

**IMPACT OF LOGISTICS SERVICE PERFORMANCE
ON TOURIST SATISFACTION AND LOYALTY**

A thesis submitted in fulfilment of the requirements for
the degree of Doctor of Philosophy

Hui-chung Liang
B.A., M.A. (New York University)

School of Business Information Technology
Business Portfolio
RMIT University
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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

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Abstract

The major focus of this thesis is the role of logistics service performance in the tourism industry. Tourism studies have previously explored the impacts of tourism supply and demand, service quality and perceived service value on tourist satisfaction and loyalty. Service quality has been largely underpinned by its importance for tourist satisfaction and loyalty. Other factors, such as perceived service value and tourism supply have been treated as ‘silent determinants’, or less important determinants, in the tourist loyalty model. After three decades, tourism research now needs to explore some new and more complex factors within the tourism supply system.

Logistics service performance has become an increasingly important issue for tourism. The manufacturing literature has given some gaps which have more concerns about suppliers’ operation efficiency and accuracy during on-line purchasing and overseas booking and confirmation to customers. Logistics service performance has been largely researched on supply chain performance in the manufacturing industry. Manufacturing studies argue that only high quality and performance of logistics services can win repeated customers and their purchase satisfaction. Mentzer and Williams (2001), Mentzer, Flint and Hult (2001) and Mentzer, Myers and Cheung (2004) and Davis (2006) argue that nowadays, the manufacturing industry has more focus on marketing influence on customers rather than only on quantities of production or physical distribution of products which has a powerful affect on customers’ satisfaction and loyalty.

This thesis has been encouraged by the above and seeks to determine whether logistics service performance does indeed exist, and has any influence on tourism. This study argues that tourism products are similar to consumer products, distributed through a tourism supply chain to tourists. This idea of introducing logistics service performance to the field of tourism, and investigating whether this concept is suitable to the study of tourism suppliers, is borrowed from logistics management with the aim of filling an existing gap in the tourism literature. Furthermore, this study compares the existing factors in the tourism studies, to

ascertain which factors have a major influence on affect tourists' preferences and choices in selecting destinations to revisit.

A mixed methodology including both interviews and a survey is employed in this study. A conceptual model with six hypotheses was developed to depict the relationships amongst tourism suppliers' service quality, logistics service performance, perceived service value, tourist satisfaction and loyalty. To test the hypothesised constructs, over 1,000 international tourists in Taipei, Taiwan during their holidays were asked to participate in the survey. The questionnaire contained 38 indicators that have been employed in prior research, and modified based on previous theory. First, a Structural Equation Modelling was employed to analyse 425 responses from international tourists in Taipei, Taiwan for the empirical analysis. The results indicate that logistics service performance is an important antecedent to tourist satisfaction and loyalty, whereas information technology has significant effect on order accuracy and quality, and order efficiency, discrepancy and flexibility which come under the construct of logistics service performance. The next phase of the research involved eight interviews with Taipei tourism experts, which provide the data to support the research hypothesised model and answer the research question.

The results of the Structural Equation Modelling analysis demonstrated that most hypotheses in this research were well supported. The results also indicated that this study contributes towards the body of knowledge within tourism literature. The findings show that, tourists are concerned more about time value during their overseas booking through logistics service performance, contributing to their whole journey and making their travel more enjoyable and satisfying. This finding suggests that tourism suppliers should reinforce their logistics service performance through the Internet and website services. More importantly, having professional staff plays a critical role in delivering quality and accuracy of logistics service performance. Therefore, this study argues that logistics service performance must be included within considerations and delivery of tourism service quality. Service quality influences logistics service performance and in turn influences perceived service value within a liner process that defines both tourist satisfaction then loyalty. Thus, professional service quality can provide a high quality of logistics service performance and thereby a service value perceived by customers as

wonderful. Such factors combined to result in a satisfactory journey and encourage tourists' intentions to revisit that destination in future. This research has identified the role of logistics service performance within the tourism industry and has built a tourism loyalty model with logistics service performance to fill the gap within the current tourism studies literature.

Supporting Publication (Appendix F)

Liang, H. C., Corbitt, B. J., and Peszynski, K. J. (2008). Impacts of Logistics Service Performance through IT on Overall Tourist Satisfaction and Loyalty. *Proceedings of the 16th European Conference on Information Systems (ECIS)*, Galway, Ireland, June 9-11 2008.

Chapter One – Introduction

1.1 Research Background

This thesis investigates the role and impact of logistics service performance within the tourism industry. In tourism, customer satisfaction and loyalty derive largely from the services and the experiences the customer receives in visiting a tourist destination (Yilmaz & Bititci, 2006a, 2006b). Palmer and Bejou (1995) argue that tourism studies focus on travel destinations and investigate the significance of creating an attractive tourist destination through emphasising the production and marketing of tourism products. Researchers agree that the travel destination is an essential part of the tourism industry and a determining factor of a customer's decisions and expectations (Buckley, 2007; Chi, 2005; Chi & Qu, 2008; Hu, 2003).

Whilst it appears that the constituents of tourism products determine customer satisfaction and loyalty, scholars generally agree that the way a tourism product is 'served' (or the so – called service quality) is also a critical deciding factor (Sirakaya, Petrick & Choi, 2004; Sirakaya & Woodside, 2005). Notwithstanding the increasing importance of service quality as a major performance measurement of a tourism product, the concept of service quality has remained elusive (Akbaba, 2006). Marketing studies (Wu, 2006; Yasin & Yavas, 2001) indicate that service quality has to be defined from the customer's point of view. In tourism, service quality can therefore be regarded as the tourist's judgement about a product or service's overall excellence or superiority (Zeithaml, 1998, 2000). However, service quality is intangible – it cannot be seen or known before purchase (Ozer, 2008). Therefore, how tourism suppliers provide their service accurately and efficiently to customers during their purchase is a major factor in increasing customer satisfaction (La, 2005).

Buhalis and Laws (2001) state that a tourism product is similar to a consumer product in supply chain management and logistics support. Many of the characteristics and logistics functions found in a manufacturing supply chain can also be found in the

tourism industry. In a supply chain of consumer products, logistics helps to add service value for customers, improve on-time delivery performance, and enable dealers to increase services to customers (Lambert & Burduroglu, 2000). In the tourism industry, the concept of tourism channel management – which includes an understanding of how products such as attractions, restaurants, hotels, and airlines are sold directly to consumers and how intermediaries provide clients with information to assist in closing sales utilising an indirect distribution system – is likened to that of supply chain management (Laws, 1998).

