THE IMPACT OF LOGISTICS SERVICE QUALITY ON USER
BEHAVIORAL INTENTION:
A CASE STUDY OF A THIRD-PARTY LOGISTICS SERVICE
PROVIDER

By

TING LIU

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

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

Martin de Tours School of Management
Assumption University
Bangkok, Thailand

April 2009

THE IMPACT OF LOGISTICS SERVICE QUALITY ON USER BEHAVIORAL INTENTION:
A CASE STUDY OF A THIRD-PARTY LOGISTICS SERVICE PROVIDER

By

TING LIU

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

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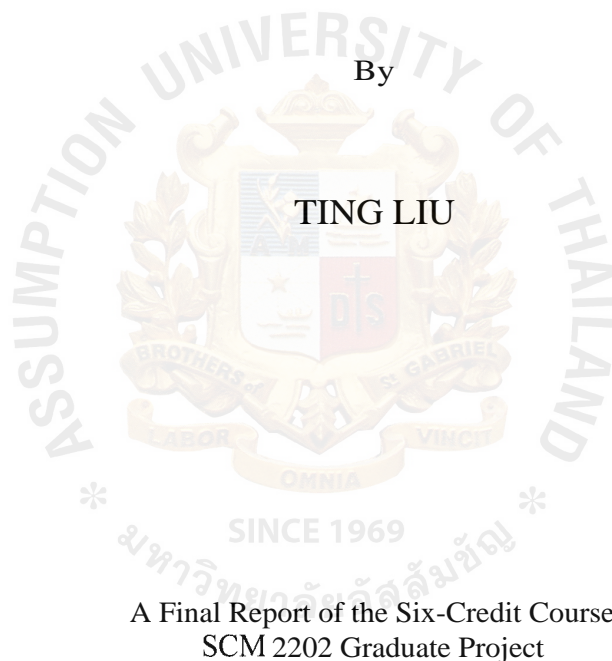
MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT

Martin de Tours School of Management
Assumption University
Bangkok, Thailand

THE IMPACT OF LOGISTICS SERVICE QUALITY ON USER
BEHAVIORAL INTENTION:
A CASE STUDY OF A THIRD-PARTY LOGISTICS SERVICE PROVIDER

By

TING LIU

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

Examination Committee:

1. Dr. Ismail Ali Siad   (Chair)   ....

2. A. Piyawan Puttibarncharoensri...................(Member) ....

3. Asst. Prof. Dr. Nucharee Supatn....................(Advisor) ....

Approved for Graduation on: April 3, 2009

Martin de Tours School of Management
Assumption University
Bangkok, Thailand

April 2009

Assumption University

ABAC School of Management

Master of Science in Supply Chain Management

Form signed by Proofreader of the Thesis/Project

_____Asst. Prof. Brian Lawrence_____, have proofread this Graduate Project entitled

_____The Impact of Logistics Service Quality on User Behavioral Intention:_____

_____A Case Study of a Third-Party Logistics Service Provider_____

_____

_____

_____Ms. Ting Liu_____

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 ___a⊥___ _____

(Asst. Prof. Brian Lawrence)

Contact Number / Email address _____blawrence au.edu_____

Date: _____/0,c/C ci_____

ABSTRACT

The main purpose of the study was to explore the relationship between logistics service quality, customer satisfaction and customer behavioral intention to respond to the logistic service providers. Mentzer's nine-dimensional model of logistics service process was used to assess service quality provided by Zhongshou Third-Party logistics service provider. The nine-dimensions of Mentzer's model include personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling and timeliness. The research was conducted using primary data. Questionnaires were sent to 86 User Companies of Zhongshou logistics service provider across mainland China.

Results of the study indicated that there are significant relationships between logistics service quality, customer satisfaction and behavioral intention. However, only personnel contact quality and timeliness dimensions were found to have positive significant effect on customer satisfaction, and only information quality and timeliness significantly affect behavioral intention.

ACKNOWLEDGEMENT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

GENERALITIES OF THE STUDY

In today's highly competitive market, logistics is recognized as a critical factor in gaining competitive advantage from the business world. The original logistics operations process includes the purchasing, storing, transporting and distributing of physical goods. Over the years, to fulfill the need of the market, logistics service has developed from a single-party logistics to fifth-party logistics service provider. There is a long way from self-managed to using e-logistics networks focusing on global operation. For those, the third party logistics (3PL) is contractual logistics focusing on regional operations and could help a firm to concentrate on its core activities and thus may result in lower cost and better customer service. Hence, 3PL providers are no doubt key contributor to the success of user firms.

In China, with a high economic growth rate and huge market potential, outsourcing of logistics activities to 3PL service providers has become a widely prevalent direction. Hence, the Chinese third party logistics industry has entered a period of rapid expansion and transformation. The Report '2006 Third-Party Logistics, Result and Findings of the 11th Annual Study" by Capgemini Consulting Co. (Langley et al, 2006) reported that users of 3PL services plan to develop a wide spectrum of activities in China. The most popular activities (more than 50% response) are the importing and exporting of finished goods to and from China. The item of outsourcing production to third parties in China (47%) was closely followed. They also mentioned that the top four logistics services outsourced in China are: transportation, warehousing, custom clearance, and freight forwarding. Here exist tremendous opportunities as well as intense competition. Compared with other developed countries, China's logistics are still not enough to operate cheaply, smoothly and effectively. The general problems that arise in logistics include delays, inaccurate information, incomplete service, slow and inefficient operations, and high product damage rate.

Currently, Logistics service quality (LSQ) has gained more attention from service providers, because it is important to gain a significant competitive advantage in customer satisfaction. There are many empirical studies that provide strong support for the link between improvements in LSQ and customer satisfaction and loyalty (Daugherty, Stank, and Ellinger 1998; Menzer, Flint, and Hult 2001, Johnson et al., 2001; Lam et al., 2004).

The studied company is a 3PL service provider which was set up with huge investment assets. Face with China's lively market, a high level customer service quality becomes a determinant to defeat competition. This paper will focus on the impact of logistics service quality on 3PL user satisfaction and behavioral intention, by using relevant theory and an analytical case study.

1.1 Background of the Company

Zhongshou Logistics Company (hereafter to be called ZS) is a third-party logistics company that was established in 2003. It provides freight forwarding, transportation, inventory management, warehousing, and other related logistics services. For the warehousing service, the firm has a total of 162,000 square meters space to offer to customers, which includes three modern warehouses and container yards in Beijing. It employs over 150 full-time employees. In 2007, the company recorded annual revenue of 12,000 million Chinese Yuan (CNY) and 798 million profit before tax.

ZS provides logistics service to two major customers in the steel and automotive business. This study focuses only on the automotive business customer. For this sector, ZS has invested a huge amount of money to build an integrative logistics center to cooperate with Beijing Hyundai Automobile Co. Ltd., which is a joint venture company between China and Korea. ZS provides the 3PL service to Hyundai and their cooperators, including MOBIS (Hyundai Automotive accessories), and Beijing HanTai (Automotive parts) as well as its suppliers which

are located across China. The main logistics functions that ZS serves for those are transportation, inventory management and warehousing. The activities are show in the following table:

Table 1.1: Detailed Activities of Each Logistics Function

Logistics Function	Activities
Transportation	Customs clearing, forwarding, brokering, household goods, relocation, (de)consolidation, contract delivery
Inventory Management & Warehouse	Storing, receiving, assembling, returning goods, marking/Labeling, Forecasting, Location analysis, layout design
Order processing	Order entry fulfillment
Information Systems	EDI, VMS

Source: Adapted from Sink et al. (1996)

When the automobile parts arrive at the port, ZS will handle the customs broker and clearance procedures; after that, ZS will carry the containers to their own bonded warehouse center to operate. During this process, the operations start with unloading the cargo, unpacking, consolidation, assembling until relocation. Then, the cargo will be forwarded to the Hyundai's private storage. Finally, ZS must also deliver the cargo to the Hyundai plant for the manufacturing process.

This paper aims to study the impact of logistics service quality on customer satisfaction, which, in turn, affects behavioral intention such as word of mouth, complaint, recommending and switching.

1.2 Problem Statement

The purpose of the study is to explore the relationship between logistics service quality, customer satisfaction, and customer behavioral intention to the logistics

industry. Mentzer's nine-dimensional model of the logistics service process is used to measure the service quality received from Zhongshou Third-Party logistics service provider. The nine-dimensions of the model are: personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness. Hence, this study attempts to answer the research question: "how does third party logistic service quality impact user satisfaction and intention to outsource the logistics service in the future?"

1.3 Objectives of the study

There are three major objectives in this study:

1.3.1 To formulate and examine the conceptual model of behavioral intention for the logistics industry.

1.3.2 To study the impact of logistics service quality on customer satisfaction and behavioral intention.

1.3.3 To draw conclusions and give recommendations on the use of logistics service quality, and customer's satisfaction to enhance behavioral intention.

1.4 Scope of the study

This is a case study of Zhongshou Third-party logistics service provider. The data were collected from their users' census survey which is the process of obtaining information about every member of a population. Then the respondents of this study are their 86 users who are located across mainland China.

1.5 Limitation of the study

The study is limited by the following factors:

1.5.1 The small population size is a limitation of the study. Also, both of the respondents are focused on only one service provider.

1.5.2 The respondent's truthfulness in responding to the questions within the survey.

1.5.3 The ability of the respondents to comprehend the questions provided to them and to provide appropriate responses

1.6 Summary

This study used the Zhongshou Third-Party Logistic Company to explore the relationship between logistics service quality, customer satisfaction and customer behavioral intention.

CHAPTER II

REVIEW OF RELATED LITERATURE

The definition of logistics adopted by The Council of Logistics Management, is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, service, and related information from the point of origin to the point of consumption in order to meet customers' requirement. The main functions that are **outsourced** to third party logistics include transportation, warehousing, freight consolidation and distribution, product marketing, labeling and packaging, inventory management, traffic management and fleet operations, cross-docking, product returns, rate negotiation and logistics information systems (Sink, et al 1996).

2.1 Development of 3PL Service Providers in China

Many researchers, in investigating the Chinese logistics industry from various perspectives, have three main categories of logistics providers in Chinese logistics industry, in terms of their ownership: state-owned, private, and foreign logistics companies (Hong & Liu 2004).

Under a centrally planned economy, only state owned logistics providers were allowed to enter the market, which offered transportation and warehousing services, but rarely performed value-added and other logistics activities. In 1978, the government reformed the logistics industry through establishing a new commodity circulation system. In this system, state owned enterprises played a leading role, while private companies were encouraged to engage in some logistics activities. Some restrictions to foreign logistics investments were not removed until China entered the **WTO** in 2001. Most restrictions to foreign investments were removed at the end of 2005. The promising market potential has encouraged many foreign

companies to enter the market, including some leading logistics service providers, such as UPS, FedEx, and DHL (Hong et al., 2004).

