



A CUSTOMER SELECTION BETWEEN SMALL AND LARGE  
MARITIME FREIGHT FORWARDERS

By  
NIPON TIYATHANAKUL

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

November, 2010



**A CUSTOMER SELECTION BETWEEN SMALL AND LARGE  
MARITIME FREIGHT FORWARDERS**

By

**NIPON TIYATHANAKUL**

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

November, 2010


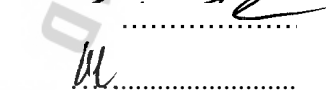
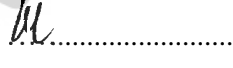
# **A CUSTOMER SELECTION BETWEEN SMALL AND LARGE MARITIME FREIGHT FORWARDERS**

By

**NIPON TIYATHANAKUL**

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

Approved for Graduation on: November 13, 2010

Martin de Tours School of Management  
Assumption University  
Bangkok, Thailand

November, 2010

**Assumption University**  
**Martin de Tours School of Management**  
**Master of Science in Supply Chain Management**

Form signed by Proofreader of the Graduate Project

I, Asst. Prof. Brian Lawrence, have proofread this Graduate Project entitled  
A Customer Selection between Small and Large Maritime Freight Forwarders

Mr. Nipon Tiyathanakul

and hereby certify that the verbiage, spelling and format is commensurate with the quality of internationally acceptable writing standards for a master degree in supply chain management.

Signed [Signature]

Asst. Prof. Brian Lawrence

Contact Number / Email address blawrence@au.edu

Date: Dec 1 2010

**Assumption University**  
**Martin de Tours School of Management**  
**Master of Science in Supply Chain Management**

**Declaration of Authorship Form**

I, Mr. Nipon Tiyyathanakul

declare that this thesis/project and the work presented in it are my own and has been generated by me as the result of my own original research.

[title of thesis/project] A Customer Selection between Small and Large Maritime Freight Forwarders

I confirm that:

1. This work was done wholly or mainly while in candidature for the M.Sc. degree at this University;
2. Where any part of this dissertation has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this dissertation is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis/project is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Either none of this work has been published before submission, or parts of this work have been published as: [please list references in separate page]:

Signed:  / Date 1/11/2010

**Assumption University**  
**Martin de Tours School of Management**  
**Master of Science in Supply Chain Management**

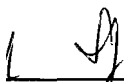
**Student Name:** Mr. Nipon Tiyanakul

**ID:** 512-9360

**ADVISOR'S STATEMENT**

I confirm that this thesis/project has been carried out under my supervision and it represents the original work of the candidate.

Signed;



(Asst. Prof. Dr. Ucharee Supatn)  
Advisor

Date

December

## ABSTRACT

This study examines the relationship between the service quality of large and small maritime freight forwarders and customer behavioral intention to select this service from these firms. Differences in service quality may be expected as large freight forwarders have more resources and capability to provide a variety of services in response to customer demand, while small freight forwarders, because they have less resources and lack managerial skill, may have limited services to offer but more understanding of customers' needs. Service quality in maritime transport includes six dimensions; resources, service outcome, service process, service management, firm's image, and social responsibility. Customer intention to select freight forwarders was the main construct of the study.

A questionnaire survey was conducted with Thai exporters who have experience of using both large and small freight forwarders. 335 sets of survey data were collected. Regression analyses were used to test the relationship between maritime service quality and customer satisfaction, while t-test analyses were performed to determine the differences in the services provided by large and small freight forwarders.

The results indicated that service process and service management significantly influenced customer intention to select large freight forwarders. In contrast, service outcome was the only factor that significantly affected customer intention to select small freight forwarders. Furthermore, customers perceived the large freight forwarders to have more resources and higher service outcome, service process, firm's image, and good manner of social responsibility than small freight forwarders, while the efficiency of the service management of small freight forwarders was perceived as higher than that of large freight forwarders.

## ACKNOWLEDGEMENTS

This research could not have been undertaken completely and effectively if I did not have support and excellent advice from my advisor Asst. Professor. Dr. Nucharee Supatn. Therefore, I would like to take this opportunity to thank her for all that she has contributed to me in the conduct of this research. Further, my thankfulness is extended to appreciate the project committee members: Dr. Ismail Ali Siad, and A. Piyawan Puttibarncharoensri of Assumption University for their useful advice.

I also would rather thank all the officers of the many companies who participated and dedicated their valuable time in responding to the questionnaire, which enabled me to collect essential information and finish my study. I also appreciate all the teachers in the Assumption University Supply Chain Management program who contributed to my knowledge of SCM, and my special thank go to all my friends in batches 7 and 8 of the ABAC classes in SCM.

Lastly, I am greatly indebted to my family who supported and encouraged me to finish the research successfully.

Nipon Tiyanakul  
Assumption University  
November, 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 .....	2
1.3 Research Objectives .....	3
1.4 Scope of research .....	4
1.5 Limitation of research .....	4
1.6 Significance of research .....	4
1.7 Definition of terms .....	5
<b>CHAPTER II: REVIEW OF RELATED LITERATURE AND RESEARCH FRAMEWORKS</b>	
2.1 Freight forwarding industry and freight forwarding services .....	8
2.2 Influential Factors of Selection Criteria toward Freight Forwarders .....	11
2.3 Service Quality factors in Maritime Transport .....	14
2.4 Customer Intention to Select Freight forwarders .....	17
2.5 Conceptual Framework .....	18
2.6 Research Hypotheses .....	19
<b>CHAPTER III: RESEARCH METHODOLOGY</b>	
3.1 Research Design .....	21
3.2 Questionnaire Development .....	21
3.3 Target Population .....	23

3.4 Data Collection Plan	.....24
3.5 Data Analysis Plan	.....24
3.6 Summary	.....26
 CHAPTER IV: PRESENTATION AND CRITICAL DISCUSSION OF RESULTS	
4.1 Sample Profile	.....27
4.2 Reliability of the data	.....31
4.3 Relationship between service quality in maritime transport and customer intention to a select freight forwarder	.....32
4.4 Comparing maritime service quality between large and small freight forwarders	.....34
4.5 Non-Hypothesized Relationships between maritime service quality and customers' trust in the freight forwarder	.....35
4.6 Conclusion of the Hypotheses Testing	.....36
4.7 Summary	.....38
 CHAPTER V: SUMMARY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	
5.1 Conclusion and Discussion of Findings	.....39
5.2 Managerial Implications	.....40
5.3 Further Research	.....41
BIBLIOGRAPHY	.....42
APPENDICES	.....47
Appendix A: Questionnaire	.....48

## LIST OF TABLES

TABLE	Page
2.1 Freight Forwarders Selection Criteria	.....13
2.2 Maritime Transport Service Quality Dimension	.....16
3.1 Reliability Analysis Results	..... 22
3.2 Target Population and Sample Size	..... 23
4.1 Respondents' Positions	..... 27
4.2 Characteristic of Exporting Products of the Exporters	..... 28
4.3 The Proportion of Services Usage from Large and Small Freight Forwarders	..... 29
4.4 Logistics Service from Freight Forwarders	..... 29
4.5 The Most Important Reason for Using Present Freight Forwarder	..... 30
4.6 Freight Forwarders - Selection Criteria	..... 30
4.7 Reliability Analysis Results	..... 31
4.8 The Effects of Maritime Service Quality of Large Freight Forwarder on Customer Intention to Select Large Freight Forwarders	..... 32
4.9 The Effects of Maritime Service Quality of Small Freight Forwarder on Customer Intention to Select Small Freight Forwarders	..... 33
4.10 Comparing Service Quality of Large and Small Freight Forwarder	..... 34
4.11 The Effects of Maritime Service Quality of Large Freight Forwarders on Customers' Trust	..... 35
4.12 The Effects of Maritime Service Quality of Small Freight Forwarders on Customers' Trust	..... 36
4.13 Summary of Alternative Hypotheses Testing	..... 37

## LIST OF FIGURES

FIGURES	Page
2.1 Conceptual Framework	.....18





# CHAPTER I

## GENERALITIES OF THE STUDY

### 1.1 Background of the Study

An international freight forwarder is defined as an international trade specialist who provides a variety of functions to facilitate the movement of cross-border shipments. Murphy, Daley, and Dalenberg (1992) classified the nature of international freight forwarding into two types, pure and diversified forwarders. A "Pure" forwarder primarily focuses on consolidating shipments for international water transport while a "diversified" forwarder provides other intermediary services that derive a noticeable portion of revenue such as air transport, trucking, and customs clearance service. An international freight forwarding environment can be viewed as the emergence of "new forms" of forwarders incorporating a broad spectrum of services under one roof. Murphy et al. (1992) suggested that international freight forwarders may provide a one-stop service by offering all relevant services, such as non-vessel operating common carriers (NVOCC), customs house brokerage, inland transportation, export documentation arrangement, and packing, in order to increase their service levels. Hence, such a forwarder would become a "Total Logistics Management" company.

The international freight forwarding industry is comprised of thousands of operators around the world. The sizing of the freight forwarding firms varies from small family businesses to multibillion business companies. Services provided by each firm may be different based on the needs and characteristics of the customers. However, the variety of services varies across firms. Large freight forwarding firms seem to have more resources and provide more variety of services, while small firms seem to have less resource which may lead to limited service offers. On the other hand, small firms, with less numbers of customers, may be able to know and understand their customers and provide a higher quality of services. Therefore, the size of freight forwarding firms may affect exporters' selection of them.

The classification of small and large freight forwarder firms can be done based on the number of employees and the size of the firm's assets. According to the Ministry of Industry of Thailand (1992), a small firm has less than fifty employees while a large firm has more than two hundred employees. On the other hand, if the firm size is determined by the firm's assets, a firm with less than five million (baht) assets is considered as small, while a firm with more than two hundred millions (baht) asset is determined as a large firm, while the rest are categorized as medium size firms. The research of Murphy et al. (1992) also discovered the sizing of freight forwarding firms measured by the number of employees. However, the firm size can also be categorized by the service attributes offered by each firm. A small firm may offer only freight forwarding related services such as consolidation services, insurance coverage, export documentation, cost (freight rate) information, reliability, local transportation, and customs brokerage, whereas a large firm may have more capability to provide other services than freight forwarding related services, such as distribution services, warehousing, warehouse management, project cargo handling, and cargo trace-and-tracking systems.

In Thailand, small freight forwarding firms account for a significant amount of the logistics service sector, with a total markets of import and exports of around 640 billion baht, and this amount increases during consecutive years as reported by (Thansettakij News, March 2010) On the other hands the Marine Department and (TIFFA) Thailand International Freight Forwarder Association (2010) found more new freight forwarding companies registered with the Department of Business Development in the Ministry of Commerce, Thailand; generally around ten companies. More than half of them register under the small and medium size category (SME).

## **1.2 Statement of Problem**

While international freight forwarders have long been recognized as one of the key logistics operators, to date empirical research involving Thailand-based freight forwarders has been rather limited. Dr. Thanit Sorat, Vice Chairman of the Federation

of Thai Industries, stated that there is a scarcity of research concerning the logistics service quality of the small firms, as most logistics research tends to concentrate on large firms. Most large freight forwarding firms have branches and network around the world and operate their own tangible assets such as trucks, warehouses and equipment. Thus, they have greater capability to provide a full range of logistics activities to manage the inflow and outflow of materials and the storage and distribution of goods, and are also able to offer trace-and-track systems, as well as having strong financial support to meet customer demand. However, less flexibility due to high volume and a contract may cause a large firm to stick with one carrier or supplier, and the organizational structure of large firms may not support a customer's business procedures. In contrast, small firms with greater flexibility due to lower volume may be able to contact many other carriers and provide a higher service level to customers. Moreover, only a one-dimensional service that the small firms offer could enhance the expertise of forwarding services, since they are familiar with, and have high specialized experiences and skills to handle, the transport task. However, with less-than-global networks and having insufficient funds and own assets, may affect the quality of their international freight forwarding. Thus, the logistic services quality of small and large freight forwarder may be perceived differently from a customer's point of view, which, in turn, would affect customer satisfaction in some ways. As such, the focus question is "what are the differences between services qualities provided by small and large freight forwarders and how may they affect customer selection of each firm type?"

### 1.3 Research Objectives

This study attempts to understand the difference of customer perception of service quality provided by small and large freight forwarding firms, and to identify how service quality affects customer intention to select a freight forwarder. The three specific objectives are as follows:

1. To identify service quality of small and large freight forwarding firms.
2. To compare service quality of small and large freight forwarding firms.

3. To identify the impact of service quality factors on customer intention to select service from a freight forwarding firm.