Conventionally, logistics service quality and performance comprises a major area of investigation in the field of manufacturing (Mentzer & Williams, 2001; Stank et al. 1999, 2003). As a tourism supply chain is to a certain extent similar to a manufacturing supply chain, the concept of logistics service performance should be readily applicable. Mentzer, Flint and Hult (2001, p. 83) suggest that ‘two elements exist in service delivery: marketing customer service and physical distribution service’, which can be measured by logistics service performance because of their logistics activities and services. Stank et al. (2003) contend that logistics service performance has to focus on more customer-based attributes (marketing base) rather than traditional physical distribution attributes in order to understand the customer’s perceived value.

Panayides (2007) explores customer perception attributes in logistics service performance measurement and finds a positive impact on customer relations due to the effectiveness of logistics service. This is particularly true for tourism products where the customer’s perception of service quality is emphasised. The goals of logistics service performance include on-time service delivery, timely response to requests, accurate information storage and delivery, ability to solve problems, fulfilment of promises, and assisting clients in accomplishing their objectives (Stank et al. 1999). Mentzer and Williams (2001) regard availability, timeliness, and quality as the three main constructs of logistics customer service. Among the three, the role of logistics service performance is the key construct which includes accuracy, timeliness, information quality, customer-orientation, order quality, fulfilment of promises and order discrepancy handling responsiveness. Efficient product delivery and satisfactory service quality, which

ensures customer satisfaction and enhances the propensity to revisit, form the basis of competitive advantage. This thesis explores the impact of logistics service performance in the tourism supply chain in relation to enhancing tourist satisfaction and loyalty. Other factors such as tourism suppliers' service quality and perceived service value (Lee, 2003; Chi, 2005; Lo, 2007; Lo, Cheung & Law, 2004), which are widely used for investigating their relationships with tourist satisfaction and loyalty, are included in the hypothesised model of this thesis.

1.2 Overview of Taipei Tourism

Taipei is the capital city of Taiwan. The population of Taipei City, Taiwan's largest city, is around three million. Nowadays, according to the Taipei City Government (TCG, 2007), the city has expanded into surrounding towns in the Taipei County, and this makes the Greater Taipei's population reach approximately 6 million.

Taipei has become well known for its computer and multimedia expo, which is one of the largest IT exhibitions in the world (TAITRA, 2006). Every year, more than 30,000 overseas buyers and millions of people fly to Taipei in order to purchase or place their orders. The Taipei City Government aims to build Taipei into a major travel destination in Asia (TCG, 2007). However, travel and tourism have become less of a focus for Taiwan's top industries in terms of the economic impact on the country due to the less economic contribution than the IT industry. According to the Taiwan Tourism Bureau, more than one million Japanese visit Taipei City each year, constituting the largest ethnic group among inbound arrivals (TTB, 2006). In the year 2005, 3.37 million inbound tourists, an 11.08% growth rate on 2004, visited Taipei and generated a total tourism income of US\$4.97 billion. This represented a 22.8% growth rate on the income from tourism of the previous year, 2004. In order to attract more international visitors, the Taiwan Tourism Bureau now offers free half - day tours to transit passengers and international visitors (TTB, 2006).

According to the Pacific Asia Travel Association (PATA, 2006), 347 million people visited the Asia — Pacific region in 2006. In the context of the overall Asian tourism

market, the growth rate of inbound visitors to Taiwan is behind that of: Macau (13.95%), Hong Kong (12.91%), Cambodia (11.49%), and Thailand (11.45%) (TTB, 2006). The number of inbound arrivals in Taiwan is also behind that of the following countries: Japan (67.27 million), Hong Kong (23.35 million), South Korea (60.21 million), Malaysia (16.43 million) and Mainland China (20.25 million).

Every year, TTB spends over one billion US dollars on innovating tourism facilities and infrastructures, international promotions and advertising, tourism education and training, and travel information and services (TTB, 2006). In 2004, the TTB worked on a 'Doubling of Tourist Arrival' Plan and continued working on mapping out an international advertising and promotion strategy. This thesis aims to investigate tourism in Taipei, to understand tourism service quality and logistics service performance in this city, in the context of the increasing travel promotions and the growth of tourism in Taiwan. This thesis attempts to discover the major determinants that affect international tourists' satisfaction and willingness to revisit. In this regard, the Taiwan Tourism Bureau might gain by understanding the main factors that affect tourists' travel choices, and to build a unique and positive image of Taipei City based on the findings of this study. The details of Taipei tourism statistics are stated below.

1.2.1 Background and Statistics of Taipei Tourism

Taiwan is a single ethnic country which is dominated by Chinese. However, Taiwan was colonised by Japan for over 100 years until 1949 (TTB, 2006). As such, Japanese culture still has a major influence in Taiwan. Furthermore, Japan is the number one tourist market to visit Taiwan (30% out of the total number of inbound travellers).

Taipei has long been regarded as one of the 'four little dragons' of Asian economic development (Lin & Hemmington, 1997). Taipei's tourism industry began to grow in the early 1950s. From 1970 to 1978 tourism increased rapidly, with international tourists increasing from 500,000 to 1.2 million (an annual growth rate of 13%) (Lin & Hemmington, 1997). From 1999 to 2004, arrivals increased from 1.70 million to 2.95 million (TCG, 2007). The TTB (2006) claims that lodging, shopping and dining

contribute to most of the international tourists' spending in Taipei. According to the Taipei City Government (TCG, 2007), Taipei's tourism industry enjoyed a prosperous year in 2004. The number of visitors to the city climbed to nearly 24 million, a record level representing an 80% gain on the figure only five years before. This increase was aided by the addition of several new landmark attractions in 2004, including Taipei 101 (the world's tallest building), and the Miramar Ferris Wheel (the second — biggest rooftop wheel in Asia) (Deng, 2007). Both attractions have helped make Taipei a new 'hot spot' for both domestic and international tourists.

Tourism development in the city has been further enhanced by a well-developed support industry, including 26 international tourist hotels, nine general tourist hotels, 293 general hotels, and 1,069 travel agencies. The city also offers a diversity of tourist attractions, from the natural to the cultural, such as Yanming Mountain hot spring area, and Wulai Aboriginal and hot spring area, the traditional to the modern, and haute cuisine to haute couture — all supported by a convenient transportation system, the Mass Transit Rapid (MTR). The MTR opened to traffic in 1996 and operates six different lines that cover all districts in Taipei City. To international travellers, the MTR makes their travel more time efficient and money saving.

In order to promote Taipei tourism, the TCG holds travel festivals in each season and monthly city activities to attract inbound tourists. The TCG develops special tour packages called the 'I Love Taipei Tour'. These promotions highlight the attractions of Taipei's tourism, such as hot springs, the tea festival or Taipei county tours. In addition to keeping the more familiar inbound tourist market, the TCG now promotes to the new tourist markets, such as Australia and New Zealand.