Hong and Chin (2006) studied location decisions of foreign logistics providers in China based on a census database. They found that the location decisions are determined by market size, labor cost and quality, transport conditions, and government policies. In addition, foreign logistics firms tend to cluster in cities with a large number of existing logistics providers, confirming the existence of logistics agglomeration.

2.2 Problems of the 3PL Industry in China

Considerable research has been done concerning strategic decisions of logistics providers in China. For instance, there are several shortcomings of local logistics providers, especially their undependable services and unresponsiveness to customer needs (Carter et al. 1997).

Normally, young foreign companies cannot achieve high levels of local purchasing, and managers have to develop both technological and management expertise in their local suppliers (Zhang and Keith 2001).

Luk (1996) reviews a series of distribution reform activities and finds that some problems, such as regional differences, still exist and deter the development of the Chinese logistics industry.

Jiang and Prater (2002) conclude that although there are some barriers to logistics development, three factors such as a booming economy, entering the WTO, and e-commerce, provide opportunities for the Chinese logistics service providers.

Wang et al. (2006) examine strategic postures of 3PL providers in China. They find

7

that differentiation strategy users perform better, and companies pursuing cost leadership are shifting towards differentiation strategy under the pressure of intense competition.

Hong et al. (2004) examined the Chinese manufacturers' usage of outside logistics services and find that there is an increasing trend for firms to **outsource** logistics services. Major dissatisfaction is caused by rate level, poor on-time delivery performance, and limited service offerings.

2.3 Behavioral Intentions

Anderson and **Mittal** (1994) defined behavioral intentions as an outcome of the satisfaction process, which can be grouped into two categories: economic behavior and social behaviors (Smith et al., 1999)

Economic behavioral intentions are customer behaviors that impact the financial aspects of the firm such as repeat purchase behavior (Anderson and **Mittal,** 2000), willing to pay more, and switching behavior (**Zeithaml** et al., 1996). Szymanski and **Henard(2000)** also mentioned there is a positive relationship between customer satisfaction and repeat purchasing. Also the repurchase intentions of satisfied customers are significantly higher than the intentions of dissatisfied customers (Halstead and Page, 1992). Increasing overall satisfaction leads to greater repurchase intentions, as well as actual repurchase behavior (Anderson et al., 1994; Anderson and **Mittal,** 2000; Ralston, 1996; **Zeithaml** et al,. 1996; Bolton, 1998). For the purpose of the present research, we refer to economic behavioral intentions in the context of intention to return.

Social behavioral intentions are customer behaviors that impact the responses of other existing and potential customers of the firm, such as complaint behaviors (Johnston, 1998; **Nyer,** 1999; Tax et al., 1998) and word-of-mouth communication

8

(Szymanski and Henard, 2001; Wright et al., 1996). Social behavioral intentions, both positive and negative, impact the individual customer as well and influence the opinions of other customers too. Information disseminated through word of mouth of existing customers is then used as an input for expectations of future customers (Anderson et al., 1994). Consumers take performance outcomes of a product/service, and then use the information to shape their own subsequent expectations as well as expectations of others through word-of-mouth (Oliver, 1997). For the purpose of the present research, we refer to social behavioral intentions in the context of intention to recommend.

2.4 Customer Satisfaction

In the existent studies, the concept of customer satisfaction has been included in various theoretical and conceptual frameworks. Hunt (1977) and Westbrook (1980) defined the concept of customer satisfaction as a process of evaluating or measuring a purchase experience where expectations are compared with the result. It was also defined by Oliver (1997) as the consumer's fulfillment response which is a judgment that a product or service provides a pleasurable level of consumption-related fulfillment. In other words, it is the overall level of contentment with a service or product experience.

The important question of this concept is what factors could measure the customer satisfaction. Some approaches which have been used, identify drivers of customer satisfaction which include concepts like expectations, emotions, equity, service, quality and price (Oliver, 1997; Szymanski and Henard, 2001). In conclusion, customer satisfaction could be measured in two ways: measuring overall perceived satisfaction or comparing the reception and expectation of the customers on those related attributes (Hausknecht, 1990; Ryan et al., 1995).

Customer satisfaction is mentioned as a key driver of long-term relationships

9

between suppliers and buyers by (Geyskens et al., 1999; Woodruff and Flint, 2003) and it is positively related to customer loyalty (Johnson et al., 2001; Lam et al., 2004).

2.5 Logistics Service Quality (LSQ)

Logistics Service quality is defined as describing the company's ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information (Coyle, Bardi, and Langley 1992; Shapiro and Heskett 1985; Stock and Lambert 1987). It is also considered by (Perrault and Russ 1974) as playing the most important role in customer satisfaction.

From all of the above literature, the most comprehensive treatment is that of Mentzer, Flint, and Hult's development of a nine-dimensional model of logistics service process segmentation (2001). Their framework provides the basis for the current examination of logistics service quality. The nine dimensions include: personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness.

34 3

Table 2.1: Nine Dimensions of Logistics Service Quality

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

Source: Adapted from Mentzer et al. (2001)

11

2.6 Summary

Based on the literature review above, the Chinese Third-Party Logistics industry has entered a period of rapid expansion and transformation. But compared with other developed countries, China's logistics still do not **sufficiently** operate cheaply, smoothly and effectively. The general problems that are raise in logistics include delayed and inaccurate information, incomplete service, slow and inefficient operations and high product damage rate. Therefore, Mentzer's nine-dimensional model of logistics service process is used in this case study to measure the logistics service quality provided by **Zhongshou.**

CHAPTER III

RESEARCH FRAMEWORK

This study is a descriptive study with a main objective to investigate factors influencing the customer behavioral intention of **3PL** users. The literature will be reviewed and a conceptual framework will be proposed.

3.1 Theoretical Framework

As mentioned, the important variables related to the **3PL** service quality have been identified from Mentzer's literature. It is generally understood that customers place orders, orders are processed, order are shipped, and orders are received (e.g., Byrne and Markham 1991; Mentzer, **Gomes,** and **Krapfel** 1989; Persson 1995). Customers have contact with this process when placing and receiving orders. When order receipt is not as expected, customers stay engaged in the logistics process through discrepancy handling. The general framework is shown in Figure 3.1:

FIGURE 3.1

A General Customer-Perceived LSQ Framework
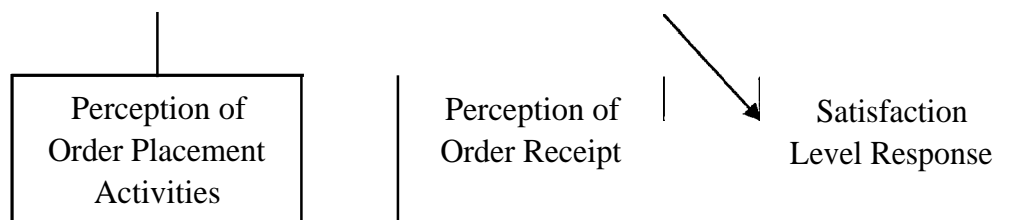
Source: Adapted from Mentzer et al. (2001)

Mentzer and colleagues discussed their model based on the stages that from order placement to order receipt. First, order placement components include four

13

components which are personnel contact quality, order release quantities, ordering information quality and ordering procedures. Until the order receipt stage, customers do not have any perception of the tangible products that are delivered.

At the order receipt stage of LSQ, there are three components, order accuracy, order condition and order quality. Timeliness is also part of order receipt. This is the first time that a customer can really assess the timeliness of the logistics process. Perceptions of these four order receipt components are driven by other four order placement components. However, customers do not always receive orders as they expected. In this situation, customers ask the service provider to correct the mistake. Thus, dealing with service providers about orders not received as expected (i.e. discrepancy handling) is still part of order receipt activities. When discrepancies need to be addressed, timeliness is affected. Orders are not considered on time until they are received as ordered. Thus, timeliness is driven by the process of placing orders.

Finally, satisfaction should be driven by the timeliness of orders received and the manner in which discrepancies are handled. It is expected that order accuracy, order condition, and order quality will operate through timeliness and through order discrepancy handling to influence satisfaction. Figure 3.2 shows the conclusion of the LSQ Model from Mentzer et al. (2001).

FIGURE 3.2

The Conclusion of LSQ Model
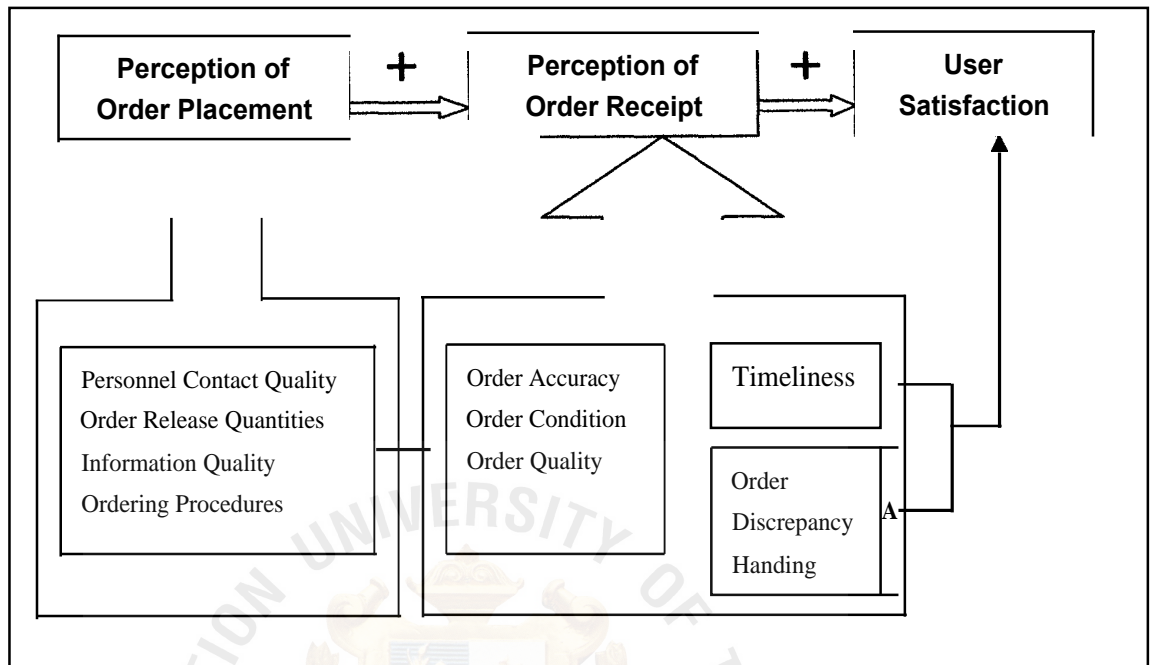
Source: Adapted from Mentzer et al. (2001)