#### 1.4 Scope of research

Although there are many types of freight forwarder, most researcher would define freight forwarding activities as representative of exporters' and shipping lines' brokers because they handle cargo, and consolidate small shipments to/from the origin to the point of destination on behalf of the exporter, including export documentation and operation of transportation and other services which could be warehouse or inventory management, distribution management, cargo tracking, and value-added activities such as light assembly of products.

The research focuses on Thai exporters in Bangkok and their various commodity groups such as textile, automotive parts, chemicals and plastics, electronics parts, and food products. The major data collection method is the questionnaire survey, which will be conducted in order to explore the perception and motivation of Thai exporters' intention to select either a small or large freight forwarder. The data will be collected from people in decision-making positions, such as manager, assistant manager, and supervisor, who have experience of both small and large freight forwarders.

#### 1.5 Limitation of research

As the target population is firms located in Bangkok, the research may not be representative of the entire groups of exporter located nationwide. Moreover, as the customer intention to select a freight forwarder is used instead of the actual selection, there may be some discrepancies in the results.

#### 1.6 Significance of Research

This research is about the differences in the service quality capability that both large and small freight forwarding firms provide to exporters. Furthermore, it seeks to



understand what selection criteria the exporters use to select services from large and small freight forwarders to fit with their requirement. This study contrasts large and small freight forwarding firms so as to understand what the typical needs for service from freight forwarders. It explores how exporters perceive large and small freight forwarding firms across the entire service quality dimensions.

### 1.7 Definition of terms

Affiliated Freight Forwarder is a joint venture of freight forwarders in each country in order to offer effective service cooperation.

Customer's Intention to Select a Freight Forwarder refers to when customers decide to use services, what reasons do they have in mind for selecting a freight forwarder, and which service quality factors customers consider to best fit their needs, such as speed of service performance, or quick response to customer's inquiries and requests.

Customer Satisfaction is a process of evaluating or measuring a purchased product and/or the service experienced, with expectations being compared with results.

Customs Broker is a broker licensed in accordance with the Code of Federal Regulations (Customs Regulations) to transact customs business.

Freight Supplier is a freight forwarder acting as a freight supplier intermediary, or international carrier, or an organization undertaking both forwarding and carriage, otherwise called a forwarder/operator.

Image/reputation-related service quality dimension involves the overall customer perception of the logistics provider's, such as the company's reputation in the market.

International Freight Forwarder is an international trade specialist who can provide a variety of functions to facilitate the movement of cross-border shipments.

**Large Freight forwarding firm** is a firm that has more than two hundred employees, and has total assets of more than two hundred million baht.

**Non-Vessel-Operating Common Carrier (NVOCC)** is a company that moves goods, but does not operate an ocean-going vessel; rather, it is a shipper in its relationship with an oceanic common carrier.

**Resources-related service quality dimension** relates to physical resources such as tangible assets, capital investment stability, equipment, and facilities' condition and availability, infrastructure, equipment and technology.

**Service Attribute** is a function provided by freight forwarders

**Service Management-related quality dimension** relates to how a logistics provider manages and deploys its resources most efficiency and effectively to meet a customer's demands: for example, corporate strategy, business skills and knowledge, feedback from customers, and continuous improvement of customer-oriented operation processes.

**Service Outcome-related quality dimension** relates to core business or service commitment such as service performance, timeliness of shipment, shipment safety and security, prices offered that customers have received from the logistics provider.

**Service Process-related quality dimension** relates to factors of interaction between the customers and employees: for instance, a customer perceives that staff have knowledge of, and fast response to, their needs; staff knowledge of customer requirements, and appropriate use of IT in customer service.

**Service Quality in maritime transport** means safe, reliable, efficient transport services, and also socially responsible behavior and activities regarding safety and environmental protection concerns.

Small Freight forwarding firm is a firm that has less than fifty employees, and has total assets of less than five million baht.

Social responsibility-related service quality dimension relates to the perception of the customers about the ethical operation of logistics activities that impact on people and the environment: for example, safety operations for people and the environment.

Trust refers to when customers have confidence in a company, and therefore can trust the quality of products and services which they receive from the company.



## CHAPTER II

### REVIEW OF RELATED LITERATURE

There are three sections in this chapter. The first part explains the freight forwarding industry and services provided by small and large freight forwarders. In the second, service quality theories and freight forwarding service quality and all related attributes will be discussed. Finally, the customer selection process and the effects of service quality on customer selection are the focus of the last section.

#### 2.1 Freight forwarding industry and freight forwarding services

International freight forwarders play an important role in import and export businesses, based on their logistics expertise and capability to handle materials across-countries. Hence, freight forwarding companies can expand the variety of their services to cover the increasing and diversifying demand for logistics services. Christopher (1998) indicated that logistics covers the totality of an organization's activities, from the management of raw materials through all the processes that lead to the creation of a finished product. Lambert and Stock (1998) stated that logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information, from point of origin to point of consumption, in order to meet customer requirements.

Murphy, Daley, and Dalenberg (1992) mentioned that a logistics services provider refers to a provider performing logistics activities for the buyer and seller of raw materials, goods in process, or finished products. A logistics company performs services that might otherwise be done by the buyer or seller, and is actively engaged in the movement of goods and information relevant to the transaction. As such, transportation of products and raw materials can be considered as a part of logistic activities. Freight forwarders who help business operators to transport their products should be considered as a type of logistic service provider. Consistently with this view, Murphy and Daley (2001) stated that freight forwarder is another term for a



logistics service provider. Freight forwarders are intermediaries who facilitate logistics services but do not necessarily own assets themselves. Markides and Holweg (2006) defined freight forwarders as those who have traditionally facilitated transport. Freight forwarders are now being absorbed into the 3PL definition by offering extended services. Daley et al. (1995) identified five major tasks of a freight forwarder: paying freight charges, tracing and expediting shipments, making routing recommendation, issuing export declarations, and preparing certificates of origin.

Freight forwarding service attributes were found to be one of the key factors which categorize the size of small and large freight forwarding firms (McGinnis (1989; 1990). These attributes are:

- 1) Cost (freight rate) which relates to costs of service; price flexibility and transit time, which relate to transit time speed
- 2) Reliability, which involves transit time reliability, pick-up service reliability, loss/damaged performance; claim settlement, loss and damage performance record, delivery information and confirmation, tracking and tracing ability;
- 3) Carrier considerations relates to carrier financial stability, quality of carrier personnel, carrier reputation, and familiarity with carrier
- 4) Shipper considerations involve geographic coverage, willingness to provide service contract, capability to handle special products, handling of specific box size
- 5) Electronic Data Interchange (EDI) relates to ability to provide extensive electronic interchange to link with customs systems
- 6) Forwarding services relate to export documentation, insurance coverage, and consolidation services
- 7) Distribution services relate to ability to provide overseas distribution services, repackaging and relabeling, order picking, inventory management
- 8) Warehousing facilities involve facilities and equipment, location, and security.

These service attributes can be found in large freight forwarding firms. Small freight forwarding firm can provide only basic forwarding services, and offer freight rate proposal for both full container load (FCL) and less than container load (LCL), speed transit time, and reliability because of limited resources (financial and managerial)

and dependence on available capacity. Additional services such as customs broker, including EDI (electronic Data Interchange) systems that link and transfer essential data to the customs department on behalf of exporters, may be available as in-house management or arranged by sub-contracting with a customs brokerage. A road transportation service may hire a transportation specialist to take care of cargo and deliver it to the right place and on time. Another type of freight forwarder is called a "cargo consolidator" which focuses only on less than container load (LCL) cargo by offering consolidation services from Bangkok throughout the worldwide and is not interested in full load container (FCL) shipments. The last type of freight forwarder can be called a "box operator" or "SOC (shipper's own container) operator". They operate similarly to shipping lines but do not own ships but only containers and can ship to specific ports where they have agents. When an exporter want to use its service it will buy only freight and space on a vessel direct with shipping lines, and release its own containers to the exporters instead and then load the containers on board the appointed liner. But not many freight forwarders can operate this type of business due to complicated tasks, availability of equipment (empty containers), movement between ports, and need to use more resources (financial and employee). Various aspects and business registration terms and regulations stimulate new logistics practitioners to establish more freight forwarding businesses in Thailand.

A large freight forwarding firm could be called a "total logistics provider" because it is registered with high capital and invests more in resources (peoples, equipment and technology) and provides more enhanced services than small firms with only their own assets and networks. Therefore large firms would be able to provide more than the basic forwarding services, such as: tracking and tracing systems, carrier considerations, EDI, shipper considerations, distribution services, warehousing facilities; fixed contract service agreement by appointing personal customer services to take care only of specific key customer shipments, project handling (tailored operating processes according to customer's demand), distribution services (products distribution service, inventory management, re-packaging products, consolidate shipments), warehousing facilities (storage, pick and pack products, security), transport management (providing different type of truck and move products to

appointed location as per customers' requirement), high technology equipment availability (RFID, cargo tracking system).

Thus the very high investment needed means that fewer Thai freight forwarder companies can function as total logistics providers, except foreign freight forwarder with established branches in Thailand and who focus on well-known exporter to be their customers in order to generate revenue and utilize their resources efficiently.

## 2.2 Influential Factors of Selection Criteria toward Freight Forwarders

Many authors identify the factors which are influential in the selection of freight services. Cunningham (1982) defined the choice as being determined by special offers, speed of transport, damage to the consignment, and reliability of the carrier. However, D'este and Meyrick (1989) identified the three categories which influence choice of carriers as: route, which includes features such as frequency, capacity, and convenience; directness and flexibility; costs - both the freight rate and other costs; and service factors such as delays, reliability and urgency, damage avoidance, loss and theft, a fast response to any problems, co-operation between the shipper and the carrier, documentation and tracing ability.

McGinnis (1989) proposed that service is concerned with on-time delivery, reliability and safe delivery, which are important factors when selecting freight transportation. Murphy et al. (1992) identified the three most important carrier selection factor among freight forwarder as equipment availability, shipment information, and loss and damage performance. Matear and Gray (1993) suggest that three most important service attributes for purchasing a sea freight supplier's service are the availability of freight space, punctuality, and a high frequency of service. Brooks (1985; 1990) found that carrier selection criteria are frequency of sailings, transit time, directness of sailings, on-time pick-up and delivery, cost of service, cooperation between personnel, carrier flexibility, fast response, tracing capability of the carrier, sales representative, carrier's reputation of reliability, past loss and damage record, information nature of advertising, and carrier appropriateness.

Frankel (1993) found nine criteria were the major quality concerns over shipping agent services: reliability of service, time of service, maintenance of delivery time, availability of promised advertised capacity, cargo safety, security and maintenance, cargo flow control and tracking, documentation and information flows effectiveness (timeliness and accuracy), cost control, billing and cost management, service control and projection, and intermodal management. Menon, McGinnis, and Ackerman (1998) stated that documentation performance and quality requirements in the scope of work constitute an essential first step in buying logistics service, while the performance requirements will emphasize on-time performance, low error rates, ability to meet or exceed promises, and the capability requirements which will emphasize management creativity and financial stability of the logistics service provider.

One research group Menon et al. (1998) mention that there are many constraints which affect the freight forwarding industry. The first schedule of components consists of three attributes: arrival time, departure time, and a good relationship with the transport provider. The next, service performance component contains four attributes: high frequency of service, punctuality of service, fast response to any problems, and the availability of freight space. The last component is routing characteristics which affects the total transit time. Stank and Roath (1998) mention that inter-modal development and logistics facility from the shipper's perspective are concerned with sea inter-liner capability, containerization capability, customs brokerage, vehicle routing and scheduling, consolidation, and local cartage and drayage. Goh and Pinaikul (1998) found that there are the five critical criteria that Thai firms used for selecting freight suppliers. These are: quality of the services/products provided, reliability of delivery of services, supplier flexibility and responsiveness, customer orientation of the suppliers and the price of products/services rendered by the suppliers; while technical expertise, commitment to continuous development, and good marketing/publicity were least important.

Regarding this previous research, it can be concluded that service quality is one major factor that influences business operators to select a service provider. With the same logic, maritime service quality would play a role in the key factor that influences



exporters to select freight forwarders for their business. Details of the previous research on selection criteria for freight forwarders are summarized in Table 2.1.