1.3 Research Objectives

Tourism research is not short of publications which assert the factors supporting tourism growth. Among these factors, the attractiveness of the tourist destination (Murphy, Pritchard & Smith, 2000), innovation of transportation (such as faster, cheaper, safer, and longer distance air travel) (Van Doren & Lollar, 1985), increasing regimentation of

life in society (for example, reduction in working hours, increased income and increased ownership of recreational vehicles) (Krippendorf, 1982), and innovations in the tourism industry (including the growth and sales of travel agencies, travel promotions, and electronic reservation systems) (Chan et al. 2005) have been widely reported. However, little has been documented on the effect of logistics service performance — such as using information technology (IT) to review the effectiveness of logistics service performance, and offering services better, faster and on-time — which is a powerful determinant of tourist satisfaction.

For a long time, the literature in tourism marketing and service management has shown that service quality is a main differentiator of competitive advantage (Augustyn & Ho, 1998; Baker & Crompton, 2000). Service quality bears a strong relationship with customer satisfaction and retention in the tourism industry (Augustyn & Ho, 1998). Services have been singled out as the core component of hospitality and tourism that cannot be compromised, and have formed a dominant construct in marketing strategic assessments of the core competencies required to satisfy customers' needs (Kandampully & Promsivapallop, 2005). In tourism, service standards have also become increasingly demanding on service providers as tourists have become increasingly 'quality sensitive' (Augustyn & Ho, 1998). Chan and Yau (1990) even note that tourism managers treat customer's perceived service value as a superordinate concept, subsuming quality. Over the past three decades, empirical tourism research (Cohen, 1979; Parasuraman et al. 1988; Otto & Ritchie, 1996; Holbrook, 1999; Tam, 2000; Ekinici, Prokopaki & Cobanoglu, 2003; González, Comesana & Brea, 2007) has shown that service quality is an antecedent of satisfaction: top service quality offers greater customer satisfaction as well as promoting repurchase behaviour. In their study on service quality in the tourism industry, Fick and Ritchie (1991) examined four service quality factors that could affect tourists' choice of destinations: airline services, hotel services, restaurant services and ski areas (seasonal offering). They found that the two most important expectations concerning services are reliability and assurance for all four factors.

Recently, Gallarza and Saura (2006) have argued that *efficiency* of tourism products and services affects tourist experience and customer loyalty. Gallarza and Saura (2006, p. 448-449) view efficiency as ‘the antecedent of customer’s loyalty, arguing that tourists’ choice of travel destinations might be the result of a more sophisticated trading-off between price and time, where time is valued prominently as a cost of consuming services’. To meet the ‘efficiency’ requirement, Kandampully and Pomsivapallop (2005) argue that tourism organisations could expand their capabilities to enhance the value of their service offerings and serve the holistic needs of customers through network collaboration with other firms in the market. Kandampully and Pomsivapallop (2005) further contend that the operational efficiency of tourism channels helps determine a destination’s success, because an efficient operation enhances the value of service quality to tourists and thereby generates positive word-of-mouth recommendations. Buhalis (2000a, p. 99) also explains that ‘the success of tourism operation is delivering the right quantity and quality of a product, at the right time, in the right place, at the right cost, to the right customer’. Chathoth (2007) argues that information technology results in operational efficiency of tourism suppliers, thus contributing to a destination’s success, in so far as an efficient operation can enhance the value of service quality to tourists who in turn circulate positive word-of-mouth recommendations. With the increasing recognition of logistics service performance in a number of disciplines, this study argues that there is a relationship between logistics service performance and tourism.

Given the gaps in the previous tourism literature, the main purpose of this study is to develop and empirically test a conceptual model that represents the elements which function as the main factors influencing tourist satisfaction and loyalty. The objective of this study is to examine the relationships among logistics service performance, tourism suppliers’ service quality, perceived service value, overall tourist satisfaction and tourist loyalty. Therefore, this study is designed to address the following research question:

What are the interrelationships among the constructs of logistics service performance, tourism suppliers’ service quality, perceived service value, overall tourist satisfaction and tourist loyalty?

To gain an in-depth understanding of the phenomenon of Taipei tourism, this study uses a mixed methodology including both quantitative and qualitative approaches. Structural Equation Modelling is used within the quantitative methodology, followed by an interview format for the qualitative study — used to enhance understanding of the nature of, and interrelationships among, these constructs. The aims of the research then are:

- (1) To analyse the key elements affecting overall tourist satisfaction and loyalty in a travel destination; and
- (2) To study the influence exerted by each of these dimensions (tourism suppliers' service quality, logistics service performance and perceived service value) on tourist satisfaction, their willingness to recommend Taipei for future visits to others, and the likelihood of revisiting Taipei themselves.

The specific objectives of this study are to:

- (1) Identify the underlying dimensions of Taipei's tourism suppliers' service quality and logistics service performance as perceived by tourists;
- (2) Explore the causal relationships among tourism suppliers' service quality, logistics service performance and perceived service value, and their mediating influence on tourist loyalty; and
- (3) Propose theoretical and managerial implications and suggestions for building Taipei City into a stronger and more unique travel destination.

Through an analysis of the data in this research, we can reveal the determinants affecting tourists' preferences in selecting a travel destination. Only through a full understanding of tourists' needs and preferences can tourism suppliers provide and prepare attractive and competitive products to customers and win their loyalty. The objective of this study, in addition to investigating the current issues discussed in tourism research, is to argue that logistics service performance can be expected to have a determining role on tourist satisfaction. Therefore, in order to gain a deeper

understanding of customers' needs, this study builds a conceptual model (see details in Chapter 2) to examine these constructs' interrelationships.

1.4 Contribution of the Study

This study contributes a theoretical model that explains the impact of logistics service performance on tourist satisfaction and loyalty. The proposed model extends the traditional logistics service quality and performance model which is largely used in the manufacturing field (Stank et al. 1999, 2003; Mentzer, Flint & Hult, 2001; Mentzer, Myers & Cheung, 2004; Wu, 2007). This study proposes that logistics service performance, tourism suppliers' service quality and perceived service value are the antecedents to overall tourist satisfaction, which is the primary influence on tourist loyalty. This study thus adopts and combines factors from both tourism and manufacturing studies into a hypothesised model. International tourists visiting Taipei, Taiwan were used to test this hypothesised model. Furthermore, eight experienced tourism and logistics experts were asked to participate in the interview process that formed the qualitative study. The results of the data analysis of the mixed methodology (Chapter 3) will provide both a statistical explanation (Chapter 4) and an in-depth understanding of the construct relationships proposed in Chapter 2. The conclusion drawn from the key findings of both phases of data collection will present the major theoretical, managerial and methodological contributions of this study. This study will provide suggestions for future research in tourism studies.