3.2 Conceptual Framework

Moreover, the previous studies in service (Cronin et al., 2000), suggest that service quality demonstrates positive relationships with a number of behavioral intentions either directly or through the mediating effect of satisfaction. Hence: the conceptual framework could be proposed as follows:

FIGURE 3.3

Conceptual Framework for Behavioral Intention

113+

112+

| Logistics Service Quality (LSQ) | Customer Satisfaction | Behavioral Intention |

15
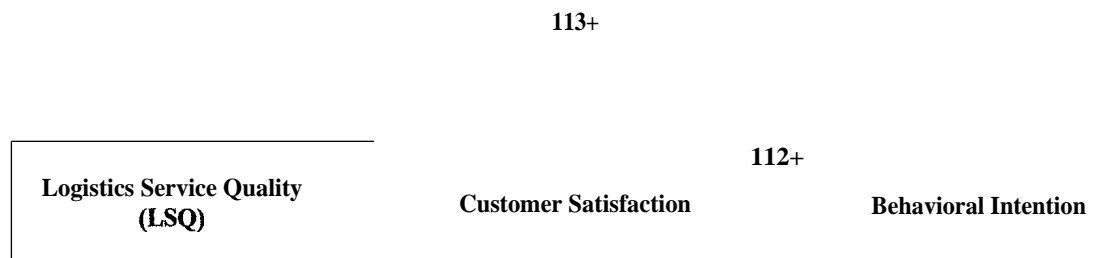
However, as logistics service quality is categorized into nine dimensions as discussed previously in the literature reviews, the conceptual framework could be modified as:

FIGURE 3.4

Research Framework
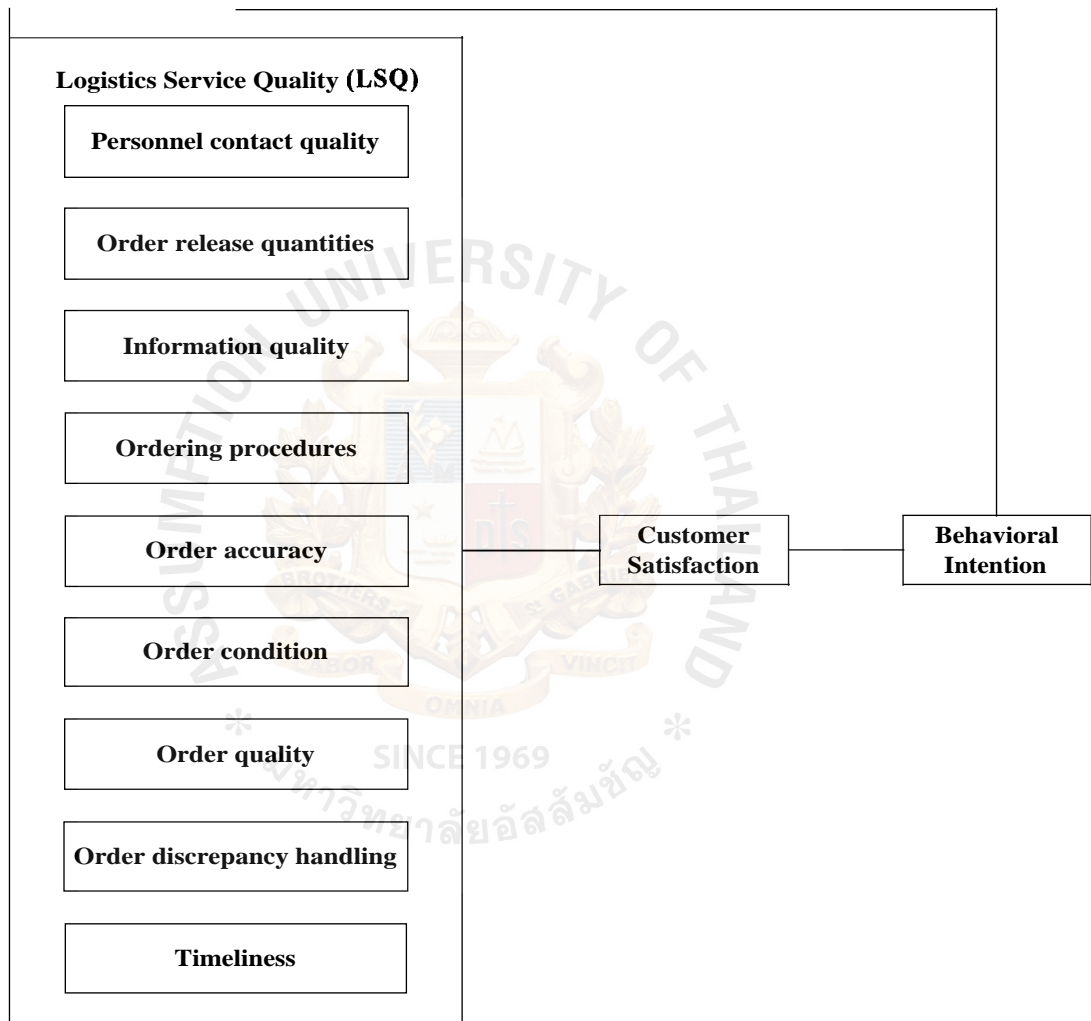
3.3 Research Hypotheses

Three main hypotheses with 18 sub-hypotheses can be derived from this research framework to explain the relationship between each dimension of logistics service quality and customer satisfaction as well as behavioral intention. The details are presented in the following section.

16

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

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

Hypothesis lb: There is a positive relationship between order release quantities and customer satisfaction.

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

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

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

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

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

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

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

Hypothesis 2: There is a positive relationship between customer satisfaction and behavioral intention.

Hypothesis 3: There is a positive relationship between logistics service quality and behavioral intention.

Hypothesis 3a: There is a positive relationship between personnel contact quality and customer behavioral intention.

Hypothesis 3b: There is a positive relationship between order release quantities and customer behavioral intention.

Hypothesis 3c: There is a positive relationship between information quality and customer behavioral intention.

17

Hypothesis 3d: There is a positive relationship between ordering procedures and customer behavioral intention.

Hypothesis 3e: There is a positive relationship between order accuracy and customer behavioral intention.

Hypothesis 3f: There is a positive relationship between order condition and customer behavioral intention.

Hypothesis 3g: There is a positive relationship between order quality and customer behavioral intention.

Hypothesis 3h: There is a positive relationship between order discrepancy handling and customer behavioral intention.

Hypothesis 3i: There is a positive relationship between timeliness and customer behavioral intention

3.4 Summary

Logistics service quality and customer satisfactions were found to be the main factors influencing customer behavioral intention. Moreover, the details and dimensions of logistics service quality and customer satisfaction were studied. Three main variables can be listed and operationalized as follows:

Table 3.1: List of Variables and Operational Definition

Construct	Operational Definition
Logistics Service Quality	The customer's subjective evaluation of how well or poorly was the service performance provided by the 3PL service provider in nine dimensions: personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling, and timeliness.
Customer Satisfaction	An emotional state that occurs in response to an assessment of performance of a service provider which indicates the customer's cognitive and affective evaluation based on their use experience.
Behavioral Intention	An outcome of the satisfaction process.

CHAPTER IV

RESEARCH METHODOLOGY

Based on the proposed theoretical model and literature reviewed in the previous chapter, this chapter aims to discuss the research methods and techniques used in this study. There are six sections in this chapter. The first section will discuss the design and the type of research. Data collection methods will be introduced in the second section. Then, the questionnaire development will be explained in the third section. The pre-test results will be presented in the fourth section followed by reliability and validity analysis. The data analysis method will be proposed in the last section. The details of each section are as follows:

4.1 Research Design

Customer behavioral intention is focused as the dependent variable of the model, while the factors related to the logistics service quality are considered as independent variables. Customer satisfaction is proposed as the mediating factor, and the main purpose of the research is to identify the effects of logistics service quality and customer satisfaction on behavioral intention in the logistics service industry. As a main construct of this study is "Logistics service quality", that is already available in respondents' minds. It was selected because the respondents' attitude for service quality i.e. personnel contract quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, timeliness and order discrepancy handling have to be measured.

Exploratory research was initially conducted. Its specific objective was to understand all related factors in the actual context, and consisted of four categories, i.e. secondary data study, pilot studies, case studies, and experience surveys (Zigmund and Babin, 2007). This is a case study of Zhongshou Third-party logistics

service provider. In-depth interviews were conducted with the vice-president who is a senior manager in the Zhongshou Company, to gather qualitative data on Zhongshou's logistics service operations.

The data from the literature searches and interviews were used to develop the questionnaire which is the main data collection tool of this study. The details will be discussed in the questionnaire development section. Moreover, a pre-test of the questionnaire was also conducted; the details together with the results will be reported in the pre-test section.

The stages of conducting this research based on the research design can be graphically illustrated in Figure 4.1 as follows:

Figure 4.1: Summary Diagram for the Stages of Research Conduction

```
┌─────────────────────────────────────────────────────────┐
│                   Problem Statement                      │
└─────────────────────────────────────────────────────────┘

┌───────────────────────────┐   ┌───────────────────────────┐
│     Literature Review     │   │         Interview         │
└───────────────────────────┘   └───────────────────────────┘

┌─────────────────────────────────────────────────────────┐
│              Develop Conceptual Framework                │
└─────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────┐
│            Develop Questionnaire and Pretest             │
└─────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────┐
│                    Data Collection                       │
└─────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────┐
│                     Data Analyses                        │
└─────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────┐
│        Conclusion, Recommendation and Reporting          │
└─────────────────────────────────────────────────────────┘
```
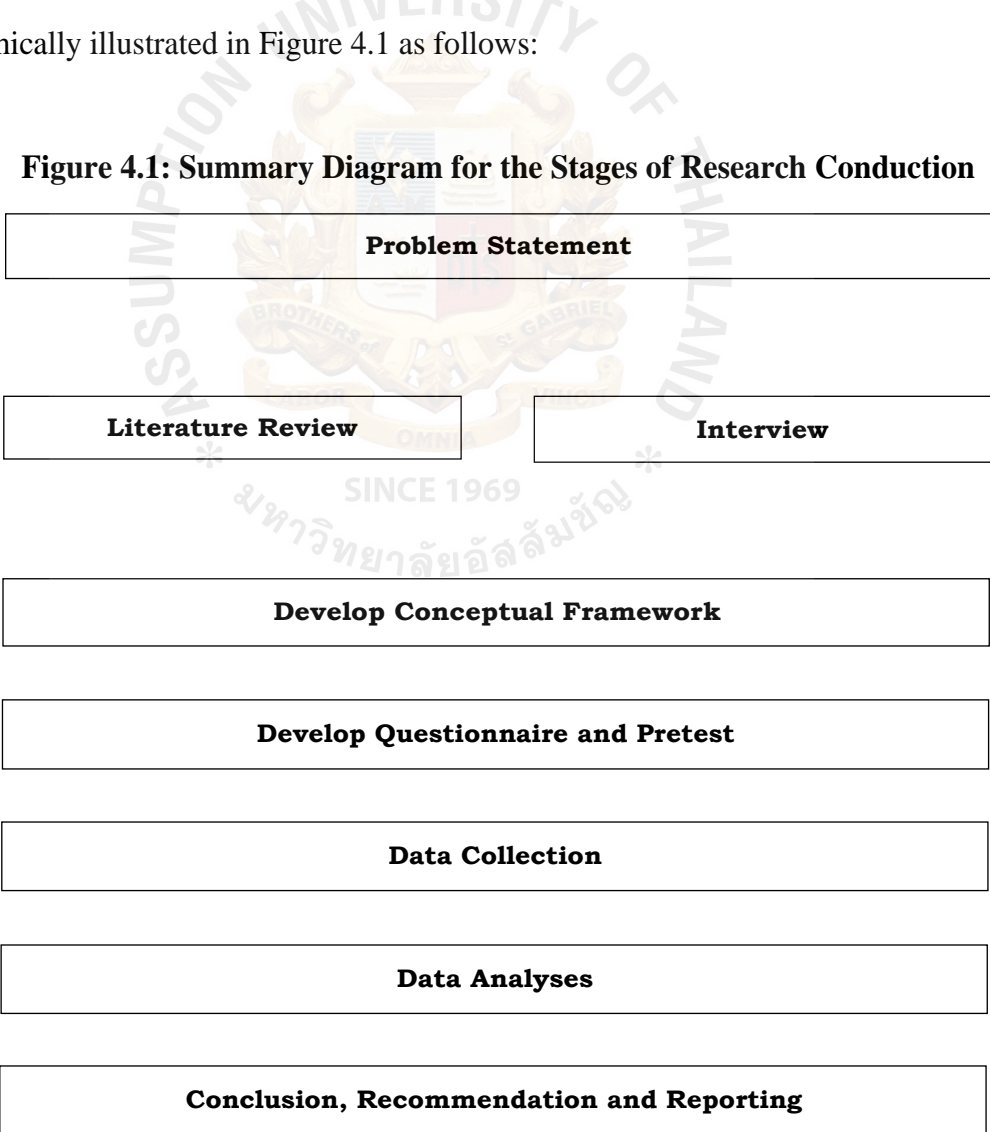
4.2 Data Collection

Two data collection methods were employed in this study. First, secondary data was collected. Then primary data were collected empirically. The details are as follows:

4.2.1 Secondary Data Collection

Secondary data gathered from previous literature and research can be considered as qualitative data, which would help in understanding the factors that are related to the user behavioral intention to select a logistics service provider which is the main focus of this study. Several sources of data, such as textbooks, website and related journals, were reviewed. Related theories were adopted to identify the important and relevant factors and also to gain more understanding of the concepts of those factors. Logistics service quality and customer satisfaction were found to be the main factors influencing customer behavioral intention in the logistics service industry. Moreover, the details and dimensions of logistics service quality and customer satisfaction were studied. The ideas were generated based on these data. Consequently, the relationship between logistics service quality, customer satisfaction and the behavioral intention, were proposed as the conceptual framework of the research.

4.2.2 Primary Data Collection

Primary data were defined by Malhotra (2004) as the data originated by the researcher for the specific aim of achieving the research objective. There are several ways to collect primary data such as interview surveys, questionnaire surveys, observation, and experiment (Zigmund and Babin, 2007). The data collection method designed to collect primary data in this study is a questionnaire survey. A questionnaire survey was selected as the main primary data collection method in this study. The survey was conducted by using a single case study of Zhongshou Logistics Company in China: all data was collected from the users of Zhongshou across mainland China.

4.3 Questionnaire Development

A questionnaire as a major research tool for survey was developed based on the literature review and conceptual framework. The questionnaire was structured into three parts:

Part A: Company Characteristics

Part B: Service Performance Measurement

Part C: Service Satisfaction and Behavioral Intention

The first part of the questionnaire was about the general characteristics of the respondents such as products, number of companies they serve, number of employees, total annual sales in 2007, used service from ZS, and the time they have dealt with ZS.

The second part of the questionnaire was designed to measure the customer's perception of the logistics service quality from ZS. Nine dimensions of logistics service quality were the focus: personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling and timeliness. Twenty-seven measurement items of the logistics service quality were adopted and modified from Mentzer et al. (2001). The details of measurement items are presented in Table 4.1.

Table 4.1: Measurement Items of Logistics Service Quality

Scale	Item
Personnel Contact Quality	
PCQ1	The contact person makes an effort to understand your situation.
PCQ2	Problems are resolved by contact person.
PCQ3	The product knowledge/experience of contact personnel is adequate
Order Release Quantities	
ORQ1	Requisition quantities are not challenged.
ORQ2	Difficulties never occur due to maximum release quantities.
ORQ3	Difficulties never occur due to minimum release quantities.
Information Quality	
IQ 1	Product specific information is available.
1Q2	Product specific information is adequate.
1Q3	Product specific information is timely.
Ordering Procedures	
OP 1	Requisitioning procedures are effective.
OP2	Requisitioning procedures are easy to use.
OP3	Requisitioning procedures are flexible.
Order Accuracy	
OA 1	Shipments rarely contain the wrong items.
OA2	Shipments rarely contain an incorrect quantity.
OA3	Shipments rarely contain substituted items.
Order Condition	
OC1	Material received from depots is undamaged.
OC2	Material received from vendors is undamaged.
OC3	Damage rarely occurs as a result of the transport mode or carrier.
Order Quality	
OQ1	Substituted items (if any) work fine.
OQ2	Products ordered meet technical requirements.
OQ3	Equipment and /or parts are rarely nonconforming.
Order Discrepancy Handling	
ODH1	Correction of delivered quality discrepancies is satisfactory.
ODH2	The report of discrepancy process is adequate.
ODH3	Response to quality discrepancy report is satisfactory.
Timeliness	
TL 1	Time between placing requisition and receiving delivery is short.
TL2	Deliveries arrive on the date promised.
TL3	The amount of time a requisition for a back-order is short.

The final part of the questionnaire was designed to measure customer satisfaction with five items which were adopted and modified from relevant literature reviews, in addition to nine questions measuring behavioral intention, modified as illustrated in Table 4.2. The items were measured by using a 5-point scale anchoring at 1 (strongly disagree) to 5(strongly agree).

Table 4.2: Measurement Items of Customer Satisfaction and Behavioral Intention

Scale	Item
Customer Satisfaction	
Si	The service provided by ZS was excellent
S2	The service was done right at the first time
S3	Experience was as good as it was supposed to be
S4	Zhongshou provides the best value to customer
S5	Overall performance of Zhongshou is good
Behavioral Intention	
BI1	You will highly recommend this provider to others
BI2	You will say positive things about this provider to others
BI3	You will encourage others to purchase services from this provider
BI4	You will refer other companies to this provider
BI5	You will consider this provider as first choice to using logistics service
BI6	You will do more business with this provider in the next few years
BI7	You expect the relationship with this provider to last a long time
B18	You are likely to maintain the percentage of business given to this provider
BI9	You would continue doing business with this provider even if prices increased somewhat

Keeping in mind the difficulty in attaining an adequate response rate in mail surveys, the questionnaire was limited to three pages so that it would not disturb respondents. The questionnaire was originally developed in English, and then it was

translated by an expert into Chinese in order to be easily and clearly communicated to the respondents.

4.4 Target population

The target population of this research consisted of users of **Zhongshou** Third-Party logistics service provider. A census survey was selected since this research attempts to describe characteristics of users, user behavioral intention and to measure user's perception of service quality served by **Zhongshou** Company. Census survey is the process of obtaining information about every member of a population. It can be contrasted with sampling in which information is only obtained from a subset of a population (http://www.archivists.org/a-census). As such it is a method used for accumulating statistical data. The respondents are **Zhongshou's** 86 users who are located across mainland China.

In order to cover the whole of users of ZS and make sure the respondents could provide feedback, the questionnaires were directly sent to users by the customer support department of the ZS Company. The data was planed to be collected within two weeks.

4.5 Pre-test Results

4.5.1 Reliability

Reliability is an indicator of a measure's internal consistency. Internal consistency of a multiple-item measure can be assessed by correlating scores on subsets of items making up a scale (**Zigmund** and **Babin,** 2007). **Malhotra** (2004) also mentioned that the reliability will be weighted from the relationship of scores gained from dissimilar administration of the scale. If the result of the relationship is high, the scale result is also high. Coefficient alpha is the most commonly applied estimate of a multiple item scale's reliability.

25

Reliability analysis of 36 questionnaires was performed. The reliability of three variables was determined, which included logistics service quality, customer satisfaction and behavioral intention. The Cronbach's Alpha coefficient of all measurement items was 0.918 as shown in Table 4.3. Cronbach's Alpha of the three variables varied from 0.813 to 0.917 which exceeded the minimum requirement level of 0.7 of reliability. These values of Cronbach's Alpha show that these measures are reliable.

Table 4.3: Reliability Analysis Results

Variables	Cronbach's Alpha
All items	0.918
Logistics service quality	0.848
Customer Satisfaction	0.813
Behavioral Intention	0.917

4.5.2 Validity

Validity of the measures was verified using factor analysis. Then results of factor analysis were performed. The KMO is 0.696 which is an index that examines the appropriateness of factor analysis and must be 0.5 or higher, and Bartlett's test of Sphericity (Chi-square= 1688.339; df= 351; sig=.000) indicated that these factors could load to be variables.

Table 4.4: KMO and Bartlett's Test Results for LSQ

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.696
Bartlett's Test of Sphericity	Approx. Chi-Square	1688.339
	Df	351
	Sig.	.000

A factors analysis of each scale was run to establish the uni-dimensionality of each multi-item scale. In order to test the validity of 27 items of nine dimensions of logistics service quality, the total variance explained from the initial eigenvalues was

77.509 (see details in Appendix C) and the rotated component analysis was performed in Table 4.5 which indicated that some items i.e. order discrepancy handling were not assessed very well. However, all 27 items of nine-dimensions of logistics service quality were decided to be within the operational scope of the service quality scale.

Table 4.5: Factor Analysis Results for LSQ

	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
PCQ1			.691					
PCQ2			.749					
PCQ3			.787					
ORQ1			.433				.583	
ORQ2							.905	
ORQ3							.862	
IQ1		.458			.524			
IQ2					.712			
IQ3					.882			
OP1		.615						
OP2		.734						
OP3		.495			.532			
OA1				.870				
0A2				.926				
0A3				.847				
OC1						.879		
0C2						.921		
0C3						.690		
OQ1	.840							
0Q2	.914							
0Q3	.929							
ODH1	.500							
ODH2								.805
ODH3								.813
TL1		.518			.504			.435
TL2		.779						
TL3		.502						.584

4.6 Data analysis plan

In order to analyze the data collected in this study, the SPSS statistical tool was used to conduct descriptive data analysis and regression analysis. Descriptive data analysis was aimed to provide the characteristics of the respondents. The multiple regression analysis was employed to examine all structural relationships. In this case, it was used to investigate the proposed relationship between logistics service quality, customer satisfaction and behavioral intention.