Table 2.1: Freight Forwarders Selection Criteria

Author(s)	Freight Forwarding Selection Criteria
Brooks (1985)	<ul style="list-style-type: none"> <li>• Frequency of service, transit time</li> <li>• Directness of sailing</li> <li>• On-time pick-up and delivery</li> <li>• Cost of service</li> <li>• Cooperation between personnel</li> <li>• Carrier flexibility, fast response</li> <li>• Tracing capability of the carrier, sales representative</li> <li>• Carrier's reputation, past loss and damage record</li> <li>• Information of advertising and carrier appropriateness</li> </ul>
Cunningham (1982)	<ul style="list-style-type: none"> <li>• Special offers</li> <li>• Speed of transport</li> <li>• Protect damage to the consignment</li> <li>• Reliability of the carrier</li> </ul>
D'este and Meyrick (1989)	<ul style="list-style-type: none"> <li>• Frequency of vessel</li> <li>• Capacity to handle shipment</li> <li>• Flexibility of service</li> <li>• Freight rate</li> <li>• Fast response to problem</li> <li>• Cooperation between shipper and carrier</li> <li>• Cooperation of documentation</li> </ul>
Goh and Pinaikul (1998)	<ul style="list-style-type: none"> <li>• Quality of service &amp; Reliability of delivery</li> <li>• Supplier flexibility and responsiveness</li> <li>• Customer orientation of the suppliers</li> <li>• Price of service</li> </ul>
Matear and Gray (1993)	<ul style="list-style-type: none"> <li>• Service attributes for freight shippers</li> <li>• Service attributes for freight suppliers</li> </ul>
McGinnis (1989)	<ul style="list-style-type: none"> <li>• On-time delivery</li> <li>• Reliability of service</li> <li>• Safe delivery</li> </ul>
Murphy et al., (1992)	<ul style="list-style-type: none"> <li>• Equipment availability</li> <li>• Shipment information</li> <li>• Loss and damage performance</li> </ul>
Robert (1992)	<ul style="list-style-type: none"> <li>• Level of demand</li> <li>• Length of haul</li> <li>• Characteristics of the commodity being transport</li> </ul>
Stank and Roath (1998)	<ul style="list-style-type: none"> <li>• Sea, air, rail and truck interlining capability</li> <li>• Containerization capability</li> <li>• Customs brokerage</li> <li>• Vehicle routing and scheduling</li> <li>• Consolidation</li> <li>• Local cartage and drayage</li> </ul>

### **2.3 Service Quality factors in Maritime Transport**

There are many theories that review concepts of service quality, in many models, but no consensus as to which service quality model supports and applies successfully to all service industries. However, Cotham, Cravens, and Hendon (1969) proposed that there has been recognition from transport operators that improvement in transport service quality is critical in achieving a differential advantage over competition, and that service quality will affect business success in globalization business. Sasser, Olsen, and Wyckoff (1978) defined service quality as having seven service attributes: security, consistency, attitude, completeness, condition, availability, and training. Gronroos (1982) said that service quality consists of a three-dimensional construct: the technical quality of the outcome of the service encounter, the functional quality of the process itself, and the corporate image. Haywood-Farmer et al., (1988) defined three dimensions of service quality which the same as Sasser et al., (1978) and Gronroos et al., (1984); but added another element, which is the professionalism of the service provider. LeBlanc and Nguyen (1988) found five groups of characteristics of perceived service quality: degree of customer satisfaction, internal organization, physical environment and instruments supporting the service-producing system, corporate image, and personnel/customer interaction. Parasuraman et al., (1988) defined service quality as comprising five dimensions: tangibles, reliability, responsiveness, assurance, empathy, and called it SERVQUAL. Even though the SERVQUAL model has been supported by many studies, there have been arguments that it only reflects the service delivery process. Service quality in maritime transport does not focus only on selection criteria decisions about freight forwarders or logistics service providers, but contains many other elements which are concerned with safety management and environmental protection. Botterill (1995) stressed the importance of safety and environmental protection concerns, saying that they must not be neglected dimensions of the maritime transport services' corporate social responsibility. Hawkins (2001) also emphasized that quality shipping in practice is closely related to safety and environmental protection issues.

In the above literature from many authors, it can be found that most criteria and factors had a similar focus on the delivery process, with others aspect concentrated on quality management criteria. Nowadays customers demand service quality in maritime transport rather than availability, reliability of services, shipment information, and although cost is important, there is a concern more about safety (loss and damage), environmental protection management, and the socially responsible behavior of service providers.

Thus Thai (2007) summarized all the service quality factors that are similar and different of service quality when selecting logistics service providers, and his dimensions are classified it into the following six groups.

- 1) Resources of service quality dimension. This relates to physical resources, such as tangible assets capital investment stability, equipments, and facilities condition and availability, infrastructure, equipment, and technology.
- 2) Service Outcome of quality dimension. This relates to core business or service commitment, such as service performance, timeliness of shipment, shipment safety and security, and prices offered to customers from the logistics provider.
- 3) Service Process of quality dimension. This relates to factors of interaction between the customers and employees, for instance, customers perceive that staff have knowledge and quickly respond to their needs, staffs have knowledge of customer requirements, and there is appropriate use of IT in customer service.
- 4) Service Management of quality dimension. This relates to how a logistics provider manages and deploys its resources in the most efficient and effective way to meet customer demands, for example, in corporate strategy, skills and knowledge of the business, feedback from customers, and continuous improvement of customer-oriented operation processes.
- 5) Image/reputation of service quality dimension. This involves the customer's perception of the logistics provider's firm overall, such as company reputation in the market.

6) Social responsibility of service quality dimension. This relates to the perception of the customers about the ethical operation of logistics activities which impact people and the environment, for example in safety operations for people and the environment.

**Table 2.2. Maritime Transport Service Quality Dimension**

<b>Dimensions</b>	<b>Factors</b>
Resources	<ul style="list-style-type: none"> <li>• Equipment and facilities availability</li> <li>• Financial stability</li> <li>• Shipment tracing capability</li> <li>• Physical infrastructures</li> </ul>
Service Outcomes	<ul style="list-style-type: none"> <li>• Speed of service performance</li> <li>• Reliability of service performance (timeliness of shipment)</li> <li>• Providing service in a consistent manner</li> <li>• Shipment safety and security (loss and damage)</li> <li>• Reliability of documentation (error-free)</li> <li>• Competitive price of service</li> <li>• Diversification and availability of service provision</li> </ul>
Service Process	<ul style="list-style-type: none"> <li>• Staff's attitude and behavior in meeting customers' needs</li> <li>• Quick response to the customer's inquiries</li> <li>• Knowledge of customer's needs and requirements</li> <li>• Application of IT in customer service</li> </ul>
Service Management	<ul style="list-style-type: none"> <li>• Efficiency in operations and management</li> <li>• Knowledge and skills of management and operators</li> <li>• Feedback from customers</li> <li>• Continuous improvement of customer-oriented operation processes</li> </ul>
Firm's Image	<ul style="list-style-type: none"> <li>• Company's reputation for reliability in the market</li> </ul>
Social Responsibility	<ul style="list-style-type: none"> <li>• Socially responsible behavior and human safety</li> <li>• Environmentally safe operations</li> </ul>

Hence the researcher decided to use Thai's (2007) concept of service quality in maritime transport as the most appropriate for addressing all dimensions of service quality to examine how the maritime service quality from both small and large freight forwarders impacts customer intentions to select the service of these firms.

## 2.4 Customer Intention to Select Freight forwarders

The growth of the freight forwarding industry has brought high competition and increased demand for service quality, which affects customer intention to select service from freight forwarders. Oliver (1997) explained that customer satisfaction entails the full meeting of customer expectation of the products and services. If the perceived performance matches or even exceeds customers' expectations of services, they are satisfied. If it does not, they are dissatisfied. In fact, dissatisfied customer tends to create negative word-of-mouth comments which conveys their negative impression to other customers. Munnukka, (2008) and Hansen, (2005) stated that perception is formed from the bases of customers' experience and may differ across cultural settings, and be affected by personal and situational characteristics. Aysegul (1993) stated that the when a customer selects a freight forwarder this may involve consideration of the exporter's needs, freight forwarding characteristics, and contextual factors which interact and influence the "fit" between exporter needs and forwarder's service offerings.

Thailand exporters, such as manufacturers, and trading firms, suppliers who have experienced both small and large firms, may perceive the small freight forwarder as a middle-man who procures shipping lines and their schedules to meet their requirements with expected freight costs in which the revenue comes from the difference between freight cost and selling price. Other activities that facilitate an exporter's customer requirement, such as customs brokerage and inland transport, may be ignored. Their main focus would be on freight price.

Exporters who have a regular volume to export may arrange freight purchasing through monthly bidding. The exporter would release its shipments to the winning freight forwarder for a whole month, with an agreed quotation price. This transaction would mean an arm's length relationship for the exporter. However, some exporters tend to use the same freight forwarder if it can handle the shipments without damage or loss problems. With large freight forwarder firms, exporters perceived them as the representative network of international freight forwarders, able to provide more capability and variety of services to meet customer demands. Further they believe that

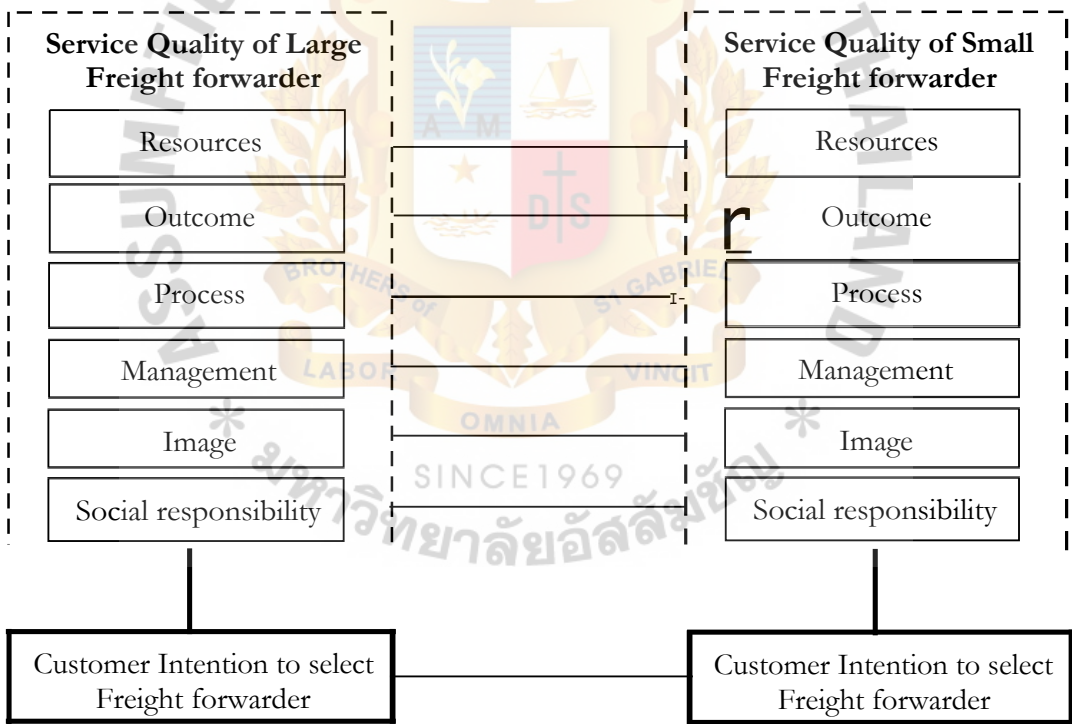


this service is more reliable and financially stable than small firms, and therefore feel more confident with a large firm's service variables rather than with freight costs.

## 2.5 Conceptual Framework

The above review of literature found that both small and large freight forwarders have a similarity of service quality that may affect customer intention to select either small or large freight forwarders. Thus, a model of relationships of service quality variables for both small and large freight forwarder, with customer intention to select between them, can be drawn as follows:

Figure 2.1: Conceptual Framework



Remarks: the two arrowhead lines express the proposed discrepancies of the variables that will be tested in this study. The arrow line refers to the flow of a customer's perception and the process of making a decision to select a freight forwarding firm.

## 2.6 Research Hypotheses

Three main hypotheses, with six sub-hypotheses each, were derived from the conceptual framework. The first two hypotheses explain the relationship between service quality and customer intention to select small and large freight forwarders, while the third hypothesis states the differences in service quality provided by large and small freight forwarders.

The details can be presented as following.

Hypothesis 1: Service quality provided by the large freight forwarder is positively related to customer intention to select a large freight forwarder.

Hypothesis 1a: Resources of the large freight forwarder are positively related to customer intention to select a large freight forwarder.

Hypothesis 1b: Service outcomes of the large freight forwarder are positively related to customer intention to select a large freight forwarder.

Hypothesis 1c: Service process of the large freight forwarder is positively related to customer intention to select a large freight forwarder.

Hypothesis 1d: Service Management of the large freight forwarder is positively related to customer intention to select a large freight forwarder.

Hypothesis 1e: Image of the large freight forwarder is positively related to customer intention to select a large freight forwarder.

Hypothesis 1f: Social responsibility of the large freight forwarder is positively related to customer intention to select a large freight forwarder.

Hypothesis 2: Service quality provided by the small freight forwarder is positively related to customer intention to select a small freight forwarder.