1.5 Organization of the Thesis

This thesis is divided into six chapters. Chapter 1 provides an introduction and overview of the significance of this study within tourism research and the tourism industry, as well as outlining the major conceptual ideas and guidelines of this study.

Chapter 2 reviews the literature on service quality, logistics service performance and perceived service value and their relationship within tourist satisfaction and loyalty,

within both tourism and manufacturing theory. A comparison between the tourism and the manufacturing supply chains is discussed in this chapter. Why and how this study builds a conceptual model in the context of past research is also explored.

Chapter 3 explains the methodology of this study. This study used a mixed method design to explore the research framework. Quantitative and qualitative approaches were both employed to assess the proposed model. This chapter includes the research design, the instruments development, the sampling plan, the data collection procedure, the statistical analysis procedure, and the validity and reliability of the research instruments.

Chapter 4 reports the findings of the data screen processes, data analysis from exploratory factor analysis (EFA), confirmatory factor analysis (CFA) on latent variables, and the tests of hypotheses, employed in the Structural Equation Modelling.

Chapter 5 provides a qualitative study of Taipei, Taiwan. Data interpretation from the interviews was used to offer an in-depth understanding of the realities of tourism in Taipei. The transcribed interviews are prepared for coding in the researcher's office and a selective coding procedure is used based on codes representing each dimension in the theoretical construct. Results from the qualitative method were used to confirm and support the quantitative findings.

Chapter 6 presents a discussion of both methods deriving from Chapters 4 and 5, which were used to examine the research question and address the research objective. This chapter also examines the theoretical and managerial implications of this research, makes recommendations for future research, and outlines the limitations of this study.

Chapter Two – Literature Review

2.1 Introduction

In tourism, customer satisfaction and loyalty derive largely from the services and experiences the customer receives in visiting a tourist destination (Tran & Ralston, 2006; Wansink & Ittersum, 2004; Yasin & Yavas, 2001; Yilmaz & Bititci, 2006a, 2006b). Many studies in tourism focus on the travel destination and investigate the significance of creating an attractive tourist destination, thus emphasising the production and marketing of tourism products (Formica, 2000, 2002; Palmer & Bejou, 1995). Researchers tend to agree that the travel destination is an essential part of the tourism industry and a determining factor of a customer's decisions and expectations (Baker & Crompton, 2000; Buckley, 2007; Chi, 2005; Gallarza & Saura, 2006; Hu, 2003; Lee, 2001; Lee, 2003; Schianetz, Kavanagh & Lockington, 2007; Yasin & Yavas, 2001).

Hu and Ritchie (1993) regard a tourist destination as an amalgam of individual products and experience opportunities that combine to form a total experience of the area visited. A destination product can be seen as 'a package of tourism facilities and services', (Hu & Ritchie, 1993, p. 26) which, like any other consumer product, is composed of a number of multi-dimensional attributes. Other studies propose that these attributes should include tourists' expectations, experiences, the destination's service infrastructure, service quality, destination environment, destination image, attraction, price, culture, and political climate (Backman, Uysal & Backman, 1991; Berno & Bricker, 2001; Ballou, Rahardja & Sakai, 2002; Blackman et al. 2004; Buckley, 2007; Hu, 2003). Hu (2003) and Um et al. (2006) contend that most travel destinations comprise attractions, transport services, amenities (i.e. accommodation, food and beverage, entertainment, retail and other services), and ancillary services (e.g. local organisations such as tourist information offices and police stations). All these attributes combine to form a tourism product which aims to meet the needs of tourists and thereby enhance tourist satisfaction (Abeyratne, 1993; Lim, 1997a, 1997b, 1999; Mihalic,

2000; Kozak, 2001; Sirakaya & Woodside, 2005). In short, a travel destination can be seen as a product comprising both tangible and intangible services (Otto & Ritchie, 1996, Smith, 1994). The purpose of tourism product supply is to deliver an experience to visitors and fulfil their needs, resulting in enhanced customer satisfaction and loyalty (Chan & Yau, 1990; Kotler, 1984; Obenour et al. 2006). The next section describes those characteristics of the tourism product that include tourism attraction; price; and facilities and infrastructure.

2.2 Components of Tourism Products

From a customer satisfaction perspective, tourism products can be seen as a combination of different attributing dimensions, such as the destination attractiveness (or attractions in short), price, and facilities and infrastructure services offered by different tourism suppliers (Buckley, 2007; Buhalis, 2000b, 2001; Lubbe, 2005, Meler & Ruzic, 1999; Smith, 1994). Attractions refer to the intrinsic features of the travel destination that attract visitors in the first place (Smith, 1987, 1988, 1994, 1999, Um, Chon & Ro, 2006). Price refers to the cost of travelling to and living in the travel destination (Chen & Soo, 2007; Dwyer, Forsyth & Spurr, 2000, 2004; Lim, 1997a, 1997b; Sinclair & Stabler, 1997). Facilities and infrastructure refer to the hardware or logistics support required to provide the services and experiences to visitors at the destination (Formica, 2000; Kuo & Hsiao, 2008; Smith, 1988, 1994, 1999). These three dimensions represent the different components of a tourism product and are as such considered mutually exclusive. They also cover the major aspects of a tourism product and can be regarded as collectively exhaustive. The following section is an examination of the literature on tourism products, which largely includes a review of tourism attractiveness, price and facilities and infrastructure used in terms of the tourism product.

2.2.1 Tourism Attractiveness or Attractions

In the studies of tourism destination attractiveness, a large number of variables have been identified to describe and represent tourist attractions. For example, Smith (1987) considers historic sites, provincial parks, ski slopes, festivals and tours as tourist attractions. Similarly, Backman and Uysal (1991) regard 'outdoor activity' and 'historic sites/environment' as destination attractions. Following Smith's (1987) approach, Spotts (1997) uses different natural resources, such as 'Lake Michigan Coastal,' 'General Wildland' and 'Parkland' to represent tourist attractions. In summary, previous studies (Brent Ritchie & Zins, 1978; Deng, King & Bauer, 2002; Kim, Cheng & O'Leary, 2007; Meler & Ruzic, 1999; Smith, 1987; Yu & Goulden, 2006) have used natural resources, historic sites, environmental attractions and outdoor activities as indicators to represent tourist attractions. The findings also indicate that cultural or historic features of a travel destination are a major factor of attraction that most tourists find worth an investment of time and money to visit.