4.6.1 Regression Analysis

In regression terminology, the variable being predicted is called the dependent variable. The variable or variables being used to predict the value of the dependent variable are called independent variables. In statistical notation, y denotes the dependent variable and x denotes the independent variable.

Multiple regression analysis is the study of how a dependent variable y is related to two or more independent variables. In the general case, it could use p to denote the number of independent variables. The equation that describes how the dependent variable y is related to the independent variables x_1, x2,..., x_p and an error term is called the regression model. In this case, the customer behavioral intention was defined to be the dependent variable and the logistics service quality and customer satisfaction were defined to be independent variables.

4.7 Summary

Based on the design of the research and pre-test result, the research framework and questionnaire of this study were proved to be appropriate.

CHAPTER V

PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

In this chapter, the analyses of primary data were performed. The **SPSS** Version 16.0 and Microsoft Excel were used to analyze data. The survey data were collected from 86 customer companies of **Zhongshou.** The data analysis can be categorized into four parts. (1) Descriptive analysis of respondents' profile, (2) The level of behavioral intention, service quality and customer satisfaction, (3) The effects of service quality and customer satisfaction on customer behavioral intention, and (4) the discussion of the findings. The details are presented in the following sections:

5.1 Sample Profile

To understand the characteristics of **Zhongshou's** users, the respondents' general characteristics include their products, number of companies they serve, full tune employees, total annual sales in 2007, used service from ZS and the time they dealt with ZS, and these were analyzed descriptively. The details are presented in Tables below.

Table 5.1: The Products and Responses of Zhongshou's Users

Product	Responses	
	N	**Percent (%)**
Engine & Components	14	12.2
Drivetrains	8	7.0
Steering	6	5.2
Suspension	4	3.5
Brakes	10	8.7
Wheels	3	2.6
Tires	1	0.9
Body Works	18	15.7
Interiors	18	15.7
Electrical Systems& Electronics	13	11.3
Materials Components	20	17.4
Total	115	100

29

Table 5.1 reports the product type of respondents served, in terms of the automobile industry. Types of products provided by respondents could be categorized into 11 categories, which are Materials Components (17.4%), Interiors (15.7%), Body Works (15.7%), Engine & Components (12.2%), Electrical Systems& Electronics (11.3%), respectively, only 8.7 percent provided brake system parts, 7 percent provided drivetrains, 5.2 percent provided steering, 3.5 percent provided suspension, 2.6 percent provided wheels and 0.9 percent provided tires.

Table 5.2: Respondents Profile

Respondents Characteristics		Percent %
Number of employees	Less than 100	17.4
	100 to 200	23.3
	More than 200	59.3
	Total	100.0
Number of companies served by respondents	Less than 5	34.9
	6 to 20	30.2
	More than 20	34.9
	Total	100.0
Annual revenue 2007 (Million RMB)	Less than 10	8.1
	10 to 50	24.4
	More than 50	67.4
	Total	100.0
Time to deal with ZS Company (Year)	Less than 1	3.5
	1 to 3	39.5
	More than 3	57.0
	Total	100.0

Table 5.2 shows that 59.3 percent (60%) of companies have more than 200 full-time employees, 23.3 percent (23%) of companies have 100 to 200 full-time employees, and 17.4 percent (17%) of companies have less than 100 full-time employees. The Table also shows the number of companies served by respondents. 34.9 percent have less than 5 customers and the same percent have more than 20 companies.

For the total annual sales in 2007, most respondents (67.4%) have more than 50 millions annual sales in 2007, 24.4 percent respondents achieved 10 to 50 million in 2007, and a few respondents (7%) achieved less than 10 million Chinese Yuan in 2007. This means that most customers of ZS have good business performance.

The last characteristic, years dealing with ZS, was categorized into three groups: less than 1 year, 1 to 3 years and more than 3 years. The results show that most of respondents, 57 percent dealt with ZS Company for a long time. 39.5 percent of respondents dealt with ZS Company from 1 to 3 years. Only 3.5 percent respondents have dealt with ZS Company less than 1 year.

Table 5.3: Logistics Service Used by Respondents

Logistics Service	Responses	
	N	**Percent %**
Customs clearance	9	4.1
Freight forwarding	7	3.2
Inventory management	83	37.7
Order fulfillment	36	16.4
Distribution	2	0.9
Assembly/relocation	1	0.5
Warehousing	80	36.4
Contract delivery	2	0.9
Total	220	100

As demonstrated in the table, both data indicate that the most common service used by the user is inventory management (37.7 percent), followed by warehousing (36.4 percent).

5.2 The Level of Service Quality, Customer Satisfaction and Behavioral Intention

The next analysis is of the descriptive characteristics of the key variables which are

31

logistics service quality, customer satisfaction and customer behavioral intention. The mean and standard deviation of each variable, including the dimensions of service quality and customer satisfaction, was computed. The multi-item measurements were designed for all variables. Thus, the average score of each variable and its dimensions were calculated from all items measuring that particular factor. As the items measuring these variables were rating scales with five categories varying from 1: strongly disagree to 5: strongly agree, the mid-point of each factor is 3.00. The details of means and standard deviations of each factor are presented in the following Tables:

Table 5.4: Mean and Standard Deviation of the Major Variables

Variables/dimensions	Mean	Standard Deviation
Behavioral Intention	3.91	0.41
Customer Satisfaction	3.92	0.30
Service Quality		
Personnel Contact Quality	3.91	0.49
Order Release Quantities	4.21	0.41
Information Quality	3.98	0.56
Ordering Procedures	4.19	0.46
Order Accuracy	4.07	0.33
Order Condition	4.01	0.22
Order Quality	3.74	0.44
Order Discrepancy Handling	3.34	0.41
Timeliness	4.45	0.41

All the means of each variable, both the behavioral intention and customer satisfaction, were above the mid-point, being 3.91 and 3.92 respectively. Similarly, all means of the 9 dimensions of service quality were also above the mid-point.

5.3 The Effect of Service Quality and Customer Satisfaction on Behavioral Intention

To test the effects of logistics service quality and customer satisfaction on

behavioral intention, three regression analyses were performed. The first regression analysis aimed to test the relationship between all dimensions of logistics service quality and customer satisfaction. The second regression analysis aimed to test the relationship between customer satisfaction and behavioral intention. The third regression analysis aimed to test the relationship between all dimensions of logistics service quality and behavioral intention.

Both regression 2 and 3 were designed to understand the effect of each dimension of the key variables on behavioral intention to select Zhongshou Logistics Company. Three Tables associated with the regression analysis are presented as follows:

Table 5.5: The Effects of Logistics Service Quality on Customer Satisfaction

Independent variable	Unstandardized Coefficients		Standardized Coefficient		
	B	Std.Error	Beta	t	Sig
(Constant)	1.751	.603		2.902	.005**
Personnel Contact Quality	.195	.067	.312	2.908	.005**
Order release quantities	.091	.075	.121	1.207	.231
Information quality	.057	.061	.105	.934	.353
Ordering procedures	.108	.075	.166	1.438	.154
Order accuracy	.022	.086	.023	.250	.803
Order condition	-.160	.125	-.116	-1.281	.204
Order quality	-.016	.071	-.024	-.229	.819
Order discrepancy handling	.071	.078	.095	.907	.367
Timeliness	.162	.077	.218	2.104	.039**

Remarks: Dependent Variable: Customer Satisfaction
R=.676 Adjusted R^2=.393 "p<0.05

Table 5.5 presents the regression results. A moderate relationship between all dimensions of logistics service quality and customer satisfaction shown as the R was 0.676; the adjusted R^2 of 0.393 indicated 39.3 percent of variance in customer satisfaction can be predicted by the logistics service quality dimensions.

This table also indicated the partial relationship between each dimension of logistics service quality and customer satisfaction. As the significance values of personnel contact quality and timeliness were less than or equal to 0.05, the positive and significant effects of personnel contact quality and timeliness to customer satisfaction is at 95% level of significance. However, the remaining dimensions of logistics service quality showed no significant impact on customer satisfaction. Hence, hypotheses H1a and H1i were supported, and hypothesis H1b, Mc, H1d, H1 e, H1 f, H1 g and H1h were rejected. Overall, this study concluded that logistics service quality related to customer satisfaction.

Table 5.6: The Effects of Customer Satisfaction on Behavioral Intention

Independent variable	Unstandardized Coefficients		Standardized Coefficient		
	B	Std.Error	Beta	t	Sig
(Constant)	.501	.443		1.131	.261
Customer Satisfaction	.871	.113	.645	7.731	.000**

Remarks: Dependent Variable: Behavioral Intention
R=.645 R^2=.416 "p<0.05

The result showed a moderate relationship between customer satisfaction and behavioral intention, since the R was 0.645. The R^2 of 0.416 implied that the customer behavioral intention to select Zhongshou could be explained by customer satisfaction by 41.6 percent. The significance value of 0.00 of customer satisfaction indicated that there were positive and significant effects of customer satisfaction on behavioral intention. Therefore, at a 95% level of confidence, the customer satisfaction significance impacted behavioral intention to select ZS. Therefore, H2 was supported.

Table 5.7: The Effects of Logistics Service Quality on Behavioral Intention

Independent variable	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std.Error	Beta		
(Constant)	1.256	.829		1.516	.134
Personnel Contact Quality	.130	.090	.154	1.444	.153
Order release quantities	.085	.101	.084	.845	.401
Information quality	.307	.080	.418	3.811	.000***
Ordering procedures	-.031	.088	-.037	-.355	.724
Order accuracy	-.084	.118	-.066	-.710	.480
Order condition	-.038	.171	-.020	-.221	.826
Order quality	-.044	.094	-.047	-.472	.638
Order discrepancy handling	.122	.091	.137	1.340	.184
Timeliness	.220	.103	.219	2.127	.037**

Remarks: Dependent Variable: Behavioral Intention

R=.675 Adjusted R =.391   **p<0.05 ***p<.001

Table 5.7 shows the regression results for logistics service quality on behavioral intention. The result showed a moderately high correlation between logistics service quality and behavioral intention, since the R was 0.675. The adjusted R^2 of 0.391 implied that the customer behavioral intention could be explained by logistics service quality by 39.1 percent.

