- กรุณาทำเครื่องหมาย V ลงในช่องหลังข้อความแต่ละข้อที่ตรงกับความคิดเห็นของท่านมากที่สุด โดยแต่ละข้อความจะสอบถาม 21 ความเห็นของท่านที่มีต่อบริการขนส่งสินค้าทางเรือของบริษัท vs m สองส่วน TH.116511 เกี่ยวกับระดับบริการที่ท่านคาดว่าจะได้รับ และส่วนที่สองเกี่ยวกับระดับของ โดยมีระดับการประเมิน 5 ระดับจาก “ จนถึง “ต่ำ”

บริการที่ได้รับ	ระดับบริการที่คาดหวังไว้					ระดับบริการที่ได้รับ				
	สูง	E-	→	in	สูง	ต่ำ				
<b>คุณภาพของพนักงานบริษัท เอ บี ซี</b>										
พนักงานพยายามที่จะเข้าใจลูกค้า	5	4	3	2	1	5	4	3	2	1
พนักงานช่วยเหลือแก้ปัญหาที่เกิดขึ้นได้เสมอ	5	4	3	2	1	5	4	3	2	1
พนักงานมีความรู้และประสบการณ์เพียงพอในการทำงาน	5	4	3	2	1	5	4	3	2	1
<b>ปริมาณสินค้าถูกต้องตามที่กำหนด</b>										
บริษัทฯ สามารถจัดส่งสินค้าได้ตามจำนวนที่ต้องการโดยไม่จำกัด	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถจัดส่งสินค้าในจำนวนสูงสุดตามที่ท่านต้องการได้	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถจัดส่งสินค้าให้ท่านได้แม้สินค้าจะมีจำนวนน้อยมากก็ตาม	5	4	3	2	1	5	4	3	2	1
<b>คุณภาพในการให้ข้อมูล</b>										
บริษัทฯ มีการให้ข้อมูลเกี่ยวกับประเภทของการบริการอย่างทั่วถึง	5	4	3	2	1	5	4	3	2	1
ข้อมูลของบริษัทฯ มีรายละเอียดเพียงพอ	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถให้ข้อมูลแก่ท่านได้ทันเวลาเสมอ	5	4	3	2	1	5	4	3	2	1
<b>ขั้นตอนของการสั่งซื้อบริการรับส่งสินค้า</b>										
ขั้นตอนการรับ-ส่งสินค้าเป็นไปอย่างมีประสิทธิภาพ	5	4	3	2	1	5	4	3	2	1
ขั้นตอนการรับ-ส่งสินค้ามีความสะดวก	5	4	3	2	1	5	4	3	2	1
ขั้นตอนการรับ-ส่งสินค้าไม่เกิดความเสียหาย	5	4	3	2	1	5	4	3	2	1
<b>ความถูกต้องแม่นยำของสินค้า</b>										
บริษัทฯ สามารถจัดส่งสินค้าได้ถูกต้องแม่นยำทุกครั้ง	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถจัดส่งสินค้าได้ถูกต้องครบถ้วนตามจำนวน	5	4	3	2	1	5	4	3	2	1
บริษัทฯ ไม่เคยส่งสินค้าของลูกค้ารายอื่นมาให้ท่าน	5	4	3	2	1	5	4	3	2	1
<b>ความสมบูรณ์ของสินค้าที่จัดส่ง</b>										
บรรจุภัณฑ์ของบริษัทฯ มีความแข็งแรงเพียงพอต่อการขนส่ง	5	4	3	2	1	5	4	3	2	1
บรรจุภัณฑ์ที่บริษัทฯ ใช้มีความเหมาะสมกับลักษณะสินค้า	5	4	3	2	1	5	4	3	2	1
สินค้าที่ขนส่งถูกจัดส่งในสภาพดีทุกครั้ง	5	4	3	2	1	5	4	3	2	1
<b>คุณภาพของประเภทการบริการ</b>										
บริการที่หลากหลายของบริษัทฯ สามารถตอบสนองความต้องการลูกค้าได้	5	4	3	2	1	5	4	3	2	1
ขั้นตอนการให้บริการแต่ละประเภทของบริษัทฯ เป็นไปตามที่แจ้งไว้กับลูกค้า	5	4	3	2	1	5	4	3	2	1
ระบบการบันทึกคำสั่งซื้อ BMS ของบริษัทฯ มีประสิทธิภาพ	5	4	3	2	1	5	4	3	2	1
<b>ความรับผิดชอบของบริษัทเอ บี ซี ในกรณีที่เกิดข้อผิดพลาดกับสินค้า</b>										
ขอบเขตความรับผิดชอบต่อของบริษัทฯ ครอบคลุมในส่วนที่จำเป็น	5	4	3	2	1	5	4	3	2	1