Hypothesis 2a: Resources of the small freight forwarder is positively related to customer intention to select a small freight forwarder.

Hypothesis 2b: Service outcomes of the small freight forwarder are positively related to customer intention to select a small freight forwarder.

Hypothesis 2c: Service process of the small freight forwarder is positively related to customer intention to select a small freight forwarder.

Hypothesis 2d: Service Management of the small freight forwarder is positively related to customer intention to select a small freight forwarder.

Hypothesis 2e: Image of the small freight forwarder is positively related to customer intention to select of a small freight forwarder.

Hypothesis 2f: Social responsibility of the small freight forwarder is positively related to customer intention to select a small freight forwarder.

Hypothesis 3: Customers perceive service quality provided by the large and small freight forwarder differently.

Hypothesis 3a: Resources of the large and small freight forwarder are different.

Hypothesis 3b: Service outcomes of the large and small freight forwarder are different.

Hypothesis 3c: Service process of the large and small freight forwarder is different.

Hypothesis 3d: Service Management of the large and small freight forwarder is different.

Hypothesis 3e: Image of the large and small freight forwarder is different.

Hypothesis 3f: Social responsibility of the large and small freight forwarder is different.

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter explain the methodology used in this research. The research design is firstly discussed followed by the questionnaire development, sampling, data collection and data analysis plan. The main purpose of the research is to investigate the differences of service quality factors between small and large freight forwarders that have influenced exporters in their selection of the freight forwarders. Therefore, freight forwarding service quality and customer decision are emphasized as the main constructs of the study. The details of each section are presented as follows:

#### 3.1 Research Design

Survey research is designed so that a "Freight Forwarding Service Quality Survey Questionnaire" will be used as the major data collection tool. The details of the questionnaire will be discussed in the questionnaire development section. The focus of this study is on the service quality factors provided between small and large freight forwarder affecting the Exporters' intention to select freight forwarders.

#### 3.2 Questionnaire Development

The questionnaire is a major tool for this survey. It was created based on a review of service quality in the maritime transport literature, and on the conceptual framework. The questionnaire was constructed in three parts.

Part A: Current use of freight forwarding services of the exporters

Part B: Exporters' perception of service quality of the small and large freight forwarders.

Part C: Exporters' intention to select freight forwarders

The first part of the questionnaire was designed to gather demographic data of the respondents, and to understand the exporter behaviors that are related to the use and

selection of the service from freight forwarders. The second part measures exporters' perception towards service quality in maritime transport of the small and large freight forwarders. The last part of the questionnaire is focused on the selection of the small and large freight forwarders. The questionnaire was translated into Thai for the purpose of the correct understanding of respondents.

The questionnaire in Part A described respondents' demographics while Part B of the questionnaire uses four-point Likert scales ranging from 1 (Strongly disagree) to 4 (Strongly agree), to measure the main construct. The mid-point neutral scale is omitted to reduce bias of respondents, and Part C uses five-point Likert scales ranging from 1 (Strongly disagree) to 5 (Strongly agree), to measure an intention on selecting services from freight forwarders. The questionnaire is developed to identify service quality factors in maritime transport that influence the exporters to select freight forwarders, which consists of six factors: resources, outcome, process, management, image, and social responsibility. Most of the measurement items are modified from Thai (2007).

### 3.2.1 Pre-test Results

A Pre-test serves as a trial run to identify problems in a small-scale sample size of a particular research. The preliminary test was performed with 37 respondents and measured by the internal consistency or correlation of multiple questions in each variable. As the Cronbach's Alpha coefficient of each variable value was more than 0.07, the questionnaire is considered reliable.

**Table 3.1: Reliability Analysis Results**

Variables	Cronbach's Alpha
Resources	0.779
Service Outcome	0.813
Service Process	0.888
Service Management	0.770
Firm's Image	0.606
Social Responsibility	0.802



### 3.3. Target Population

The target population is the exporting firms of textiles, automotive parts, chemicals and plastics, electronics parts, and food products, located in the Bangkok. The reasons for choosing these commodity groups are that all these products have ranked as top ten generating highest value of export products of Thailand. The populations of interest in this investigation is based on the Bangkok metropolitan area because proximity, low travel time and ease of gathering data. The respondents were selected from the Thailand Exporters Directory of 2010 by random method, and consist of 2013 export companies from five categories of exporting products from Thailand.

**Table 3.2: Target Population and Sample Size**

Categories	No. of company	Percent of respondent	No. of respondent
Textiles	542	26.92	90
Automotive/Auto parts	497	24.69	83
Chemicals & Plastics	379	18.83	63
Electronic Components	271	13.46	45
Food Products	324	16.10	54
Total	2013	100	335

The Yamane (1967) formula is used in this study to calculate the sampling size for collecting the questionnaires. The appropriate sample size of companies accords with Yamane (1967). The estimated error suitable for this study is five per cent of the target population of 2013 companies, as shown below:

$$n = N / (1 + N(e)^2)$$

Where

Sample size

Target population (2013)

$e^2$  = Error limit (e)

Replace values into the formula,

$$2013 / (1 + 2013(0.05)^2)$$

$$333.60$$

Thus, a sample size of 335 companies is required. The sampling size for each industry was derived from proportional stratified random sampling, as below:

Textile Industry: 90 respondents

Automotive & Auto Parts: 83 respondents

Chemical & Plastics: 63 respondents

Electronics Parts: 45 respondents

Food Products: 54 respondents

### **3.4 Data Collection Plan**

A data collection method was conducted in this study, by a questionnaire survey which was designed based on the reviewed literature about service quality in maritime transport. The participant exporters were chosen from five categories of exporting products (textile and fashion, automotive parts, chemicals and plastics, electronics and electrical parts, food and beverages) in Bangkok based on the Thailand Exporters Directory 2010, and 335 respondents were selected based on the proportional stratified random sampling technique. 335 sets of questionnaires were sent to all companies by hand or e-mail or fax depending on convenience. Prior to sending the questionnaires, telephone contacts were used to approach the business decision maker who selects freight forwarders and who had experience of using the service from both large and small freight forwarding firms in the company. This approach was to ensure that the right person agreed to respond to the questionnaire.

### **3.5 Data Analysis Plan**

To analyze the data collected in this study, the SPSS statistical program was used to perform descriptive data analysis, regression analysis and T-Test. Descriptive data analysis aims to provide the important characteristics of the respondents as well as their responses over the constructs of interests, and regression analysis was used to study the relationship of independent variables and the dependent variable. Lastly, T-Test was used to compare the perception of the customers toward small and large freight forwarders.

### 3.5.1 Descriptive Analysis

The descriptive analysis presents the respondents' profile, such as type of commodity, frequency of product exporting, criteria in selecting freight forwarder, and demographic information. Also, other statistical data is reported, i.e., means and standard deviations of each variable.

### 3.5.2 Regression Analysis

Regression analysis was used to test hypotheses 1 and 2 and to investigate the proposed relationship between service provided from small and large freight forwarders and customer intention to select service from freight forwarders. As this study has more than one independent variable, multiple regression was used to learn more about the relationship between several independent variables and a dependent variable, as in this equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$$

Where

Y: Exporter intention to select a freight forwarder

X<sub>1</sub>: Resources

X<sub>2</sub>: Outcome

X<sub>3</sub>: Process

X<sub>4</sub>: Management

X<sub>5</sub>: Image

X<sub>6</sub>: Social responsibility

Exporter intention to select service from a freight forwarder is the dependent variable. Six service qualities in maritime transport, namely resources, outcome, process, management, image, social responsibility, are the selected independent variables in this regression model.

In this equation, the regression  $\beta$  coefficients represent the degree of independent variable, and if a  $\beta$  coefficient is positive then the relationship of these variables with

the dependent variable is positive; if a coefficient is negative then the relationship is negative. And if a  $\beta$  coefficient is equal to 0, then there is no relationship between the variables.

### **3.5.3 T-Test Analysis**

Paired t-test was conducted to test hypotheses 3 by comparing the mean of two groups: small freight forwarder and large freight forwarder. The objective of the t-test is to identify whether differences between the small and large freight forwarders do exist at a significant level or not. This t-test method can be used when the distribution is normal, and the mean or standard deviation of both two freight forwarders should be approximately the same (Fink, 1995; Blaikie, 2003).

However, total variables were compared, to test whether the overall perceptions of small and large freight forwarder are significantly unique. Then each variable was investigated separately to analyze which one is exceptionally different from the customers' perception. If P-value is less than 0.05, then these types of freight forwarder are perceived differently by the customers at a significant level.

The P-value in this study is a probability that the customers' perception of small freight forwarder and large freight forwarder share the same area of a normal distribution curve. If the normal distribution of each type of freight forwarder shares less than 5 per cent of the normal curve area, then there is no homogeneity between these freight forwarder types at 95 per cent significant level.

### **3.6 Summary**

This chapter has described the methodologies which were used in this study, first the survey and then the interview to obtain the data for testing. Then the questionnaire and sample size of the target population for the survey, and lastly data analysis were explored.

## CHAPTER IV

### PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

This chapter will analyze the data collected from the survey. The SPSS statistical program version 17 was used to analyze the survey data from 335 respondents. The data analysis can be categorized into four parts. (1) Descriptive analysis of respondents' profile, (2) The six dimensions of service quality in maritime transport provided by large and small freight forwarding firms has a relationship with the exporters' intention to select service from a freight forwarder, (3) Comparing the exporters' perception of service quality between large and small freight forwarding firms differently, and (4) the discussion of the findings. The details are presented in the following sections.

#### 4.1 Sample Profile

This part presents the characteristics of respondents and their selection behavior regarding selecting of services from freight forwarders.

**Table 4.1: Respondents' Positions**

Position	Number	Percent %
Manager level	74	22.09
Asst. Manager level	46	13.73
Supervisor level	54	16.12
Officer level	161	48.06
Total	335	100%

The position level shows that 74 respondents from 335 respondents were management level (indicating 22.09 per cent of total respondents), 46 respondents were assistant manager level (indicating 13.73 per cent of total respondents), 54 respondents were supervisor level (indicating 16.12 per cent of total respondents), and 161 respondents were officer level (indicating 48.06 per cent of total respondents who had participated



in this study. They were all people who had experience of using and selecting service from large or small freight forwarders.

**Table 4.2: Characteristic of Exporting Products of the Exporters**

Characteristic		Percent
Frequency	Several times a week	44.78
	Once a week	46.57
	Few times a week	5.37
	Once a month	3.28
Type of shipment	FCL (Full load) only	36.42
	LCL (Loose Cargo) only	18.21
	Both FCL & LCL	45.37
Volume of export shipments per month	Less than 4 shipments	4.78
	About 4-10 shipments	48.66
	About 11-30 shipments	23.88
	More than 30 shipments	16.42
	Others	6.27

From table 4.2, the exporters are exporting products; quite frequently at several times a week and once a week, together indicating 91.35 percent in total, while few times a week shows 5.37 percent, and once a month shows 3.28 percent. Meanwhile, the type of export products in containerized water transport is uniformly divided into three groups: full container load, less than container load, and both full container load and less than container load. The proportion of exporters among these groups is that full container load shows as 36.42 percent, while 18.21 percent represents using less than container load only, and lastly those who export their products in both full container loads and less than container loads had the highest number at 45.37 percent, which is unsurprising as products can be subject to the buyer's make-to-order and depend on seasonality. Furthermore, the volume of exported products in each month had been summarized from the respondent's information that they export products from least one to two shipments per month hence it would ranged less than four shipments per

month, and some respondents indicated once shipment a week but not to exceed ten shipments per month therefore it would ranged four to ten shipments per month, and other respondents advised they export products from three to five shipments per week so it would ranged eleven to thirty shipments per month and others respondents told that they export products more than ten shipments per week then this would ranged more than thirty shipments per month while few respondents told that they export more than fifty shipments per month then it would ranged others, which the results indicated 4.78 percent were under less than four shipments, while 48.66 percent represented about four to ten shipments, 23.88 percent represented about eleven to thirty shipments, and 16.42 percent indicated more than thirty shipments, while the last at 6.27 percent indicated that the volume of exported product was more than fifty shipments per month.

**Table 4.3: Proportion of Service Usage from Large and Small Freight Forwarder**

Type of Freight Forwarder	Proportion (percent)
Large firm	60
Small firm	40

Table 4.3 presents the preference of customers for using the services of large or small freight forwarding firms. It shows that exporters used the services of large freight forwarders a bit more than small freight forwarder, at a rate of 60 percent and 40 percent respectively.

**Table 4.4: Logistics Services from Freight Forwarder**

Scope of services	Percent
Forwarding service	62.90
Customs brokerage	31.04
Trucking	27.16
Warehouse management	1.19
Distribution service	0.30
Inventory management	0.30

Table 4.4 indicates that the respondents who use a forwarding service are 62.90 percent, while those who use a customs clearance service and trucking are 31.04 percent and 27.16 respectively. Other services are rarely used by the respondents.