2.2.2 Price

Crouch (1992) argues that price is another major factor of consideration for tourists in deciding on travel destinations. Most studies on tourism use price as a general parameter to estimate tourist demand growth. The most commonly used variable is the cost of tourism goods and services (Buckley, 2007; Culpan, 1987; Ellerbrock, 1980; Lim, 1997a, 1997b, 1999; Sánchez, Callarisa & Rodriguez, 2006; Tse, 2001). However, it is difficult to define the exact cost of tourism as it is a function of the total mix of goods and services consumed by an individual visitor, which varies from tourist to tourist. Therefore, the cost of tourism goods and services is frequently represented by published Consumer Price Indices (CPI) (Nicolau & Más, 2006). Other variables such as prices in the destination country relative to prices in the origin country (Lee & Taylor, 2005), air ticket prices (Bieger & Wittmer, 2006), hotel prices (Ainscough, 2005), exchange rates

(Nicolau & Más, 2006), tour service fees (Dwyer, Forsyth & Spurr, 2004), food and beverage costs (Dwyer, Forsyth & Spurr, 2004), and entertainment fees (Dwyer, Forsyth & Spurr, 2004), Dwyer et al 2004) have also been considered.

The tourism literature indicates that price plays an important role in the choice of destination. Dwyer, Forsyth and Rao (2000) and Dwyer, Forsyth and Spurr (2004) and Keane (1997) report that tourists are generally sensitive to price. They compared the prices of 19 travel destinations using the 'Big Mac' Index — prices of food, drink, train travel, petrol, and accommodation — and found that price is a major determinant of travellers' choice of travel locations. The findings suggest that price indices are possible indicators of how competitive a country or city is in comparison with others in becoming a popular travel destination. In the same vein, Ryan and Birks (2005) and Nicolau and Más (2006) contend that if a travel destination offers a competitive price to travellers, it can enhance their motivation of travellers to revisit the same destination.

2.2.3 Facilities and Infrastructure

Khadaroo and Seetanah (2007) confirm many scholars' (Andreatta et al. 2007; Chen, 2002; Cheng, Chen & Chang, 2008; Chew, 1987; Garcia & Tugores, 2006; Gunn, 1988; Inskip, 1991; Martin & Witt, 1988) argument that facilities and infrastructure are a determinant of attractiveness in a travel destination. Smith (1988) proposed that standard tourism facilities and infrastructure should include the following: (1) accommodation (i.e. hotel and motel, guesthouse, hunting and fishing camp sites, etc.); (2) transportation (i.e. air transport, rail transport, and local transport); (3) travel services (i.e. information centres, health and safety facilities, etc.); (4) food services (i.e. restaurants, pubs and cafés etc.); (5) recreation and amusement (i.e. theatres, museums, galleries, sports clubs, golf courses, ski facilities, theme parks and zoos etc.); (6) retail goods (i.e. liquor stores, automobile dealers, gift and souvenir shops and luggage stores etc.); and (7) infrastructure (i.e. road, airport, harbour, water and electricity supply etc.). Other studies (see for example Cha & Uysal, 1994; Kim, 1996; Formica, 2000) have followed Smith's (1988) model. Brey et al. (2007) state that web-based technologies in the hospitality industry due to Internet growth have become an important facility and a

determinant of reaching and maintaining tourists' relationships with suppliers. Their survey (2007) argues that effective web-based technologies can affect repeat travel because of tourists' information search behaviour. Tourists want to save time in researching the available travel products in the destination before their travel, which they can through searching the Internet (Cathoth, 2007). Richey (2003) supports this and states that information management is the most important function of the efficient and effective transfer of product across the supply chain. Therefore, hospitality suppliers need to improve their websites and capitalise on the Internet as powerful direct marketing approaches to customers (Brey et al. 2007). Wu, Wei and Chen (2008, p. 221) further indicate that 'information technology and web-based advertising has been used to redefine tourism and deliver products to end customers'. They agree that web-based technologies belong to the travel product. More specifically, the Internet is a key mediator for suppliers to advertise their products to customers.

It is generally agreed that without a certain level of availability and service quality of facilities and infrastructure, tourists cannot fully enjoy their holidays at travel destinations. The next section evaluates the importance of service quality to the quality of the tourism product.

2.3 Service Quality

Whilst it appears that the constituents of tourism products determine customer satisfaction and loyalty, scholars generally agree that the way a tourism product is served (or the so-called service quality) is also a critical deciding factor (Baker & Crompton, 2000; Crompton & Love; 1995; Cronin & Taylor, 1992; Kandampully & Promsivapallop, 2005; Lee, 2003; Obenour et al. 2006; Sirakaya, Petrick & Choi, 2004; Teh & Cabanban, 2007). Notwithstanding the increasing importance of service quality as a major performance measurement of tourist products, the concept of service quality yet remains somewhat elusive (Akbaba, 2006). Investigations on service quality from the perspective of the customer's experience, perception and perceived value of the service have been performed (Wu, 2006; Zeithaml, 2000; Yasin & Yavas, 2001).

Despite the various approaches, these studies indicate that service quality has to be defined from the customer's point of view.

2.3.1 Definition of Service Quality

Service quality has been defined as how well a consumer's needs are met and how well the services delivered meet their expectations (Su, 2004). In tourism, service quality can be regarded as the tourist's judgement about a product or service's overall excellence or superiority (Zeithaml, 1998). Higher levels of perceived service and performance of tourism suppliers result in increased customer satisfaction and loyalty, and greater revisit intentions (Baker & Crompton, 2000). While service quality is used to measure a tourism supplier's performance, the level of satisfaction can reflect the fulfilment of a tourist's needs. A tourist's experience comprises the activities involved in the visit and the feeling invoked during the consumption of the tourist product. It includes not only the purchase of tangible goods, such as shopping, staying in the hotel or visiting major scenes, but also the experience of intangible hospitality services. The latter is crucial to the impression of a tourist on the destination and his or her intention to revisit in the future. Therefore, many tourism researchers suggest that perceived service quality is a major measurement of service performance to tourism suppliers (Akan, 1995; Alotaibi, 1992; Baker & Crompton, 2000; Chi, 2005; Chi & Qu, 2008; Lin, 2007; Kandampully, 2000; Kandampully & Suhartanto, 2003; Kandampully & Promsivapallop, 2005; Sirakaya, Petrick & Choi, 2004).

2.3.2 Operationalisation of Service Quality

In service research, service quality is believed to impact on behaviour such as repurchase intentions which are related to customers' satisfaction with suppliers' products or services (Baloglu & Uysal, 1996; Wu, 2007). Chacko, Davidson & Green (2005) suggest that improving service quality such as providing efficient, accurate and reliable order and delivery, could increase a customer's repurchase intention. Further, high service quality could lead to positive word-of-mouth referrals and thereby

enhanced customer loyalty. Citing the fast food industry as an example, Stank et al. (2003) contend that high operational performance at low cost is a common approach to gaining a competitive advantage. Stank et al. (1999) recommend that retailers and suppliers invest more money into providing better service quality in channel operation to satisfy customer's needs. The emphasis on the importance of long-term customer relationship and loyalty indicates that service quality is an important factor that indirectly contributes to loyalty through satisfaction (Wu, 2006).