บริการที่ได้รับ	ระดับบริการที่คาดหวังไว้					ระดับIAการที่ได้รับ				
	สูง	4			ต่ำ	สูง	← 4			ต่ำ
บริษัทฯ มีกระบวนการที่ขอบเขตความรับผิดชอบเป็นลู่ยลักษณะอักษร	5	4	3	2	1	5	4	3	2	1
ขอบเขตความรับผิดชอบของบริษัทฯ ในกรณีที่เกิดข้อผิดพลาดอยู่ในระดับที่เหมาะสม	5	4	3	2	1	5	4	3	2	1
<b>เวลาที่ใช้ในการดำเนินการจัดส่งสินค้า</b>										
ระยะเวลาในการดำเนินการจัดส่งสินค้าเหมาะสม	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถรับสินค้าจากท่านภายในเวลาที่กำหนดไว้	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถส่งสินค้าถึงลูกค้าท่านภายในเวลาที่กำหนดไว้	5	4	3	2	1	5	4	3	2	1
<b>ราคาที่ได้รับจากบริษัท เอ บี ซี</b>										
ราคาค่าบริการบริษัทฯ เหมาะสมกับบริการที่ได้รับ	5	4	3	2	1	5	4	3	2	1
ค่าเฟรทของบริษัทฯ เหมาะสมเมื่อเปรียบเทียบกับบริษัทอื่นๆ	5	4	3	2	1	5	4	3	2	1
ใบเสนอราคาที่ได้รับจากบริษัทฯ มีความถูกต้อง	5	4	3	2	1	5	4	3	2	1
ใบวางบิลของบริษัทฯ มีความถูกต้อง	5	4	3	2	1	5	4	3	2	1
<b>การจัดตารางเดินเรือ</b>										
บริษัทฯ สามารถจัดตารางเรือให้เหมาะสมกับสินค้า	5	4	3	2	1	5	4	3	2	1
บริษัทฯ 1 สมารถหาตารางเรือได้ตามที่ลูกค้าต้องการเสมอ	5	4	3	2	1	5	4	3	2	1
บริษัทฯ สามารถปรับเปลี่ยนตารางเรือเพื่อให้สามารถส่งสินค้าได้ตามเวลา	5	4	3	2	1	5	4	3	2	1
ในกรณีเร่งด่วน บริษัทฯ สามารถจัดตารางเรือให้สามารถส่งสินค้าได้ตามเวลาที่ลูกค้ากำหนด	5	4	3	2	1	5	4	3	2	1

### ส่วนที่ 3: ความคาดหวังและความพึงพอใจของลูกค้า

ปี นานต่างๆ โดยทำ

เครื่องหมาย ✓ ลงในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด กรุณาแสดงความคิดเห็นของท่านทั้งสองส่วน

ความคิดเห็นต่อผู้ให้บริการของท่าน	ระดับความคาดหวัง					ระดับความพึงพอใจ				
	สูง	←	→	ต่ำ		สูง	→	ต่ำ		
<b>ความพึงพอใจของลูกค้า</b>										
คุณภาพการบริการโดยรวมของทางบริษัท เอ บี ซี	5	4	3	2	1	5	4	3	2	1
ความสม่ำเสมอของคุณภาพการบริการของบริษัท เอ บี ซี	5	4	3	2	1	5	4	3	2	1
ความประทับใจกับการบริการของบริษัท เอ บี ซี	5	4	3	2	1	5	4	3	2	1
บริษัท เอ บี ซี มักบริการท่านเกินความคาดหมาย	5	4	3	2	1	5	4	3	2	1
ท่านรู้สึกดีทุกครั้งที่ใช้บริการกับบริษัท เอ บี ซี	5	4	3	2	1	5	4	3	2	1
โดยภาพรวม ท่านได้รับการบริการที่ดีเสมอจากบริษัท เอ บี ซี	5	4	3	2	1	5	4	3	2	1