**Table 4.5: The Most Important Reason for Using Present Freight Forwarder**

Reasons of using freight forwarders	Percent
Buyer nominates the shipment	8.66
Good service	23.88
Uses services for so long	8.96
Reasonable prices	46.27
Variety of service	11.64
Others	0.60

Table 4.5 shows that the exporters using an existing freight forwarder because of reasonable price are 46.27 percent, which is a substantially higher percentage than other items. This is because Thai exporters are focusing on cost of services or the freight rate as a first priority, and if the price of freight and service are agreed then good service would be ranked as second priority of important reasons at 23.88 percent. The third priority of important reason is variety of service at 11.64, and uses services for so long and buyer nominate shipment are the least important for using current freight forwarding firms at 8.96 percent and 8.66 percent respectively.

**Table 4.6: Freight Forwarders Selection Criteria**

Selection Criteria	Percent
Competitive freight and costs of service	55.82
Provides the service quality that meet requirement	31.64
Capability of organization	9.55
Sales has knowledge and fast response	6.27
Simple process and easy to contact	3.88
Reputation of services in the market	0.60
Social responsibility behavior	0.60

Table 4.6 indicates that the most important criteria that the exporters use on selecting service between large and/or small freight forwarders is competitive freight and costs of service criteria at a 55.82 percent, and follow by providing the service quality that met requirement at 31.64 percent. Capability of organization, sales has knowledge and fast response, and simple process and easy to contact, would scarcely be of concern, while reputation of services in the market and social responsibility behavior are rarely used when selecting service from large and small freight forwarders. This might be because global marketing is intensely competitive, causing exporters to find lower costs to enable them to compete with their competitor in others countries, and then only concentrate on good service after an acceptable price was agreed.

#### 4.2 Reliability of the Data

Reliability is an indicator of a measure's internal consistency. Malhotra (2004) stated that reliability will be weighted from the relationship of scores gained from dissimilar administrations of the scale. However, coefficient alpha is the most commonly applied estimate of a multiple item scale's reliability, and if the scale result is high then the result of the relationship is also high. The reliability of six variables was determined which included satisfaction and trust. The Cronbach's Alpha coefficient of all measurement items is shown in Table 4.7, in which all variables exceeded the minimum requirement level of 0.7 of reliability. These values of Cronbach's Alpha show that these measures are reliable.

**Table 4.7: Reliability Analysis Results**

Constructs	Cronbach's Alpha	
	Large Freight Forwarders	Small Freight Forwarders
Resources	0.825*	0.854
Service Outcome	0.860	0.851
Service Process	0.810**	0.812
Service Management	0.833	0.811
Firm's Image**	-	-
Social Responsibility	0.920	0.904
Satisfaction	0.862	0.860
Trust	0.810	0.832

\*\* a of the Firm's Image is not available since the single item measurement is utilized

### 4.3 Relationship between Maritime Service Quality and Customers' Intention to Select Service from Freight Forwarder

To test the relationship between service quality in maritime transport and customer intention to select service from large and small freight forwarders, regression analyses were used in this study.

The first regression analysis aimed to test the relationship between service quality in maritime transport from large freight forwarders, and customer intention to select a freight forwarder. The second regression analysis aimed to the relationship between service quality in maritime transport of small freight forwarders and customer intention to select a freight forwarder.

Table 4.8 and Table 4.9 below reported the relationship between the six dimensions of service quality in maritime transport, and customer intention to select service from a large freight forwarder and a small freight forwarder respectively.

**Table 4.8: The Effects of Maritime Service Quality of Large Freight Forwarder on Customer Intention to Select Large Freight Forwarders**

Service Attributes	Unstandardized Coefficients	Standardized Coefficients	t	p-value
(Constant)	1.376		3.373	.001
Resources	.139	.070	1.057	.291
Service Outcome	.235	.117	1.534	.126
Service Process	.363	.221	3.229	.001**
Service Management	.255	.156	2.394	.017*
Firm's Image	-.012	-.032	-.641	.522
Social responsibility	-.067	-.044	-.887	.376

Remark: Dependent Variable: Customer Intention to Select Large Freight Forwarder

F= 14.942; p<0.05; R=.464; Adjusted R<sup>2</sup>= .201 \*p<0.05; \*\*p<0.01; \*\*\*p<0.001



Table 4.8 presents the regression results. The F score is 14.942, and its significance value was less than 0.05, which indicates significant relationships between service quality in maritime transport and customer intention to select a freight forwarder. There is a moderate relationship between service quality in maritime transport provided by large freight forwarders and customer intention to select a large freight forwarder, as R value for large freight forwarders was 0.464, and the adjusted R<sup>2</sup> of 0.201. This 20.1 percent of variance in customer intention to select freight forwarder can be predicted by service quality dimensions provided by large freight forwarders. Furthermore this Table also indicated partial relationships between service quality in maritime transport and customer intention to select a freight forwarder, as the significance values of service process and service management were less than 0.05. The standardized  $\beta$  from service process and service management by large freight forwarder were 0.001, and 0.017 respectively, while the remaining dimensions of service quality in maritime transport showed no significant impact on customer intention to select a freight forwarder. Hence, hypotheses H1 a, H1 b, H1 e, H1 f, were not supported, while hypotheses H1 c, H1 d, were supported. Thus, for the large freight forwarders, only service process and service management were significantly influences on customers to select service from them.

Table 4.9: The Effects of Maritime Service Quality of Small Freight Forwarders on Customer Intention to Select Small Freight Forwarders

Service Attributes	Unstandardized Coefficients	Standardized Coefficients	t	p-value
(Constant)	1.610		4.114	.000
Resources	.018	.009	.132	.895
Service Outcome	.424	.202	2.490	.013*
Service Process	.227	.120	1.641	.102
Service Management	.216	.115	1.623	.106
Firm's Image	-.016	-.012	-.207	.836
Social responsibility	-.108	-.072	-1.276	.203

Remark: Dependent Variable: Customer Intention to Select Small Freight Forwarder

F= 8.721; p<0.05; R=.371; Adjusted R<sup>2</sup>= .172 \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table 4.9 shows the F score of 8.721, with a statistical significance of less than 0.001. This indicates significant relationships between maritime service quality and customer intention to select small freight forwarders. A moderate to low relationship between maritime service quality provided by small freight forwarders and customer intention to select a freight forwarder was shown as R value, which for small freight forwarders was 0.371. Customer intention to select a freight forwarder could be explained by the six dimensions of service quality in maritime transport by 17.2 percent since the adjusted  $R^2$  of 0.172 was illustrated. Service outcome with significant coefficient (b - of .424,  $p < .05$ ) indicated its significant influence on customer intention to select small freight forwarders while the significances of other dimensions were not shown. Hence, hypothesis H2b was supported, while hypotheses H2a, H2c, H2d, H2e, and H2f were not supported.

#### 4.4 Comparing Maritime Service Quality of Large and Small Freight Forwarders

To investigate the differences of each dimension of maritime service quality provided by large and small freight forwarders, paired t-test analyses were performed. The results are shown in Table 4.10 as follows:

**Table 4.10: Comparing Service Quality of Large and Small Freight Forwarder**

Maritime Service Attributes	Mean		Difference			
	Large FF	Small FF	Mean	SE	t-score	Sig
Resource	3.42	3.06	0.36	0.03	11.80	.000
Service Outcome	3.29	3.16	0.12	0.03	3.78	.000
Service Process	3.17	3.06	0.11	0.04	2.94	.004
<b>Service Management</b>	<b>3.13</b>	<b>3.21</b>	<b>-0.08</b>	<b>0.04</b>	<b>-2.30</b>	<b>.022</b>
Firm's Image	3.57	2.78	0.79	0.13	6.27	.000
Social Responsibility	3.16	2.61	0.55	0.03	16.28	.000

Table 4.10 shows the comparisons of all service attributes provided by the large and small freight forwarders. Paired t-test was performed to test the significance of the mean differences. Significant differences of all dimensions of maritime service quality were found. Resources, service outcome, service process, firm's image, social

responsibility provided by the large freight forwarders, are all perceived as significantly higher than that of small freight forwarders. In contrast, service management of the small freight forwarders is perceived as higher than that of the large freight forwarders.

#### 4.5 Non-Hypothesized Relationships between Maritime Service Quality and Customers' Trust

To sophisticatedly understand the influence of maritime service quality on customers' perception, a new variable namely trust was introduced to the model and used as the dependent variable instead of customer intention because trust is an expected outcome of the service quality that will lead to a high level of satisfaction (Jones and Sasser, 1995). The tests of the effects of maritime service quality on trust, in large and small freight forwarders, are presented in the following Tables.

Table 4.11: The Effects of Maritime Service Quality of Large Freight Forwarders on Customers' Trust

Service Attributes	Unstandardized Coefficients	Standardized Coefficients	t	p-value
(Constant)	1.178		6.271	.000
Resources	.138	.142	2.277	.023*
Service Outcome	.083	.085	1.180	.239
Service Process	.107	.133	2.058	.040*
Service Management	.168	.211	3.418	.001**
Firm's Image	-.005	-.028	-.596	.552
Social responsibility	.160	.218	4.615	.000***

Remark: Dependent Variable: Customers' Trust on Large Freight Forwarder

F= 23.20; p<0.05; R=.546; Adjusted R<sup>2</sup>= .286 \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table 4.11 presents regression analysis results. The significant F score of 23.20 indicates a significant relationship between maritime service and the customers' trust in large freight forwarder. The R of 0.546 with the adjusted R<sup>2</sup> of 0.286 could explain 28.6 percent of variance in customer trust of large freight forwarders. Significant influence of Resources, Service Process, Service Management and Social responsibility on customer trust in large freight forwarders were found.

**Table 4.12: The Effects of Maritime Service Quality of Small Freight Forwarders on Customers' Trust**

Service Attributes	Unstandardized Coefficients	Standardized Coefficients	t	p-value
(Constant)	.649		4.185	.000
Resources	.069	.073	1.249	.213
Service Outcome	.342	.333	5.069	.000***
Service Process	.126	.136	2.298	.022*
Service Management	.122	.133	2.313	.021*
Firm's Image	.039	.060	1.307	.192
Social responsibility	.099	.136	2.961	.003**

**Remark:** Dependent Variable: Customers' Trust on Small Freight Forwarder

F= 42.11; p<0.05; R=.660; Adjusted R<sup>2</sup>= .425 \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Table 4.12 presents regression analysis results. The significant F score of 42.11 indicates a significant relationship between maritime service and the customers' trust in small freight forwarders. The R of 0.660 with the adjusted R<sup>2</sup> of 0.425 could explain 42.5 percent of variance in customer trust in small freight forwarders. Significant influences of Service Process, Service Outcome, Service Management, Social responsibility on customer trust in small freight forwarders were found.

#### 4.6 Conclusion of the Hypotheses Testing

The finding indicated positive relationships between service process and service management of large freight forwarders, which have greater impact on the customer intention to select a large freight forwarder, while service outcome of small freight forwarders has influenced the customer intention to select a small freight forwarder.

Moreover, the customers perceive these factors differently between large freight forwarders and small freight forwarders. Given the higher score for large freight forwarders, this lead to the conclusion that at 95 percent significance level the customer preference to select service from large freight forwarders is higher than for small freight forwarders

The results of hypotheses testing can be summarized in the Table below:

**Table 4.13: Summary of Alternative Hypotheses Testing**

Hypotheses	Result
H1: Service quality provided by the large freight forwarder is positively related to customer intention to select of large freight forwarder.	Partial Supported
H1 a: Resources → intention to select large freight forwarder.	Not Supported
H1b: Service outcomes → intention to select large freight forwarder.	Not Supported
H1c: Service process → intention to select large freight forwarder.	Supported
H1d: Service Management → intention to select large freight forwarder.	Supported
H1e: Image → intention to select large freight forwarder.	Not Supported
H1f: Social responsibility → intention to select large freight forwarder.	Not Supported
1-12 Service quality provided by the small freight forwarder is positively related to customer intention to select of small freight forwarder.	Partial Supported
H2a: Resources → intention to select small freight forwarder.	Not Supported
H2b: Service outcomes → intention to select small freight forwarder.	Supported
H2c: Service process → intention to select small freight forwarder.	Not Supported
H2d: Service Management → intention to select small freight forwarder.	Not Supported
H2e: Image → intention to select small freight forwarder.	Not Supported
H2f: Social responsibility → intention to select small freight forwarder.	Not Supported
H3: Customers perceive service quality provided by the large and small freight forwarder differently	Supported
H3a: Resources of the large and small freight forwarder are different.	Supported
H3b: Service outcomes of the large and small freight forwarder are different.	Supported
H3c: Service process of the large and small freight forwarder is different.	Supported
H3d: Service Management of the large and small freight forwarder is different.	Supported
H3e: Image of the large and small freight forwarder is different.	Supported
H3f: Social responsibility of the large and small freight forwarder is different.	Supported



#### 4.7 Summary

This chapter presents the results of the respondents from various exporting commodity companies in Bangkok that have experience of using services from large and small freight forwarders. First, the customers export their products several times per week with an average of ten to thirty shipments per month, with both types of full load container (FCL) and less than container load (LCL). Second, more than half of total respondents use only forwarding firms basic service with large and small freight forwarders, while one-third use services of customs broker and inland transport with freight forwarders, and the most important criteria to select service between large or small freight forwarders is the cost of services and competitive freight cost. Third, the important finding from this study is that service quality in the maritime transport concept of Thai (2007) has partial relationships with customer intention to select large and small freight forwarders and trust. The customer has the intention to select large freight forwarding firms despite service process and service management. The customer intention to select small freight forwarders is according to service outcome, while other dimensions, including resources, firm's image, and social responsibility, had no impact on the customer intention to select service from freight forwarders. Furthermore, customer perceived differing service quality between large and small forwarding firms.