Similarly in tourism studies, La (2005) opines that service quality, as perceived by customers, can significantly influence customer satisfaction. He argues that a professional service quality which consistently meets customers' expectations and earns their trust over a long period of time can create a competitive advantage not easily duplicated by competitors.

2.4 Measuring Service Quality in Tourism

There have been studies on service quality in tourism in recent years focusing on different sectors of the industry such as hotel and accommodation (Akbaba, 2006; Su, 2004; Albacete-Sáez, Fuentes-Fuentes & Llorens-Montes, 2007; Yasin & Yavas, 2001; Wong & Kwan, 2001), food and beverage (Tam, 2000), airports (Andreatta, Brunetta & Righi, 2007), and other facilities and infrastructure (Akan, 1995; Augustyn & Ho, 1998; Qu & Ping, 1999). The findings of these studies suggest that service quality in the tourism industry cannot be totally represented and assessed by the five dimensions of the service quality instrument (Parasuraman et al. 1985, 1988) (see details in Section 2.5.2) commonly used in measuring service quality in manufacturing and other service industries. The reason is that different sectors of the tourism industry focus on different attributes unique to this industry, affecting service quality levels and perceptions of both suppliers and customers. Nevertheless, the widely applied SERVQUAL (Akan, 1995; Alampay, 2003; Augustyn & Ho, 1998; Jun & Cai, 2001; Kandampully, 2000; Lin, 2007) scale can serve as a basis for the development of new scales appropriate for different industries taking into account their unique operational characteristics.

As the tourism industry comprises various services and products which have a high degree of interdependency, it requires more highly competitive service quality than other industries (Eraqi, 2006). Yilmaz and Bititci (2006a, 2006b) also argue that measuring quality in the tourism industry involves greater complexity because tourism is a service sector with a particular complex product that depends on extremely fragmented supply. Each supplier (e.g. hotel, restaurant, travel agency or operators) forms an indispensable link in the tourism supply chain and offers only one element in the overall product. Together such elements determine the tourists' experiences and their expectations of the service quality. Therefore, in terms of service quality in tourism, it makes sense to measure the overall impression of tourists rather than to compare the performance of individual players.

The next section discusses the dimensions used in measurement of service quality in past tourism studies.

2.4.1 Dimensions in Measurement of Service Quality

Various attempts have been made to develop appropriate dimensions to measure service quality in tourism. In the 2005 annual report of the World Tourism Organization, six standards for tourism products are recommended for the tourism bureau to follow. Eraqi (2006, p. 478) summarizes the six standards as:

- (1) 'safety and security of tourist's life and health;
- (2) hygiene of facilities;
- (3) accessibility (for example, removing physical, communication and service barriers);
- (4) transparency (for example, providing effectively communicating and truthful information from suppliers);
- (5) authenticity (for example, making product markedly unique from other similar products); and
- (6) harmony'.

To follow these standards, the participation and collaboration of all players in the tourism supply chain is required. In fact, many scholars agree that total involvement of

suppliers is essential in tourism supply chain management (Buhalis, 2000b, 2001; Kandampully, 2000; Kandampully & Promsivapallop, 2005; Yilmaz & Bititci, 2006a, 2006b). It is believed that the concept of a holistic tourism supply involvement can improve service quality. This is because when different tourism suppliers work as a single entity in a unified channel, they can respond more quickly to the changing need of customers, anticipate and tailor products according to demand and personalize the product provided (Eraqi, 2006). The high interdependence among business partners in tourism makes it more worthwhile, indeed paramount, if all the suppliers work together to form a value chain to deliver products and services to the customer in the most efficient manner (Yilmaz & Bititci, 2006a, 2006b). The tourism supply chain comprises the suppliers of all goods and services that contribute towards the delivery of tourism products to consumers (LMU, 2005). The tourism supply chain includes many tourism products, such as accommodation, transport and tours, restaurants, handicrafts, food production, waste disposal and infrastructure.

2.4.2 Similarities between Tourism and Manufacturing Supply Chains

Despite their differences, a tourism product is similar to a consumer product in supply chain management and logistics support (Buhalis & Laws, 2001). To determine the significance of service quality in tourism, it is appropriate to compare a tourism supply chain with one for consumer products and services. In manufacturing and other industries, the supply chain is defined as a ‘network of retailers, distributors, transporters, storage facilities, and suppliers that participate in the sale, delivery, and production of a particular product’ (Council of Supply Chain Management Professionals [CSCMP], 2006). CSCMP (2006) also defines logistics as ‘the part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customer’s requirement’.

In a supply chain of consumer products, logistics helps to add service value to customers, improve on-time delivery performance, and enable dealers to increase services to customers (Lambert & Burduroglu, 2000). Ketikidis et al. (2008, p. 593)

state that ‘managing a supply chain includes activities such as material sourcing, production scheduling, and the physical distribution system, supported by the necessary information flows’. Ketikidis et al. (2008) further indicate that improving efficiency in information processing can have a positive impact on the logistics distribution and operation. Fulfilling customer satisfaction and maximising profits are the ultimate aims in logistics services.

In the tourism industry, the concept of tourism channel management, which includes an understanding of how products such as attractions, restaurants, hotels, and airlines are sold directly to consumers and how intermediaries serve clients with information to assist in closing sales utilising an indirect distribution system, is likened to that of supply chain management (Laws, 1998). Recently, Buhalis and Laws (2001) and Kandampully and Promsivapallop (2005) and Schiefelbusch et al. (2007) have developed an interest using the concept of supply chain management in the tourism industry.

Buhalis and Laws (2001) and Yilmaz and Bititci (2006a, 2006b) argue that tourism products are distributed to customers through a number of intermediaries such as tour agents and operators like other consumer products (for example, farm commodities distributed from wholesales to supermarkets). These agents and operators can be viewed as wholesalers who purchase their products (i.e. travel packages) from different suppliers such as hotels and airline companies, add service value and then sell them to their customers (LMU, 2005). The linkage of suppliers through intermediaries with end customers forms a network of sales channels similar to a supply chain, although in this case a mid-stream or manufacturer is absent. Furthermore, the main differences between tourism supply chains and manufacturing supply chains are that ‘tourists travel to the product, and the product that they buy has a particularly high service component — in other words, it involves a higher proportion of people in the immediate production of the holiday experience’ (LMU, 2005).