ขอขอบคุณในความร่วมมือของท่าน \*\*





APPENDIX B:

SPSS Output

## Regression

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785a	.616	.600	.48054

- a. Predictors: (Constant), Perception of Scheduling, Overall Service Quality of Perception, Perception of Pricing
- b. Dependent Variable: Perception of Customer Satisfaction

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.369	3	9.123	39.507	.000a
	Residual	17.088	74	.231		
	Total	44.457	77			

- a. Predictors: (Constant), Perception of Scheduling, Overall Service Quality of Perception, Perception of Pricing
- b. Dependent Variable: Perception of Customer Satisfaction

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.351	.378		-.929	.356
	Overall Service Quality of Perception	.709	.127	.514	5.586	.000
	Perception of Pricing	-.051	.111	-.051	-.462	.646
	Perception of Scheduling	.388	.102	.413	3.788	.000

- a. Dependent Variable: Perception of Customer Satisfaction

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.4404	4.8744	3.4359	.59619	78
Residual	-1.24933	1.13502	.00000	.47109	78
Std. Predicted Value	-1.670	2.413	.000	1.000	78
Std. Residual	-2.600	2.362	.000	.980	78

- a. Dependent Variable: Perception of Customer Satisfaction

## Regression

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.4404	4.8744	3.4359	.59619	78
Residual	-1.24933	1.13502	.00000	.47109	78
Std. Predicted Value	-1.670	2.413	.000	1.000	78
Std. Residual	-2.600	2.362	.000	.980	78

a. Dependent Variable: Perception of Customer Satisfaction

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826a	.682	.640	.45611

- a. Predictors: (Constant), Perception of Timeliness, Perception of Order Accuracy, Perception of Order Discrepancy Handling, Perception of Order Release Quantities, Perception of Ordering Procedures, Perception of Order Condition, Perception of Personnel Contact Quality, Perception of Order Quality, Perception of Information Quality
- b. Dependent Variable: Perception of Customer Satisfaction

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.311	9	3.368	16.188	.000a
	Residual	14.147	68	.208		
	Total	44.457	77			

- a. Predictors: (Constant), Perception of Timeliness, Perception of Order Accuracy, Perception of Order Discrepancy Handling, Perception of Order Release Quantities, Perception of Ordering Procedures, Perception of Order Condition, Perception of Personnel Contact Quality, Perception of Order Quality, Perception of Information Quality
- b. Dependent Variable: Perception of Customer Satisfaction

**Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.222	.415		.535	.594
	Perception of Personnel Contact Quality	.180	.134	.160	1.348	.182
	Perception of Order Release Quantities	.385	.109	.356	3.525	.001
	Perception of Information Quality	.495	.132	.480	3.753	.000
	Perception of Ordering Procedures	-.236	.127	-.202	-1.866	.066
	Perception of Order Accuracy	.062	.105	.051	.584	.561
	Perception of Order Condition	-.221	.124	-.211	-1.786	.079
	Perception of Order Quality	.246	.121	.258	2.032	.046
	Perception of Order Discrepancy Handling	.016	.101	.017	.160	.873
	Perception of Timeliness	-.025	.091	-.026	-.271	.787

a. Dependent Variable: Perception of Customer Satisfaction

## Paired-sample T-test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Overall Service Quality of Expectation	4.6021	78	.40534	.04590
	Overall Service Quality of Perception	3.7403	78	.55098	.06239
Pair 2	Expectation of Pricing	4.7532	78	.48599	.05503
	Perception of Pricing	3.5032	78	.76393	.08650
Pair 3	Expectation of Scheduling	4.7276	78	.54383	.06158
	Perception of Scheduling	3.3942	78	.81036	.09176

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Overall Service Quality of Expectation - Overall Service Quality of Perception	.86162	.62543	.37082	.72031	1.00284	12.170	77	.000
Pair 2	Expectation of Pricing - Perception of Pricing	1.26000	.97034	.10997	1.03122	1.46970	11.277		.000
Pair 3	Expectation of Scheduling - Perception of Scheduling	1.33333	.98583	.11162	1.11136	1.55560	11.045	r.	.000