## CHAPTER V

### SUMMARY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter will provide the conclusions and recommendation from the survey results, divided into two parts. The first section is the conclusion of the study, and the last section is the recommendations of the study and suggestions for further study.

#### 5.1 Conclusions and Discussion of Findings

This study has proposed a relationship between the customer intention to select freight forwarders and the actual service quality in maritime transport which consists of six dimensions: resources, service outcome, service process, service management, firm's image/reputation and social responsibility provided by large and small freight forwarding firms. The results showed that the customer intention to select large freight forwarder is significantly influenced by two factors, which are service process and service management. Service process includes staffs' responsiveness to customers' inquiries and customers' requirements as well as flexibility to the customer requests, while service management covers tracing and tracking, ease of contacting and using services, and interpersonal relationship of the staff. The customer intention to select small freight forwarders is affected significantly by service outcome only. As service outcome includes speed of service performance, reliability of service performance (timeliness of shipment), and shipment security and safety, these factors are important for customers to select small freight forwarders.

Other dimensions of maritime service quality i.e. resources, firm's image and social responsibility did not show a significant influence on customers to select any freight forwarders. These findings may contrast with previous research findings such as in Brooks (1990) who had examined shipping agents criteria selection, which were sales representative, reputation of organization, informational nature of advertising, exceptional reliability, speed of transit time, on-time pickup and delivery, cost of

service, flexibility and cooperation between personnel. Thai (2007) found that all service quality dimensions are interrelated and are necessary conditions to make customers happy and satisfied.

However, these results may be explained by the exporters behavioral of using freight forwarders' logistics forwarding services only, such as freight costs, issuing export documents declaration, making routing recommendations, which are all the basic services that any freight forwarders is capable of doing. Hence they are using an arms-length relationship with any forwarders who can offer competitive freight costs, guarantee of container and spaces upon request, and more frequent sailings to meet their expectation, and on-time arrival with up-to-date information if there any changes of information about the shipment status, and lastly, fast response to any problem. So the exporters would not concentrate on infrastructure, or the firm's image in the market, or the social responsibilities of freight forwarders.

In addition, customers perceived that all six dimensions of service quality in maritime transport between large and small freight forwarders were different. Customers believe that large freight forwarders have more resources and better service outcome, service process, firm's image, and give priority to social responsibility than small freight forwarders because large freight forwarders have large assets in expertise of employees, equipment, technologies, high capital, responsiveness and ability to customize services according to customer demands, and large firms have good reputations and are more concerned about environmental protection. Meanwhile, the customers perceived the service management of small freight forwarders to be higher than large firms because the customers believe that small freight forwarders have greater flexibility and pay more attention to customer inquiries than large freight forwarders due to lower volume and fewer customers.

## **5.2 Managerial Implications**

The finding of this study showed that resources, firm's image and social responsibility have no influence. on customer intention to select both large and small freight

forwarders, while service process and service management were significant factors and influenced customer intention to select large freight forwarders. Therefore; the operation manager or marketing director of large freight forwarders should encourage their staffs to quickly respond to customer inquiries, increase staff knowledge and skill in operations, documentation processes more precisely, implement hi-tech technology such as an RFID system that is consistent with customer demand for tracing ability, and continuous improvement of customer-oriented operation processes.

In contrast, service outcome is a critical factor that has a significant impact on customer intention to select small freight forwarders. Therefore, the entrepreneur or owner of such a firm should emphasize the firm's expertise in specific tasks, maintain a high speed service, provide reliable service performance including taking care of the customer's cargo safety and security, keep reporting the accurate updated status of cargo to the customer, issue export documents correctly, and always keep the freight charges and service cost competitive.

### 5.3 Further Research

In further research on service quality factors in maritime transport it would be useful to test maritime transport organizations total dimensions of service performance. This study of the service quality in maritime transport in six dimensions found that not all dimensions had impacted the customer intention to select freight forwarders. However for future research this service quality in maritime transport model can be generalized to other specific type of business, or be tested with other commodities. Or other researchers could deploy other logistics service quality concepts to specific types of commodity, or the same customer, to compare the differences from this research, and explore what the customers expect from freight forwarders. Each commodity and type of business may require different logistics activities and practices. More research could further enhance knowledge of service quality in maritime transport for service providers.

## BIBLIOGRAPHY

- Blaikie, N. (2003). *Analyzing Quantitative Data*. Bonhill Street, London: Sage Publications Ltd. 1<sup>st</sup> Edition, 17.
- Botterill, G. (1995). Quality Management in Shipping, *Quality World*, 21(12), 856-860.
- Brooks, M.R. (1990). Ocean Carrier Selection Criteria in a New Environment, *The Logistics and Transportation Review*, 26(4), 339-355.
- Christopher, M. (1992). *Logistics and Supply Chain Management*, Edition: 1<sup>st</sup>, London: Financial Time/Pitman.
- Cotham, J.C., Cravens, D.W., & Hendon, W.M. (1969). Measuring the Quality of Transport Service. *Transport Journal*, 9, 27-32.
- Cunningham, W.H.J. (1982). Freight Modal Choice and Competition in Transport: A Critique and Categorizations of Analysis Techniques, *Transport Journal*, 21(4), 66-76.
- Daley, J.M., & Murphy, P.R. (1995). International Freight Forwarder: Current Activities and Operational Issues. *Journal of International Purchasing and Materials Management*, 31(3), 22-27.
- Dokkulab, A. (2005). *A study of third party logistics in Thailand*. Master of Science in Technology of Information System Management, unpublished thesis, Mahidol University.
- D'este, G., & Meyrick, S. (1989). More Than the Bottom Line: How Users Select a Shipping Service. *Journal of Australian Transport Research Forum*, 1, 65-82.
- Fink, A. (1995). *How to Sample in Surveys*. Thousand Oaks, California: Sage Publications, Inc., 35.
- Frankel, E.G. (1993). Total Quality Management in Liner Shipping, *Marine Policy*, 17(1), 58-63.
- Goh, M., & Pinaikul, P. (1998). Logistics management practices and development in Thailand. *Logistics Information Management*, 11(6), 359-369.
- Gronroos, C. (1982). *Strategic Management and Marketing in the Service Sector*, Helsinki, Swedish School of Economics and Business Administration, 8.



- Gronroos, C. (1984). *Strategic Management and Marketing in the Service Sector*, Chartwell-Bratt, Bromley, 8(3).
- Halley, A., & Guilhon, A. (1997). Logistics behavior of small enterprises: performance, strategy and definition. *International Journal of Physical Distribution & Logistics Management*, 27(8), 475-495.
- Hansen, T. (2005). Understanding consumer perception of food quality: the cases of shrimps and cheese. *British Food Journal*, 107(7), 500-525.
- Hawkins, J. (2001). Quality shipping in the Asia Pacific Region, *International Journal of Maritime Economics*, 3(1), 79-101.
- Haywood-Farmer, J. (1998). A Conceptual Model of Service Quality. *International Journal of Operations and Production Management*, 8(6), 19-29.
- Holter, R.A., Grant, B.D., Ritchie, J., & Shaw, N. (2008). A framework for purchasing transport service in small and medium size enterprises. *International Journal of Physical Distribution & Logistics Management*, 38(1), 21-38.
- Jones, T., & Sasser, W. (1995). Why Satisfied Customers Defect. *Harvard Business Review*, 73, 88-101.
- Kersten, W., & Koch, J. (2010). The Effect of Quality Management on the Service Quality and Business Success of Logistics Service Providers. *International Journal of Physical Distribution & Logistics Management*, 27(2), 185-200.
- Kunadhamraks, P., & Hanaoka, S. (2007). Evaluating the Logistics Performance of Intermodal Transportation in Thailand. *Asia Pacific Journal of Marketing and Logistics*, 20(3), 323-342.
- Lambert, D.M., & Stock, J.R. (1998). *Fundamental of Logistics Management*. NY: McGraw-Hill.
- LeBlanc, G., & Nguyen, N. (1988). Customers' perceptions of Service Quality in Financial Institutions. *International Journal of Bank Marketing*, 6(4), 7-18.
- Liu, T. (2009). *The Impact of logistics service quality on user behavioral intention: A case study of a third-party logistics service provider*. Master of Science in Supply Chain Management, unpublished thesis, Assumption University.
- Loidoenshai, E. (2003). *Influential Factors toward Exporter and Importer on selection service from freight forwarders in Thailand*. Master of Science in Supply Chain Management, unpublished thesis, Assumption University.

- Markides, V., & Holweg, M. (2006). On The Diversification of International Freight Forwarders: UK perspective. *International Journal of Physical Distribution & Logistics Management*, 36(5), 336-359.
- Malhotra, N.K. (2004). *Marketing Research: An Applied Orientation*, 4<sup>th</sup> Ed. Upper Saddle River, NJ: Pearson.
- Matear, S., & Gray, R. (1993). Factors Influencing Freight service choice for shippers and freight suppliers. *International Journal of Physical Distribution & Logistics Management*, 23(2), 25-35.
- McGinnis, A.M. (1989). Shipper Attitudes towards Freight Transportation Choice: A Factor Analytic Study, *Journal of Physical Distribution and Materials Management*, 10(1), 25-34.
- Meixell, J.M., & Norbis, M. (2008). A review of the transportation mode choice and carrier selection. *International Journal of Physical Distribution & Logistics Management*, 19(2), 183-211.
- Menon, M.K. McGinnis, M.A., & Ackerman, K.B. (1998). Selection Criteria for Providers of Third-Party Logistics Services: An Exploratory Study, *Journal of Business Logistics*, 19(1), 121-137.
- Morash, A.E. (1987). Using transportation intermediaries for industrial purchasing decisions. *Logistics and Transport Review*, 2(4), 15-26.
- Munnaka, J. (2008). Customer's purchase intentions as a reflection of price perception. *Journal of Product & Brand Management*, 17(3), 188-196.
- Murphy, P.R., Daley, J.M., & Dalenberg, D.R. (1992), "Profiling International Freight Forwarders: A Benchmark". *Journal of Physical Distribution and Logistics Management*, 22(1), 35-41.
- Murphy, R.P., & Daley, M. J. (2001). Profiling international freight forwarders: an update. *International Journal of Physical Distribution & Logistics Management*, 31(3), 152-168.
- Oliver, R.L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer*, NY: McGraw-Hill.
- Ozsomer, A., Michel, M., & Cavusgil, S.T. (1993). Selecting International Freight Forwarders: An Expert System Application. *International Journal of Physical Distribution & Logistics Management*, 23(3), 11-21.

- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1988). SERVQUAL: A Multiple item scale for measuring consumer perception of service quality. *Journal of Retailing*, 64(1), 12-40.
- Passas, N., & Jones, K. (2007). The regulation of non-vessel-operating common carriers (NVOCC) and customs brokers. *Journal of Financial Crime*, 14(1), 84-93.
- Pearson, N.J., & Semeijn, J. (1999). Service priorities in small and large firms engaged in international logistics, *International Journal of Physical Distribution & Logistics Management*, 29(3), 181-191.
- Pedersen, E. L., & Gray, R. (1998). The transport selection criteria of Norwegian exporters. *International of Physical Distribution & Logistics Management*, 28(2), 108-120.
- Sasser, W.E., Olsen, R.P., & Wyckoff, D.D. (1978). *Management of Service Operations: Texts, Cases and Readings*, Boston, MA, Allyn and Bacon.
- Saura, G.I., Frances, G.S.D., Contri B.G., & Blasco, F.M. (2008). Logistics service quality: a new way to loyalty, *Industrial Management & Data Systems*, 108(5), 650-668.
- Semeijn, J., & Vellenga, D. (1995). International Logistics and One-stop shopping. *International Journal of Physical Distribution & Logistics Management*, 25(10), 26-44.
- Seth, N., Deshmukh, S.G., & Vrat, P. (2006). A conceptual model for quality of service in the supply chain. *International Journal of Physical Distribution & Logistics Management*, 36(7), 547-575.
- Sorat, T. (2008). 3PL Total Solution Service. *Logistics Digest*, 4(45), 31-32.
- Stank, T.P., & Roath, A.S. (1998). Some Propositions on International Transportation and Logistics Facility Development: Shippers' Perspectives, *Journal of Transportation*, 37(3), 13-24.
- Thai, V.V. (2007). Service quality in maritime transport: conceptual model and empirical evidence. *Asia Pacific Journal of Marketing and Logistics*, 20(4), 493-518.