Studies on the comparison of conventional and tourism supply chains and the effective management of the latter (Kandampully & Promsivapallop, 2005; Schiefelbusch,

Kavanagh & Lockington, 2007) have been increasingly evident in the literature in recent years. The tourism supply chain includes raw materials, processing, manufacturing, distribution, retailing, customer use and final disposal. These components form a holiday experience and are bought by tourists. Tour operators play an intermediate role in selling and retailing these tourism products to customers. Figure 2.1 shows a generic tourism supply chain in comparison with one for the manufacturing industry (Figure 2.2). A comparison of the different characteristics of a manufacturing and a tourism supply chain is given in Table 2.1. The key similarities of both supply chains are: (1) suppliers sell their products through intermediaries (i.e. material flow) to the end customers, and (2) suppliers through information flow to contact their customers. However, the major differences between the two supply chains are: (1) tourism suppliers can produce the consumer products by themselves; therefore, tourism supply chain does not have manufacturers; (2) also, tourists can contact and buy the travel products from suppliers directly without the intermediaries; hence, distributors, wholesalers and retailers (i.e. travel operators) are not the only channels in the tourism supply chain as the manufacturing supply chain. The details are shown in Figure 2.1 and 2.2 and Table 2.1.

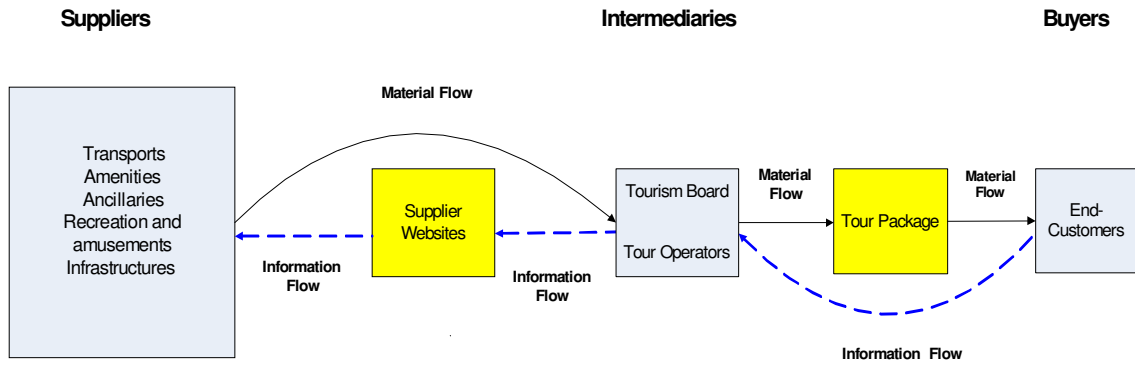


Figure 2.1 Tourism Supply Chain

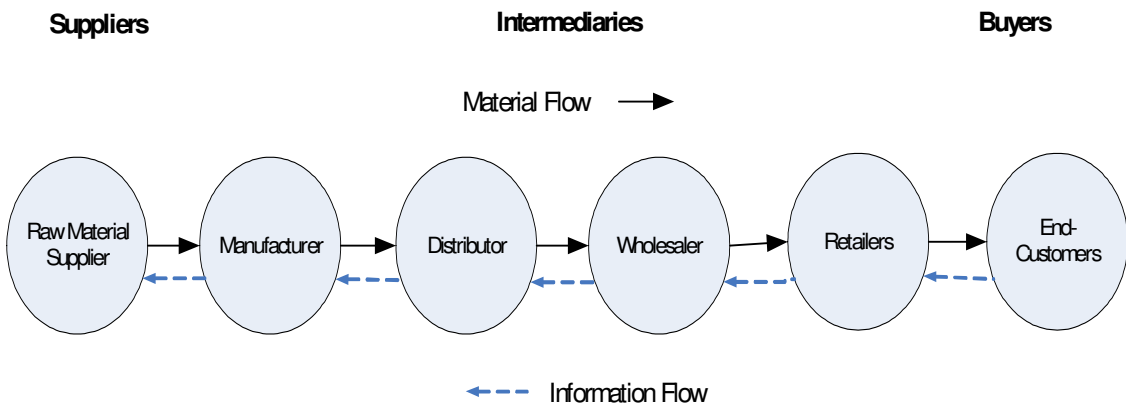


Figure 2.2 Manufacturing Supply Chain

Table 2.1 Comparison between Manufacturing and Tourism Supply Chains

(Source: Compiled from Buhalis, 1998, 2000b and Frankel, 2006)

Characteristics	Manufacturing Supply Chain	Tourism Supply Chain
Material Flow	(1) Product availability — (solution) <i>Outsourcing</i> (2) Align product design with material input — (solution) <i>Supplier design</i>	(1) Identify consumers' needs, requests and expected experiences (2) Assemble tourism products from different providers according to customer expectations (3) Provision of coordinated and seamless tourism products (4) Facilitate the selling process by reserving and issuing travel documents
Cost Reduction	(1) Lack of cross-firm Integration — (solution) <i>Systematic extranet and/or partnership development</i> (2) Increased customer demand for better service and lower cost — (solution) <i>Systematic supplier development programs</i> (3) Supply chain sub — optimisation — (solution) <i>Improved communication with suppliers</i>	(1) Reduction of prices by negotiating and pre — (solution) <i>Purchasing tourism products in bulk</i>
Supply Reliability	(1) Reduce lead time, minimise safety stock, improve order-to-cash cycle — (solution) <i>locate major subcontractors close to assembly plants</i> (2) Streamline procurement — (solution) <i>reduce supplier base</i>	(1) Ameliorate inventory management by managing demand and supply (2) Issue and deliver travel documentation i.e. ticketing, vouchers etc. (3) Assessment of quality of facilities and products (4) Assistance in legal requirements for consumers (e.g. visas) and suppliers (5) Facilitate communications between consumers and suppliers especially in multilingual and multicultural environments (6) Reduce the perceived

		<p>risk for consumers</p> <p>(7) Provision of information by using leaflets, maps, brochures, video, CDs</p> <p>(8) Consumers guidance/advice/consultation</p> <p>(9) Undertake pre- and post-experience market research</p> <p>(10) Facilitation of access to often remote tourism products, for both bookings and purchasing</p>
Order Fulfilment	<p>(1) Inefficient customer fulfilment process — (solution) <i>understand and segment customers</i></p> <p>(2) Inventory availability — (solution) <i>define an order fulfilment plan and develop a recovery plan</i></p>	<p>(1) Establish a clearing system where each channel member receives payments for their services</p> <p>(2) Spreading the commercial risk involved between channel members</p> <p>(3) Arranging details and ancillary services, such as insurance, visa, currency etc.</p> <p>(4) Assume risk when pre-purchasing tourism products</p>
Adapting to the Demanding Customer	<p>(1) Evolution of consumer buying patterns — (solution) <i>develop flexibility and responsiveness tools</i></p>	—
Tradeoffs to Manage Consumer Demand	<p>(1) Forecasting — (solution) <i>collaborative inventory management tools</i></p> <p>(2) Nature of demand for finished goods — (solution) <i>use of data warehousing and data mining and assess degree of certainty versus speculation</i></p>	<p>(1) Promotion of particular products or packages, in cooperation with suppliers</p> <p>(2) Promotion of distressed capacity in low period and at the last minute</p> <p>(3) Complaint handling for both customers and industry</p>