This Table also showed the beta coefficient of each dimension of service quality on customer behavioral intention. As the significance value of information quality and timeliness were less than 0.05, the positive and significant effects of information quality and timeliness on behavioral intention at a 95% level of significance could be concluded. In contrast, as the significance value of personnel contact quality, order release quantities, ordering procedures, order accuracy, order condition, order quality and order discrepancy handing were more than 0.05, this indicated that these factors had no significant impact on behavioral intention. However, the standardized beta indicated that information quality had a higher impact on behavioral intention than other variables. Hence, hypotheses **H3c** and **H3i** were supported, and hypotheses **H3a, H3b, H3d, H3e, H3f, H3g** and **H3h** were rejected.

35

5.4 Discussion of the Findings

This study focuses on the Zhongshou Logistics Company which is a Third-Party logistics service provider. The questionnaire used census surveys from their 86 customers. Based on the primary data analysis, most findings are consistent with the literature.

There are nine dimensions used for measuring their logistics service quality, which are personnel contact quality, order release quantities, information quality, ordering procedures, order accuracy, order condition, order quality, order discrepancy handling and timeliness. Meanwhile, only two dimensions of personnel contact quality and timeliness significantly influenced customer satisfaction. The analysis findings indicate that the most satisfied dimension for customer is personnel contact quality in order to get the highest standardized beta coefficient 0.312.

Significant relationships between logistics service quality, customer satisfaction and behavioral intention were found as expected. Findings in this study indicate that logistics service quality (LSQ) have significant effects on customer satisfaction. But, from nine dimensions of logistics service quality, only personnel contact quality and timeliness dimensions have positive significant effect on customer satisfaction. It was also found that customer satisfaction plays an important role in customer behavioral intention to select a service provider. Considering the relationship between each dimension of logistics service quality and customer behavioral intention, the analysis results indicated that information quality and timeliness had significant effects on behavioral intention.

5.5 Summary

At least one important inference can be found from the study results. Consistent with the theories by Mentzer et al. (2001) and Cronin et al., (2000), service quality

36

is at the root of customer satisfaction and has a positive relationship with outcomes of behavioral intentions either directly or through the mediating effect of satisfaction.

Additionally, in this case situation, some findings had not previously been mentioned. Such as the 9 dimensions of logistics service quality associated with different level satisfaction from users and outcomes of behavioral intention. Specifically, personnel contact quality and timeliness had a positive effect on customer satisfaction. Furthermore, information quality and timeliness dimensions had positive effects on customer behavioral intention.

At last, the summary of hypotheses testing can be shown, as follows:

Table 5.8: Summary of Hypotheses Testing

Hypotheses	Results
Hi. There is a positive relationship between logistics service quality and customer satisfaction	Partially Supported
H2. There is a positive relationship between customer satisfaction and behavioral intention	Supported
H3. There is a positive relationship between logistics service quality and customer behavioral intention	Partially Supported

CHAPTER VI

SUMMARY FINDINGS, CONCLUSIONS AND

RECOMMENDATIONS

This chapter provides the conclusion and recommendation of the survey results. There are two sections in this chapter: the first section is the conclusion of the study, and the second is the recommendation of the study with suggestion for the further research.

6.1 Conclusions

The main research findings confirmed that the conceptual framework of customer behavioral intention of a select logistics service provider is accurate. The regression analysis indicated that the logistics service quality and customer satisfaction could explain the customer behavioral intention to select ZS. The level of logistics service quality, overall scale and dimensional scores were found to be high in customer's perceptions, while the customer satisfaction was also perceived as high.

Most customers selected Zhongshou Company to be their logistics service provider because ZS could provide high quality of some dimensions of logistics service which at least satisfied with their present needs. For those nine dimensions of logistics service quality, the most important and attractive dimensions to customers were personnel contact quality, information quality, and timeliness.

6.2 Implications and Further Research

The findings of this study have important implications on the management of service quality provided by ZS Company. This study demonstrates the usefulness of the nine- dimensional model of logistics service which developed by Mentzer et al

(2001) as a good measure of service quality in the logistics industry. Once the attributes of logistics service quality from the customer's perspective are more clearly known and understood, ZS Company will be in a better position to anticipate customers' requirements and provide satisfactory service in meeting these requirements.

For further research, logistics service quality and satisfaction are two important routes to impact customer behavioral intention in the logistics industry. Although this study expands knowledge of the relationship between service quality, satisfaction and behavioral intention, viable prospects for further research remain. This study was conducted in only one service provider and its customers, meanwhile, the relationship between them had been established. This may limit any generalizations from this study. Further research should expand the width to more logistics service providers and their related customers.
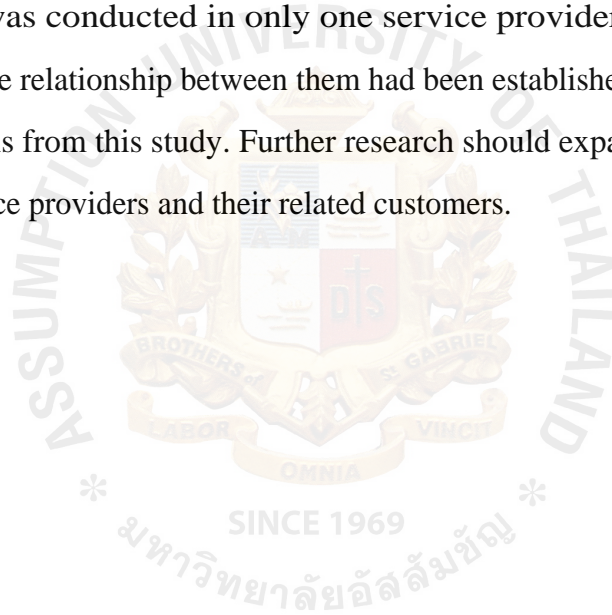
BIBLIOGRAPHY

Anderson, E.W. and Mittal, V. (2000). Strengthening the satisfaction-profit chain. *Journal of Services Research,* (2), 107-20.

Anderson, E.W., Fornell, C., Lehmann, D.R. (1994)."Customer satisfaction, market share, and profitability: findings from Sweden", *Journal of Marketing,* Vol. 58 No.3, pp.53-66

Bolton, R.N. (1998). "A dynamic model of the duration of the customer's relationship with a continuous service provider: the role of satisfaction", *Marketing Science,* Vol. 17 No. 1, pp. 45-65.

Byrne, P. M. and William J. M. (1991). *Improving Quality and Productivity in the Logistics Process. Oak Brook,* IL: Council of Logistics Management.

Carter, J.R., Pearson, J.N., and P. Li (1997). "Logistics Barriers to International Operations: the Case of the People's Republic of China," *Journal of Business Logistics,* 18(2), pp. 129-145.

Coyle, John J., Edward J. Bardi, and C. John Langley Jr. (1992). *The Management of Business Logistics,* 7th ed., Mason, OH: South-Western.

Cronin, J.J., Brady, M.K. and Hult, G.T.M. (2000). "Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments", *Journal of Retailing,* No. 2, pp. 193-218.

Daugherty, P.J., Stank, T.P. and Ellinger, A.E. (1998). "Leveraging logistics/distributions capabilities: the effect of logistics service on market share", *Journal of Business Logistics,* Vol. 19 No. 3, pp. 35-51.

Geyskens, I., Steenkamp, J-B.E.M. and Kumar, N. (1999). "A meta-analysis of satisfaction in marketing channel relationships", *Journal of Marketing Research,* Vol. 40, May, pp. 223-38.

Glenn.R, Patricia J. Daugherty, Anthony S.R. (2007). "Firm Technological Readiness and Complementarity: Capabilities Impacting Logistics Service Competency and Performance" *Journal of Business Logistics, Vol. 28, No.1.*

Halstead, D., Page, T.J. Jr (1992). "The effects of satisfaction and complaining behavior on consumer repurchase intentions", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* Vol. 5 pp.1-11

Hausknecht, D.R. (1990). "Measurement scales in consumer satisfaction/dissatisfaction", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* Vol.3, pp.1-11.

Hong, J., A. Chin and B. Liu (2004). "Logistics Outsourcing by Manufacturers in China: A Survey of the Industry," *Transportation Journal,* 43(1), pp.17-25.

Hong, J. and A. Chin (2006). "Modeling Location Choices of Foreign Investments in Chinese Logistics Industry," *China Economic Review,* forthcoming.

Hunt, H.K. (1977). "CS/D overview and future research directions", in Hunt, H.K. (Ed.), Conceptualization and Measurement of Customer Satisfaction and Dissatisfaction, Marketing Science Institute, Cambridge, MA, pp. 455-88.

Jiang, B. and E. Prater (2002). "Distribution and Logistics Development in China: the Revolution has Begun," *International Journal of Physical Distribution and Logistics Management,* 32(9), pp.783-798.

Johnson, M.D., Gustafsson, A., Andreassen, T.W., Lervik, L. and Cha, J. (2001). "The evolution and future of national customer satisfaction index models" *Journal of Economic Psychology,* Vol. 22, pp. 217-45.

Johnston, R. (1998). "The effect of intensity of dissatisfaction of complaining behavior", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* Vol. 11, pp. 69-77.

Lam, S.Y., Shankar, V., Erramilli, M.K. and Murthy, B. (2004). "Customer value, satisfaction, loyalty, and switching cost: an illustration from a business-to business service context", *Journal of the Academy of Marketing Science,* Vol. 32 No.3, pp.293-311.

Langley, J. Dort, E, Ross, T. Topp, U., Sykes, S. and Strata, S. (2006) "2006 THIRD - PARTY LOGISTICS Results and Findings of the 11th Annual Study"

Luk, S.T.K. (1996). "Structural Changes in China's Distribution System," *International Journal of Physical Distribution and Logistics Management,* 28(1), pp.121-133.

Malhotra, N.K. (2004). *Marketing Research.* An Applied Orientation, 4th Ed. Upper Saddle River, NJ: Pearson

Mentzer, John T., Daniel J. Flint, and Thomas M. Hult (2001). "Logistics Service Quality as a Segment Customized Process," *Journal of Marketing,* Vol. 65, No. 4, pp. 82-104.

Mentzer, John T., Roger Gomes, and Robert E. Krapfel (1989). "Physical Distribution Service: A Fundamental Marketing Concept?" *Journal of the Academy of Marketing Science,* Vol. 17, No.1, pp.53-62.

Nyer, P.U. (1999). "Cathartic complaining as a means of reducing consumer dissatisfaction", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* Vol. 12, pp. 15-25.

Oliver, R.L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer,* McGraw-Hill, New York, NY.

Persson. Göran (1995). "Logistical Process Redesign: Some Useful Insights," *International Journal of Logistics Management,* 6(1), 13-26.

Perrault, William D. and Frederick Russ (1974). "Physical Distribution Service: A Neglected Aspect of Marketing Management," *MSU Business Topics,* Vol. 22, No. 2, pp. 37-45.