- Whye, L.J. (1993). The Freight Transport Market: Buyer-Seller Relationship and Selection Criteria. *International Journal of Physical Distribution & Logistics Management*, 23(3), 29-37.
- Wilding, R., & Juriado, R. (2004). Customer perceptions on logistics outsourcing in the European consumer goods industry. *International Journal of Physical Distribution & Logistics Management*, 34(8), 628-644.
- Yamane, T. (1967). *Statistics: An introductory analysis*. Edition: 2<sup>n</sup>, New York, Harper and Row, 10.











## Exporters' Perception on Freight Forwarding Service Quality

Dear Exporters,

This questionnaire is prepared to study the maritime service quality provided by the large and small freight forwarders. It is a part of a Master degree project in Supply Chain Management Program at Assumption University. This questionnaire comprises three main parts 1) Company Profile; 2) Perceived service quality of the freight forwarders; and 3) Intention to select a service from freight forwarders. Please respond to all questions by choosing the answers that best represent your opinion. It will take about 15-20 minutes. Please be assured that your response will be kept highly confidential. The data will be used for academic purposes only.

=====

Please fill in the correct information about your company in the following questions.

1. Your position \_\_\_\_\_
2. Type of your business  
☐ Textiles & Fashion      0 Chemicals & Plastics products      CI Electronics & Electrical parts  
☐ Automotive parts      CI Foods & Beverages      EI Others \_\_\_\_\_
3. How often does your Company export its products?  
☐ Many times per week      ☐ About once a week      ☐ 1-2 times per month  
☐ About once a month      ☐ Less than once a month      ☐ Others \_\_\_\_\_
4. What is your most used product shipment type?  
☐ FCL      0 LCL      0 Both (FCL) and (LCL)
5. On average, how many shipments has your Company exported per month?  
☐ Less than 4 shipments      ☐ 4-10 shipments      ☐ 11-30 shipments  
EI More than 30 shipments      EI Others \_\_\_\_\_

6. Which logistics services does your Company currently used? (You can be choose more than one)

- ☐ Sea transportation      ☐ Customs brokerage      ☐ Truck transportation  
☐ Warehouse management      ☐ Distribution service      ☐ Inventory management  
☐ Others (Please specify) \_\_\_\_\_

7. Please specify the names of small and large freight forwarders which are most often used by your Company

Large freight forwarder \_\_\_\_\_

Small freight forwarder \_\_\_\_\_

8. Please specify the proportion of large and small freight forwarders services that your Company uses

Large freight forwarder \_\_\_\_\_ %, Small freight forwarder \_\_\_\_\_ %,

9. What is the most important reason why your Company selects these current freight forwarders?

- ☐ Nomination of shipment      ☐ Good service      ☐ Uses services for so long  
☐ Reasonable prices      ☐ Service variety      ☐ others \_\_\_\_\_

10. Please rank the characteristics of the freight forwarders from 1 (Most important) to 5 (Least important)

\_\_\_\_\_ Capability of organization (such as worldwide network, sufficient finance, IT systems)

\_\_\_\_\_ Provide the service quality that meets your requirements

\_\_\_\_\_ Sales and customer service have knowledge and give fast response to your inquiries and requirements

\_\_\_\_\_ Simple process and easy to contact

\_\_\_\_\_ Reputation of services in the market

\_\_\_\_\_ Social responsibility behavior

\_\_\_\_\_ Competitive freight and costs of service

11. Typically, in which situation does your company choose a large freight forwarder?

---

---

In which situation does your company choose a small freight forwarder?

---

---

12. Please specify the differences in the services provided by large and small freight forwarders

---



---

## Part 2: Perceived service quality of the freight forwarders

Please specify your opinion of the quality of the services provided by the large and small freight forwarders that are most often used by your Company, by marking ✓ in the space that is closest to your opinion. Please give your opinion on both large and small freight forwarders.

Service quality provided by the freight forwarders	Large forwarder				Small forwarder			
	Strongly agree	Disagree	Strongly disagree		Strongly agree	Disagree	Strongly disagree	
<i>Resources</i>								
1. Equipment and facilities are sufficiently available.	4	3	2	1	4	3	2	1
2. Financial condition is stable	4	3	2	1	4	3	2	1
3. Credit term allowance meets your requirement	4	3	2	1	4	3	2	1
4. Shipment tracing & tracking capability is sufficient	4	3	2	1	4	3	2	1
5. Status of shipment is reported when the products arrive	4	3	2	1	4	3	2	1
6. Staffs knowledge and capability are sufficient	4	3	2	1	4	3	2	1
7. Physical infrastructures are good	4	3	2	1	4	3	2	1
<i>Service outcomes</i>								
8. Speed of service is high	4	3	2	1	4	3	2	1
9. Service performance is reliable.	4	3	2	1	4	3	2	1
10. Services are provided in a consistent manner	4	3	2	1	4	3	2	1
11. High quality services can be provided in all aspects	4	3	2	1	4	3	2	1
12. Shipments are safe and secure	4	3	2	1	4	3	2	1
13. Claims can be made if there are any losses or damages	4	3	2	1	4	3	2	1
14. Documentation are reliable (error-free)	4	3	2	1	4	3	2	1
15. Price of service is reasonable.	4	3	2	1	4	3	2	1
16. Price of service is negotiable.	4	3	2	1	4	3	2	1
<i>Process</i>								
17. Staffs understand customer's requirements	4	3	2	1	4	3	2	1
18. Quick response is given upon customer's requests	4	3	2	1	4	3	2	1
19. Staffs have sufficient knowledge of customer's needs and requirements	4	3	2	1	4	3	2	1
20. Expertise of the staffs can bring the best solutions								
21. Service operations are efficiently provided	4	3	2	1	4	3	2	1
<i>Management</i>								
22. Systematic procedures and operation are efficient	4	3	2	1	4	3	2	1
23. It is easy to contact and use the service	4	3	2	1	4	3	2	1
24. Staffs have good Interpersonal relations	4	3	2	1	4	3	2	1
25. Feedback from customers is positive	4	3	2	1	4	3	2	1
26. There is a continuous improvement of customer-oriented operation processes	4	3	2	1	4	3	2	1
<i>Image</i>								
27. Company's reputation is high	4	3	2	1	4	3	2	1

Service quality provided by the freight forwarders	Large forwarder				Small forwarder			
	Strongly agree	→	Strongly disagree		Strongly agree	←→	Strongly disagree	
<b><i>Social Responsibility</i></b>								
28. Company has social responsibility and human safety policies	4	3	2	1	4	3	2	1
29. Company tries to preserve energy and uses material that preserve the environment	4	3	2	1	4	3	2	1
30. Company has a strict policy to handle the products that affect people and environment	4	3	2	1	4	3	2	1
31. Environmental safety operation are adopted	4	3	2	1	4	3	2	1
32. Freight insurance covers the compensation of any environmental harmful situations	4	3	2	1	4	3	2	1
<b><i>Trust</i></b>								
33. Your freight forwarder does business ethically.	4	3	2	1	4	3	2	1
34. You are willing to share confidential information with your freight forwarder.	4	3	2	1	4	3	2	1
35. You trust your freight forwarder	4	3	2	1	4	3	2	1
36. You allow your freight forwarder to make decisions for you when you are not available.	4	3	2	1	4	3	2	1
37. Your freight forwarder is reliable	4	3	2	1	4	3	2	1

### Part 3: Selection on service from Freight forwarders

Specify your opinion about the opportunity to select service from freight forwarders by marking V in the space that is closest to your opinion.

Selection of Freight forwarder	Level of the opinion				
	Definitely Yes	←→	Definitely No		
38. You usually consider using this mentioned large freight forwarder when you need services from a large freight forwarder	5	4	3	2	1
39. You usually consider using this mentioned small freight forwarder when you need services from a small freight forwarder	5	4	3	2	1
40. You usually consider using services from this mentioned large freight forwarder before others	5	4	3	2	1
41. You usually consider using services from this mentioned small freight forwarder before others	5	4	3	2	1
42. You usually consider using services from this mentioned large freight forwarder based on the nature of the products and shipments	5	4	3	2	1

**Thank you for your cooperation**



## แบบสอบถามความคิดเห็นในการใช้บริการเฟรทฟอร์เวิร์ดเดอร์

แบบสอบถามฉบับนี้จัดทำขึ้นเพื่อ ศึกษาดูภาพของบริการขนส่งเฟรทฟอร์เวิร์ดเดอร์ทั้งที่เป็นบริษัทขนาดใหญ่และขนาดเล็กในประเทศไทย

ซึ่งผล การวิจัยนี้จะได้นำไปใช้ประโยชน์ในการศึกษาเพื่อ พัฒนา

ในองค์กรของ

ท่าน ซึ่งประกอบด้วยคำถาม 3 ข้อ (ข้อ 1) ข้อมูลทั่วไปของบริษัท 2) ข้อมูลเกี่ยวกับคุณภาพการบริการเฟรทฟอร์เวิร์ดเดอร์  
ในปัจจุบัน และ 3) การเลือกใช้บริการเฟรทฟอร์เวิร์ดเดอร์ ในการตอบคำถามทั้งสิ้นประมาณ 15-20 นาที

คณะนักศึกษาคณะวิศวกรรมศาสตร์ ขอขอบพระคุณในความร่วมมือของท่านมา

### ส่วนที่ 1 :

กรุณาใส่ข้อมูลเกี่ยวกับบริษัทของท่านตามรายละเอียดด้านล่างนี้

1. ชื่อหน่วยงาน

2. ประเภทของสินค้า

☐ สิ่งทอ และ เครื่องนุ่งห่ม

และ

และ

☐ ชิ้นส่วน อะไหล่รถยนต์

เครื่องดื่ม

☐ อื่นๆระบุ

3. ท่านมีการส่งออกสินค้าไปต่างประเทศบ่อยเพียงใด

☐ ประมาณสัปดาห์ละครั้ง

☐ ประมาณ 2-3 สัปดาห์ครั้ง

☐ ประมาณเดือนละครั้ง

☐ อื่นๆระบุ

4. โดย หน่วยงาน ส่งออกสินค้าออกไปต่างประเทศของบริษัทของท่านเป็นแบบใด

☐ แบบเต็มตู้ (FCL)

☐ แบบไม่เต็มตู้ (LCL)

☐ และไม่ได้เต็มตู้ (LCL)

5. ท่าน ส่งออกสินค้าไปต่างประเทศประมาณเดือนละกี่ชิปเมนต์

☐ น้อยกว่า 4

☐ ประมาณ 4-10 ชิปเมนต์

☐ ประมาณ 11-30 ชิปเมนต์

☐ มากกว่า 30 ชิปเมนต์

☐ อื่นๆระบุ

6. โดยปกติท่านใช้บริการเฟรทฟอร์เวิร์ดเดอร์อะไรบ้าง

(จองเรือ, ทำเอกสาร)

☐ จัดหาเงินเพื่อการศุลกากร

☐ ขนส่งทางบก (รถบรรทุก)

☐ โกดังสินค้า

บริหารสินค้าคงคลัง

7. ส่วนการใช้บริการ เพรทฟอร์เวิร์ด อีระหว่างบริษัทขนาดเล็ก  
(บริษัทขนาดใหญ่ หมายถึง หรือของคนไทยที่ให้บริการโลจิสติกส์ครบวงจร  
บริษัทเพรทฟอร์เวิร์ดขนาดเล็ก หมายถึง บริษัทเพรทฟอร์เวิร์ดที่ให้บริการเฉพาะทางด้านเฟรทอย่างเดียวเท่านั้น)

---

---

8. โปรดระบุสัดส่วนการใช้บริการของเพรทฟอร์เวิร์ดเดอร์ ระหว่างบริษัทขนาดเล็ก กับบริษัทขนาดใหญ่ว่าเป็นเท่าใด  
เพรทฟอร์เวิร์ดเดอร์ขนาดเล็ก \_\_\_\_\_ %,  
เพรทฟอร์เวิร์ดเดอร์ขนาดใหญ่ \_\_\_\_\_ %.

9. โปรดระบุเหตุผลสำคัญที่สุดที่ท่านตัดสินใจเลือกใช้บริการเพรทฟอร์เวิร์ดเดอร์ที่ใช้อยู่ในปัจจุบัน  
☐ เป็นผู้กำหนดให้ใช้ ใช้กันมานานมากจนไม่ยากเปลี่ยน  
ราคาที่เหมาะสม ☐ อื่นๆระบุ \_\_\_\_\_

10. \_\_\_\_\_ ยเรียงลำดับจาก 1 (สำคัญมาก) ถึง 5

\_\_\_\_\_ ขนาดขององค์กร (v 14 เครือข่ายในต่างประเทศ, เงินทุน,  
\_\_\_\_\_ พนักงานของบริษัทผู้ให้บริการฯ มีความสามารถ และสามารถทำงานให้ท่านได้ถูกต้อง  
\_\_\_\_\_ มีระบบการทำงานง่าย และสะดวกในการติดต่อ  
\_\_\_\_\_ dl 11N กษณของผ้ให้บริการฯ  
\_\_\_\_\_ ความรับผิดชอบต่อสังคม  
\_\_\_\_\_ ราคาค่าบริการ 15 หรือค่าระวาง

11. โดยปกติท่านจะเลือกใช้บริการเพรทฟอร์เวิร์ดเดอร์ขนาดเล็กในโอกาสใด

---

---

ก้ใช้บริการเพรท **a**ร์เวิร์ดเดอร์ขนาดใหญ่ในโอกาสใด

12. เปรียบเทียบบริการเพรทฟอร์เวิร์ดเดอร์ของบริษัทขนาดใหญ่และบริษัทขนาดเล็ก  
กันอย่างไร

---

---

## ส่วนที่ 2: ข้อมูลเกี่ยวกับคุณภาพการบริการของเฟรทฟอร์เวิร์ดเดอร์ที่ให้บริการท่านอยู่ในปัจจุบัน

คำชี้แจง:

ขนาดเล็ก \_\_\_\_\_ โดยบริษัทขนาดใหญ่

หรือของคนไทยที่

เฟรทฟอร์เวิร์ดขนาดเล็ก หมายถึง บริษัท

ทางด้านเฟรทอย่างเดียวเท่านั้น

กรุณาเลือกทั้งเฟรทฟอร์เวิร์ดเดอร์ขนาดเล็ก และ

บริษัท

และ

✓ ในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด ใน 4

โดย 4 หมายถึง "เห็นด้วยอย่างยิ่ง" 3 หมายถึง "เห็นด้วย" 2 หมายถึง "ไม่เห็นด้วย" และ 1 หมายถึง "ไม่เห็นด้วยอย่างยิ่ง".

ความคิดเห็นของท่านที่มีต่อผู้ให้บริการเฟรทฟอร์เวิร์ดเดอร์	บ.เฟรทขนาดใหญ่				บ.เฟรทขนาดเล็ก			
	เห็นด้วย อย่างยิ่ง	← →	ไม่เห็นด้วย อย่างยิ่ง	← →	เห็นด้วย อย่างยิ่ง	← →	ไม่เห็นด้วย อย่างยิ่ง	← →
<b>บุคลากร Liar สิ่งอำนวยความสะดวกของผู้ให้บริการ</b>								
1. ผู้ให้บริการฯ สามารถจัดหา ทุนและระวางเรือได้ตรงตามความต้องการของท่าน	4	3	2	1	4	3	2	1
2. ผู้ให้บริการฯ มีเงินทุนเพียงพอที่จะสามารถให้บริการได้อย่างมีประสิทธิภาพ	4	3	2	1	4	3	2	1
3. ผู้ให้บริการฯ สามารถให้เครดิตในการชำระเงินกับท่านได้อย่างเหมาะสม	4	3	2	1	4	3	2	1
4. ผู้ให้บริการฯ มีระบบ Tracing & Tracking ในการตรวจสอบสถานะของสินค้า	4	3	2	1	4	3	2	1
5. ผู้ให้บริการฯ มีการรายงานให้ทราบถึงสถานะของสินค้าเมื่อถึงจุดหมาย	4	3	2	1	4	3	2	1
6. ผู้ให้บริการฯ มีบุคลากรที่สามารถบริการท่านได้อย่างมีประสิทธิภาพ	4	3	2	1	4	3	2	1
7. ผู้ให้บริการฯ มี สิ่งอำนวยความสะดวก อุปกรณ์ และเทคโนโลยีที่เหมาะสม	4	3	2	1	4	3	2	1
<b>ความสามารถในการให้บริการ</b>								
8. การให้บริการของผู้ให้บริการฯ มีความรวดเร็วทันใจ	4	3	2	1	4	3	2	1
9. ผู้ให้บริการฯ สามารถจัดส่งสินค้าได้อย่างถูกต้อง และตรงเวลา	4	3	2	1	4	3	2	1
10. ผู้ให้บริการฯ มีความตั้งใจในการให้บริการอย่างดี และสม่ำเสมอ	4	3	2	1	4	3	2	1
11. ผู้ให้บริการฯ สามารถให้บริการที่เกี่ยวข้องกับการขนส่งทางเรือได้ตรงตามความต้องการ	4	3	2	1	4	3	2	1
12. มีการดูแลสินค้าให้อยู่ในสภาพสมบูรณ์ และ เรียบร้อยตลอดการเดินทาง	4	3	2	1	4	3	2	1
13. หากเกิดความเสียหายผู้ให้บริการฯ สามารถชดเชยค่าเสียหายให้แก่ท่านได้	4	3	2	1	4	3	2	1
14. ผู้ให้บริการฯ จัดทำข้อมูล และเอกสารต่างๆได้ถูกต้องแม่นยำ	4	3	2	1	4	3	2	1
15. ผู้ให้บริการฯ คิดราคาค่าบริการอย่างเหมาะสม	4	3	2	1	4	3	2	1
16. ท่านสามารถต่อรองราคากับผู้ให้บริการฯ ได้	4	3	2	1	4	3	2	1
<b>กระบวนการให้บริการ</b>								
17. เจ้าหน้าที่ของบริษัทผู้ให้บริการฯ ยินดีให้คำแนะนำที่เป็นประโยชน์เสมอ	4	3	2	1	4	3	2	1
18. ผู้ให้บริการฯ สามารถตอบสนองความต้องการของท่านได้อย่างรวดเร็วทันที่	4	3	2	1	4	3	2	1
19. ผู้ให้บริการฯ มีความเข้าใจในความต้องการของท่านและตอบสนองได้อย่างดี	4	3	2	1	4	3	2	1
20. เจ้าหน้าที่ของบริษัทผู้ให้บริการฯ มีประสบการณ์สามารถให้บริการท่านได้ในทุกเรื่อง	4	3	2	1	4	3	2	1
21. เจ้าหน้าที่สามารถปฏิบัติงานให้ท่านได้เป็นอย่างดี	4	3	2	1	4	3	2	1

ความคิดเห็นของท่านที่มีต่อผู้ให้บริการ เฟรทฟอร์เวิร์ดเดอร์	บ.เฟรทขนาดใหญ่				บ.เฟรทขนาดเล็ก			
	เห็นด้วย อย่างยิ่ง	←→	ไม่เห็นด้วย 0 อย่างยิ่ง		เห็นด้วย อย่างยิ่ง	←→	ไม่เห็นด้วย 0 อย่างยิ่ง	
<b>การบริหารจัดการ</b>								
22. ผู้ให้บริการฯ มีขั้นตอนการทำงานอย่างเป็นระบบ และไม่ยุ่งยากและรวดเร็ว	4	3	2	1	4	3	2	1
23. การติดต่อประสานงานกับผู้ให้บริการฯ silo และสะดวกต่อการใช้บริการ	4	3	2	1	4	3	2	1
24. เจ้าหน้าที่มีมนุษยสัมพันธ์ที่ดี รื้อท่าน	4	3	2	1	4	3	2	1
25. ผู้ให้บริการฯ รับฟัง แก้ไข และปรับปรุง การทำงานให้สอดคล้องกับสิ่งที่ลูกค้าเสนอแนะ	4	3	2	1	4	3	2	1
26. ผู้ให้บริการฯ มีแผนที่จะพัฒนากระบวนการให้บริการฯ ทำให้ได้ดียิ่งขึ้น	4	3	2	1	4	3	2	1
<b>ภาพลักษณ์</b>								
27. ผู้ให้บริการฯ เป็นบริษัทที่มีชื่อเสียงดีในเรื่องการประกอบกิจการในด้านนี้	4	3	2	1	4	3	2	1
<b>ความรับผิดชอบต่อสังคม</b>								
28. บริษัทผู้ให้บริการฯ มีนโยบายเกี่ยวกับเรื่องการดูแลรักษาสิ่งแวดล้อม และใช้ทรัพยากรอย่างรู้คุณค่า	4	3	2	1	4	3	2	1
29. มีการรณรงค์ อนุรักษ์พลังงาน และใช้อุปกรณ์ที่ไม่เป็นภัยต่อสิ่งแวดล้อม	4	3	2	1	4	3	2	1
30. มีมาตรการในการรับสินค้าที่มีผลกระทบต่อมนุษย์ และธรรมชาติอย่างเคร่งครัด	4	3	2	1	4	3	2	1
31. มีมาตรการ องค์กร และรักษาความปลอดภัยต่อชุมชน	4	3	2	1	4	3	2	1
32. มีประกันภัยในกรณีที่เกิดอุบัติเหตุต่อชุมชน หรือธรรมชาติ	4	3	2	1	4	3	2	1
<b>ความเชื่อมั่นในผู้ให้บริการเฟรทฟอร์เวิร์ดเดอร์</b>								
33. ท่านเชื่อว่าบริษัทบริษัทฯ ให้บริการทำงานด้วยความ รับผิดชอบหลักจริยธรรม	4	3	2	1	4	3	2	1
34. ท่านเต็มใจแบ่งปันข้อมูลของบริษัทให้กับบริษัทผู้ให้บริการ	4	3	2	1	4	3	2	1
35. ท่านเชื่อใจในบริการของบริษัทผู้ให้บริการ	4	3	2	1	4	3	2	1
36. ท่านให้บริษัทผู้ให้บริการตัดสินใจด้านโลจิสติกส์แทนท่านในกรณีที่ท่านไม่สะดวก	4	3	2	1	4	3	2	1
37. บริษัทผู้ให้บริการเป็นบริษัทที่น่าเชื่อถือ	4	3	2	1	4	3	2	1

### ส่วนที่ 3: การเลือกใช้บริการเฟรทฟอร์เวิร์ดเดอร์

กรุณาแสดงความเห็นของท่านที่มีต่อโอกาสในการเลือกใช้บริการบริษัทเฟรทฟอร์เวิร์ดเดอร์ โดยทำเครื่องหมาย ✓ ในช่องที่ตรงกับความคิดเห็นของท่านมากที่สุด ใน 5 ระดับ 5 หมายถึง "ใช้แน่นอน" 4 หมายถึง "ใช่" 3 หมายถึง "ยังไม่แน่ใจ" 2 หมายถึง "ไม่ใช่" 1 หมายถึง "ไม่ใช้แน่นอน"

การเลือกใช้บริการเฟรทฟอร์เวิร์ดเดอร์	ระดับความคิดเห็น				
	ใช้แน่นอน	←→	ไม่ใช้แน่นอน		
45. ในการใช้บริการเฟรทฟอร์เวิร์ดเดอร์ขนาดใหญ่ครั้งต่อไป ท่านจะเลือกบริษัทที่ใช้ในปัจจุบัน	5	4	3	2	1
46. ในการใช้บริการเฟรทฟอร์เวิร์ดเดอร์ขนาดเล็กครั้งต่อไป ท่านจะเลือกบริษัทที่ใช้ในปัจจุบัน	5	4	3	2	1
47. ท่านพิจารณาเลือกใช้บริการเฟรทฟอร์เวิร์ดของบริษัทขนาดใหญ่ก่อนเสมอ	5	4	3	2	1
48. ท่านพิจารณาเลือกใช้บริการเฟรทฟอร์เวิร์ดของบริษัทขนาดเล็กก่อนเสมอ	5	4	3	2	1
49. ท่านพิจารณาเลือกใช้บริการเฟรทฟอร์เวิร์ดของบริษัทขนาดใหญ่หรือเล็กตามลักษณะงาน	5	4	3	2	1

**ขอขอบพระคุณอย่างสูงที่ท่านกรุณาให้ความร่วมมือตอบแบบสอบถามฉบับนี้**