Ralston, R. (1996). "Model maps out sure path to growth in marketplace", *Marketing News,* Vol. 30, No. 11, p. 12.

Ryan, M.J., Buzas, T., Ramaswamy, V. and Making, C.S.M. (1995). "A power tool: composite indices boost the values of satisfaction measures for decision making", *Marketing Research,* summer, pp. 11-16.

Shen, S.J. (2000). "the analysis of supply and demand in China's logistics market" (in Chinese), *Logistics Technology and Applications,* Vol.5, No. 2, February, pp. 5-11.

Shapiro, Roy D. and James L. Heskett (1985). *Logistics Strategy: Cases and Concepts,* St. Paul, MN: West Publishing Company.

Smith, A.K., Bolton, R.N., Wagner, J. (1999). "A model of customer satisfaction with service encounters involving failure and recovery", *Journal of Marketing Research,* Vol. 36 No.3, pp.356-72.

Sink, H.I., Langley, C.J. and Gibson, B.J. (1996). "Buyer observations of the US third-party logistics market", *International Journal of Physical Distribution& Logistics Management,* Vol.30 No.5, pp.36-46.

Stock, James R. and Douglas M. Lambert (1987). *Strategic Logistics Management,* 2nd ed. Homewood, IL: Irwin Publishing.

Szymanski, D.M. and Henard, D.H. (2001). "Customer satisfaction: a meta-analysis of the empirical evidence", *Journal of the academy of Marketing Science,* Vol. 29 No.1, pp.16-35

Tax, S.S., Brown, S.W. and Chandrashekaran, M. (1998). "Customer evaluations of service complaint experiences: implications for relationship marketing", *Journal of Marketing,* Vol. 62 No. 2, pp. 60-76.

Wang, Q., Zantow, K., Lai, F., Wang, X. (2006). Strategic Postures of Third-Party Logistics Providers in Mainland China. *International Journal of Physical Distribution and Logistics Management,* 36 (10), 793-819.

Woodruff, R.B. and Flint, D.J. (2003). "Research on business-to-business customer value and satisfaction", *Advances in Business Marketing and Purchasing,* Vol. 12, PP.515-47.

Westbrook, R.A. (1980). "Intrapersonal affective influences on customer satisfaction with products", *Journal of Consumer Research,* Vol. 7 No. 2, pp. 49-54.

Wright, R.E., Perkins, D., Alston, S., Heitzig, S., Meyer-Smith, J. and Palmer, J.C. (1996). "Effects of dissatisfying experiences on repatronage intentions and negative word-of- mouth behavior of university students", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* Vol. 9, pp. 221-8.

Zhang, L.H. and G. Keith (2001). "Managing the Transition-Supplier Management in International Joint Venture in China," *International Journal of Physical Distribution and Logistics Management,* 31(2), pp.74-95.

Zigmund W. and Babin B (2007). *Exploring Marketing Research.* 9thEd.

Zeithaml, V.A., Berry, L., Parasuraman, A. (1996). "The behavioral consequences of service quality", *Journal of Marketing,* Vol. 60 pp.31-46.

Appendices

Appendix A: Questionnaire

Dear Executives:

This questionnaire is part of a research study entitled "The Impact of Logistics Service Quality on the Third-Party Logistics User Behavioral Intention" which is currently being carried out by Ms.Ting Liu, a master degree candidate in Supply Chain Management at Assumption University, Thailand.

The research focuses on logistics service quality and customer intentions in the automotive business of ZhongShou Logistics Company. The results obtained from this study would help ZS not only to deeply understand customer service requirements but also to enable ZS to deliver desired service efficiently and effectively. Moreover, the research findings could also enrich the body of knowledge in logistics and help practitioners to make better decisions, perform a better logistics task, and consequently, enhance the company's competence.

As a formal user of ZS service with profound knowledge and extensive experience in the industry, your participation and valuable information will be very beneficial to this study. Please complete the questionnaire with the answers that best represent facts and your opinion in every section. This questionnaire consists of 3 sections and takes about 15 minutes to finish. Please be assured that your response is strictly confidential and only aggregate results are reported.

Thank you for your contribution to this research. If you would like a summary of the result, please fill in your information on the last page of the questionnaire.

<div align="center">

Sincerely Yours,

Ms. Ting Liu

Master Degree Candidate,

School of Management, Assumption University

</div>

Section A: Company Characteristics

1. Does your specific job in the company involve operations management that focuses on work flows across many department including purchasing, production, logistics, and marketing?

❏ Yes
❏ No (please forward this survey to the person you see fit. Thank you)

2. What's type of products does your company provide?

❏ Engine & Components ☐ **Drivetrains** ❏ Steering
❏ Suspension ☐ Brakes ❏ Wheels
❏ Tires ☐ Body Works ❏ Interiors
❏ Electrical Systems & Electronics ☐ Materials Components
❏ Others, specify_____

3. How many companies do you supply?

❏ Less than 5 ☐ 6 to 20 ☐ More than 20

4. How many employees in your firm?

❏ Less than 100 ☐ 100 to 200 ☐ More than 200

5. What was your company's total annual sales (Chinese Yuan) in 2007?

❏ Less than 10 million ☐ 10-50 million ☐ More than 50 million

6. Please √ <u>one or more</u> of the following logistics services from ZS Company used by your firm.

❏ Customs clearance ☐ Freight forwarding ☐ Inventory management
❏ Order fulfillment ☐ Distribution ☐ Assembly/relocation
❏ Cargo insurance ☐ Warehousing ☐ Contract delivery
❏ Others, specify_____

7. How long have you dealt with Zhongshou Logistics Company?

❏ Less than 1 year ☐ **1** to 3 years ☐ More than 3 years

Section B: Service Performance Measurement

Please rate your opinion towards the service performance provided by Zhongshou Company, from 1 to 5, (1=strongly disagree, 2=disagree, 3= average, 4=agree, 5=stron 1 a ree).

Opinion	Strongly Agree	E- →		Strongly Disagree	
Personnel Contact Quality	5	4	3	2	1
The contact person makes an effort to understand your situation.					
Problems are resolved by contact person.					
The product knowledge/experience of contact personnel is adequate.					
Order Release Quantities					
Requisition quantities are not challenged.					
Difficulties never occur due to maximum release quantities.					
Difficulties never occur due to minimum release quantities.					
Information Quality					
Product specific information is available.					
Product specific information is adequate.					
Product specific information is timely.					
Ordering Procedures					
Requisitioning procedures are effective.					
Requisitioning procedures are easy to use.					
Requisitioning procedures are flexible.					
Order Accuracy					
Shipments rarely contain the wrong items.					
Shipments rarely contain an incorrect quantity.					
Shipments rarely contain substituted items.					
Order Condition					
Material received from depots is undamaged.					
Material received from vendors is undamaged.					
Damage rarely occurs as a result of the transport mode or carrier.					
Order Quality					
Substituted items (if any) work fine.					
Products ordered meet technical requirements.					
Equipment and /or parts are rarely nonconforming.					
Order Discrepancy Handling					
Correction of delivered quality discrepancies is satisfactory.					
The report of discrepancy process is adequate.					
Response to quality discrepancy report is satisfactory.					
Timeliness					
Time between placing requisition and receiving delivery is					

short.					
Deliveries arrive on the date promised.					
The amount of time a requisition is on back-order is short.					

Section C: Service Satisfaction and behavioral intention

Specify your opinion about Zhongshou Logistics provider and your intended behaviors (1=strongly disagree, 2=disagree, 3= average, 4=agree, 5=strongly agree)

Opinion	Strongly Agree ← 4			Strongly Disagree	
Customer Satisfaction	5	4	3	2	1
The service provided by ZS was excellent					
The service was done right at the first time					
Experience was as good as it was supposed to be					
Zhongshou provides the best value to customer					
Overall performance of Zhongshou is good					
Customer behavioral intention					
You will highly recommend this provider to others					
You will say positive things about this provider to others					
You will encourage others to purchase services from this provider					
You will refer other companies to this provider					
You will consider this provider as first choice to using logistics service					
You will do more business with this provider in the next few years					
You expect the relationship with this provider to last a long time					
You are likely to maintain the percentage of business given to this provider					
You would continue doing business with this provider even if prices increased somewhat					

Thanks for your kind cooperation

Appendix B: Sampling Frame

The user list of ZS
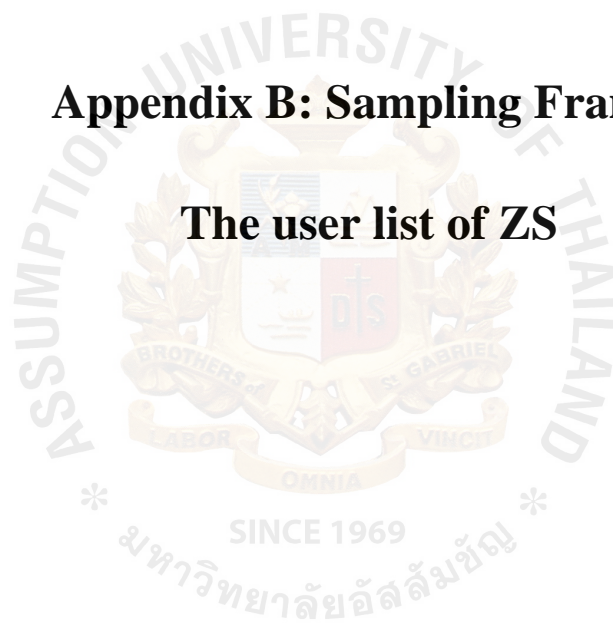
	VEN CODE	VENDER NAME(CHINA)
1	A000	BHMC
2	B001	北京MOBIS中车A车零部件有限公司
3	B002	万都OLE汽 底盘系统有限公司
4	B004	匕京和信汽车部件有限公司
5	B005	北京 中车科技有限公司
6	B006	北京江森汽车部件有限么
7	B007	匕京世元伊协斯电器装配有限公司
8	B008	北京三永软轴有限公司
9	B009	伟 汽车 (1M)有限]司
10	B010	北京世钟汽车配件有限公司
11	B011	北京现代摩比斯汽_零部件有限 司
12	B012	北京三立车灯有限公司
13	B013	北京日进汽车系统有限么司
14	B014	涉福耐克汽车系统（北京）有限公司
15	B015	北京厚成（中韩）A车装饰有限公司
16	B017	可附特汽车零部件制造（匕京）有限公司
17	B018	北京广振
18	B019	北京大材
19	B020	新韩（匕京）汽车配件系统有限公司
20	B023	北京摩比斯变速器
21	B024	世进汽车安
22	B026	北京 一
23	B027	北j 尔岱摩斯汽车系统有限么 司
24	C001	津相
25	C002	江苏通润机电集团承德千斤顶制造厂
26	C004	承德银河连杆有限公司
27	C005	保 风帆蓄电池有限公司
28	D001	青岛吉明美机械制造有限公司
29	D002	青岛大星电子有限公司
30	D004	ﾛ台福达音响有限么司
31	D005	青岛东亚精密工业有限公司
32	D006	WA KDG 气车配件有限么司
33	D007	青岛成 电气有限么
34	E001	州认知
35	E003	北京 和精工汽车配件有限公司
36	E004	北京和承R&A汽车配件（太仓）有限公司
37	E005	江苏富国管路系统有限公司北京 司
38	E006	北京株龙Lit A车配件有限么司
39	E007	明和汽车部件（ 锡）有限么司
40	E008	苏州华昌机电有限么司
41	E009	禧音响（苏州）有限公司

ID	VEN CODE	VENDER NAME(CHINA)
42	F001	上海江森自控国际蓄电池有限公司
43	F002	延锋伟世通 OLE 汽车饰件系统
44	F004	上海三立汇众汽车零部件有限公司
45	F005	上汽 MOBIS
46	F006	韩晶安 玻璃上海有限公司
47	F008	德尔福电子（MID A 限公司
48	F009	上汽 汇众萨克斯减振器有限公
49	G001	福耀玻璃工业集团股份有限公司
50	11001	贵州华昌汽车电器有限公司
51	H04D	河北飞达塑料股份有限公司
52	H05H	青岛东明汽车配件有限公司
53	H05N	北京瑞韩恩梯恩汽车部件有限公司
54	H05P	北京大承精技汽车部件有限公司
55	H0PF	汽车配件（张家港）有限公司
56	H0R9	三河世原汽车科技有限公司
57	H0RB	伟巴斯特东熙（北京）A 限公司
58	H0YH	青岛东 胶带有限公司
59	H0YJ	青岛 信汽车配件有限公司
60	H0ZF	津 兴汽车配件有限公司
61	H0ZG	奥帕汽车配件（津）有限公司
62	11104	无锡摩比斯汽车 件有限公司
63	H105	青岛 同体系汽车配件有限公司
64	11107	春一汽四环汽车股份有限公司
65	H1DX	宁波 昌镒万汽车配件有限公司
66	HMO	北京柳成新和汽车部件有限
67	H1M1	北京摩拓尼克汽车 配件有限
68	H1UK	比京 圆亚细亚 科技有限公司
69	H26D	北京 有迪安希汽车部件有限公司
70	H276	北京中韩轮毂有限公司
71	J001	青岛泰明思国际贸易有限公司
72	K001	韩国现代摩比斯
73	L001	锦州汉拿电机有限公司
74	L002	沈阳都瑞轮毂有限公司
75	L004	沈阳玄潭汽车部件有限公司
76	M004	浙江 丰 威汽轮股份有限公司
77	P001	现代电子（天津）有限公司
78	P002	东铉马勒滤清器（津）A 限公司
79	P004	天津平和汽车配件有限公司
80	Z001	春 汽实业合成材料有限公司
81	Z002	SK
82	Z003	津 GS

ID	VEN CODE	VENDER NAME(CHINA)
83	Z004	韩国三洋工业公司
84	Z005	北京韩成达斯克科技发展有限公司
85	Z006	韩国极东制研
86	Z007	北京华瑞荣汽车部件有限公司

Appendix C: Data Analyses Results
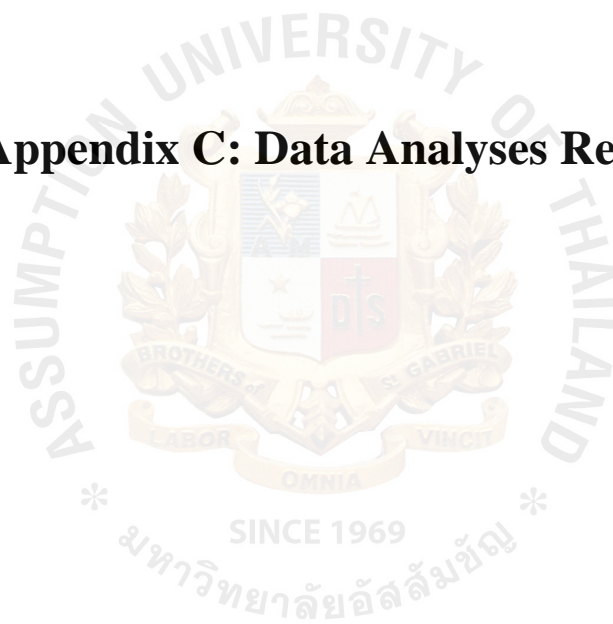
Reliability test of all items

Case Processing Summary

		N	%
Cases	Valid	36	100.0
	Excluded	0	.0
	Total	36	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.918	41

Reliability test of Logistics Service Quality

Case Processing Summary

		N	%
Cases	Valid	36	100.0
	Excluded	0	.0
	Total	36	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.848	27

Reliability test of Customer Satisfaction

Case Processing Summary

		N	%
Cases	Valid	36	100.0
	Excluded	0	.0
	Total	36	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.813	5

Reliability test of Behavioral Intention

Case Processing Summary

		N	
Cases	Valid	36	100.0
	Excluded	0	.0
	Total	36	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.917	9

Factor Analysis results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.696
Bartlett's Test of Sphericity Approx. Chi-Square	1688.339
Df	351
Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.205	26.683	26.683	7.205	26.683	26.683	3.189	11.811	11.811
2	2.990	11.075	37.759	2.990	11.075	37.759	3.017	11.173	22.984
3	2.522	9.342	47.100	2.522	9.342	47.100	2.650	9.813	32.797
4	2.237	8.285	55.386	2.237	8.285	55.386	2.585	9.573	42.371
5	1.909	7.072	62.457	1.909	7.072	62.457	2.577	9.546	51.916
6	1.476	5.467	67.924	1.476	5.467	67.924	2.378	8.807	60.723
7	1.436	5.318	73.242	1.436	5.318	73.242	2.326	8.616	69.339
8	1.152	4.267	77.509	1.152	4.267	77.509	2.206	8.170	77.509
9	.964	3.571	81.080						
10	.707	2.618	83.699						
11	.667	2.472	86.171						
12	.590	2.187	88.358						
13	.533	1.973	90.331						
14	.420	1.554	91.885						
15	.358	1.325	93.210						
16	.340	1.259	94.469						
17	.284	1.052	95.520						
18	.220	.815	96.335						
19	.189	.701	97.037						
20	.176	.651	97.688						
21	.153	.565	98.253						
22	.115	.428	98.681						
23	.103	.382	99.063						
24	.089	.331	99.394						
25	.073	.271	99.665						
26	.063	.235	99.900						
27	.027	.100	100.000						

Extraction Method Principal Component Analysis.

Rotated Component Matrix

	Component							
	1	2	3	4	5	6	7	8
PCQ1			.691					
PCQ2			.749					
PCQ3			.787					
ORQ1			.433				.583	
ORQ2							.905	
ORQ3							.862	
IQ1		.458			.524			
IQ2					.712			
IQ3					.882			
OP1		.615						
OP2		.734						
OP3		.495			.532			
OA1				.870				
0A2				.926				
0A3				.847				
()CI						.879		
0C2						.921		
0C3						.690		
OQ1	.840							
0Q2	.914							
0Q3	.929							
ODH1	.500							
ODH2								.805
ODH3								.813
TL1		.518			.504			.435
TL2		.779						
TL3		.502						.584

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations_

Frequency tables:

The employees of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 100	15	17.4	17.4	17.4
	100 to 200	20	23.3	23.3	40.7
	More than 200	51	59.3	59.3	100.0
	Total	86	100.0	100.0	

The supply companies of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5	30	34.9	34.9	34.9
	6 to 20	26	30.2	30.2	65.1
	More than 20	30	34.9	34.9	100.0
	Total	86	100.0	100.0	

Total annual sales (Chinese Yuan) of respondents in 2007

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10 million	7	8.1	8.1	8.1
	10 to 50 million	21	24.4	24.4	32.6
	More than 50 million	58	67.4	67.4	100.0
	Total	86	100.0	100.0	

The time respondents have dealt with ZS Company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	3	3.5	3.5	3.5
	1 to 3 years	34	39.5	39.5	43.0
	More than 3 years	49	57.0	57.0	100.0
	Total	86	100.0	100.0	

Regression analysis

1: Relationship between logistics Service Quality and Customer Satisfaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.676[a]	.457	.393	.23690

a. Predictors: (Constant), MTL, MOC, MPCQ, MOA, MOQ, MORQ, MODH, MIQ, MOP

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.588	9	.399	7.104	.000[a]
	Residual	4.265	76	.056		
	Total	7.853	85			

a. Predictors: (Constant), MTL, MOC, MPCQ, MOA, MOQ, MORQ, MODH, MIQ, MOP

b. Dependent Variable: MS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.751**	.603		2.902	.005
	MPCQ	.195**	.067	.312	2.908	.005
	MORQ	.091	.075	.121	1.207	.231
	MIQ	.057	.061	.105	.934	.353
	MOP	.108	.075	.166	1.438	.154
	MOA	.022	.086	.023	.250	.803
	MOC	-.160	.125	-.116	-1.281	.204
	MOQ	-.016	.071	-.024	-.229	.819
	MODH	.071	.078	.095	.907	.367
	MTL	.162*	.077	.218	2.104	.039

a. Dependent Variable: MS

60

2: Relationship between Customer Satisfaction and Behavioral Intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645[8]	.416	.409	.31572

a. Predictors: (Constant), MS

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.958	1	5.958	59.774	.000[8]
	Residual	8.373	84	.100		
	Total	14.331	85			

a. Predictors: (Constant), MS

b. Dependent Variable: MBI

Coefficients'

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.501	.443		1.131	.261
	MS	.871	.113	.645	7.731	.000

a. Dependent Variable: MBI

61

3: Relationship between Logistics Service Quality and Behavioral Intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.675(a)	.456	.391	.32037

a Predictors: (Constant), TL, OC, PCQ, QA, OQ, ORQ, ODH, OP, IQ

ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.531	9	.726	7.070	.000(a)
	Residual	7.800	76	.103		
	Total	14.331	85			

a. Predictors: (Constant), TL, OC, PCQ, QA, OQ, ORQ, ODH, OP, IQ

b. Dependent Variable: INTEND

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	1.256	.829		1.516	.134
	PCQ	.130	.090	.154	1.444	.153
	ORQ	.085	.101	.084	.845	.401
	IQ	.307	.080	.418	3.811	.000
	OP	-.031	.088	-.037	-.355	.724
	QA	-.084	.118	-.066	-.710	.480
	OC	-.038	.171	-.020	-.221	.826
	OQ	-.044	.094	-.047	-.472	.638
	ODH	.122	.091	.137	1.340	.184
	TL	.220	.103	.219	2.127	.037

a. Dependent Variable: Behavioral Intention