Similar to the management of conventional supply chains, information plays an important role in enhancing service quality in the tourism industry. Buhalis (1998; 2000a, 2000b, 2001), Rabinovich (2007) and Wu, Wei & Chen (2008) argue that the tourism channel needs to increasingly adopt innovative methods such as information

technology to enhance its competitiveness to ensure travellers can access reliable and accurate information, and undertake reservations in the most efficient and effective manner. Like many other effective supply chains, the 'right' distribution channel should provide higher levels of customer service and contribute to greater traveller satisfaction.

In supply chain management, the performance of distribution channels can be measured using cost (i.e. efficiency), or responsiveness to customer demand, or a combination of the two (Aghazadeh, 2004; Beamon, 1999). Despite the fact that a tourism supply chain can be viewed as an integrated process involving a large number of interdependent suppliers each with its own performance indicators, the two generic measures of cost and responsiveness can still be adopted as measures of supply service performance overall (Stank et al. 2003). In order to understand the measurements used in evaluating service quality, this study reviews the logistics service quality used in the manufacturing supply chain in the manufacturing field.

2.5 Logistics Service Performance

To understand the significance of service quality in a tourism supplier's service performance, it is useful to investigate the role of service quality in the manufacturing industry. Conventionally, logistics service quality and performance are major areas of investigation in the field of manufacturing (Al-Mudimigh, Zairi & Ahmed 2004; Daugherty, Stank & Ellinger, 1998; Davis, 2006; Lai, Ngai & Cheng, 2004; Lin, 2007; Stank et al. 1999, 2003; Yuen, 2006). Perreault and Russ (1976) indicate that logistics service quality can enhance product value due to time saving from an efficient distribution. Other factors, such as asset management, cost, customer service and productivity, form the five major components of logistics measurement systems (Fawcett & Cooper, 1998). In manufacturing, logistics service performance has been regarded as a key marketing component that helps to build customer satisfaction and loyalty.

Davis (2006, p. 28) indicates that 'logistics service performance can help to build up a stronger customer relationships which leads to create competitive advantages in the

firm'. Previous manufacturing studies have identified nine concepts to characterize logistics service performance (Bienstock et al. 2007; Daugherty, Stank & Ellinger, 1998; Davis, 2006; Mentzer et al. 2001, 2004; Stank et al. 1999, 2003), which include: (1) personnel contact quality; (2) order release quantities; (3) information technology system support; (4) ordering procedure; (5) order accuracy; (6) order condition; (7) order quality; (8) order discrepancy handling and (9) timeliness. These concepts primarily focused on the physical distribution service function and are used widely in assessing manufacturing operations (Stank et al. 1999). These nine concepts have been commonly adopted to examine the efficiency and service quality, such as availability or timeliness, in the manufacturing and service industries over the past two decades.

Recently, logistics service performance has become the most commonly used measure of the level of damage in transit and the degree of documentation accuracy in operating networks (Wang & Sarker, 2006; Yuen, 2006). Some logistics service performance measurements have been expanded to become just-in-time management practices that emphasise the improvement of both effectiveness and efficiency to meet customers' needs (Mentzer & Williams, 2001). Just-in-time is a time-based technique to minimize inventory and maximize production (Stank et al. 2003). In particular, it is a measurement system that provides accurate, relevant and timely information to manage the entire supply chain which has been made feasible by improvement in information technology such as electronic data interchange, bar-coding and integrated databases (Stank et al. 2003). The next section will adopt the above approaches to discuss the implications of logistics service performance for tourism.

2.5.1 Logistics Service Performance in Tourism

As a tourism supply chain is similar to a manufacturing supply chain (Table 2.1), the concept of logistics service performance should be readily applicable. Mentzer et al. (2001, p. 83) suggest that the 'two elements exist in service delivery: marketing customer service and physical distribution service' could be measured by logistic service performance because of their logistics activities and services. Stank et al. (2003) further contend that, in recent years, logistics service performance has focused more on

customer-based attributes (marketing base) rather than traditional physical distribution attributes in order to understand the customer's perceived value.

Panayides (2007) and Panayides and So (2005) use customer perception attributes in logistics service performance measurement and find a positive impact on the customer relationship due to the logistics service's effectiveness in the delivery of logistics service as a consequence of its performance. This is particularly true for tourism products where the customer's perception of service quality is emphasised. The goals of logistics service performance include on-time service delivery, timely response to requests, accurate information storage and delivery, ability to solve problems, fulfilment of promises, and assisting clients in accomplishing their objectives (Stank et al. 1999, 2003). They are identical in essence to the nine concepts characterising logistics service performance in manufacturing industries.

Mentzer, Flint and Hult (2001) regard availability, timeliness and quality as the three main constructs of logistics customer service. Among the three, quality is the key construct which includes accuracy, timeliness, information quality, customer-orientation, order quality, fulfilment of promises and order discrepancy, and handling responsiveness. Bottani and Rizzi (2006) observe that logistics service performance plays an important role in a competitive scenario. Customers are more concerned about logistics service performance nowadays because customer satisfaction can be achieved when the logistics service performance delivered by the supply chain meets their requirements. Lambert and Burduroglu (2000) contend that customer satisfaction occurs when businesses successfully fulfil their obligations on all components of the marketing mix: product, price, promotion and place. Satisfied customers are typically loyal and are likely to make repeat purchases. Lambert and Burduroglu (2000) further argue that keeping old customers is easier than attracting new ones. Customers who decide to defect are likely to share their dissatisfaction with others. It is more profitable to sell more to existing customers than to find new customers to attain the same level of sales.

The unique characteristics of tourism products, namely intangibility, perishability and inseparability (Yilmaz & Bititci, 2006a, 2006b), and the fact that tourism products are

distributed through a large number of suppliers and intermediaries (Buhalis, 2000a, 2000b; Richey, 2003; Yilmaz & Bititci, 2006a, 2006b) have made logistics service performance a prime consideration in the tourism supply chain. Efficient product delivery and satisfactory service quality, which ensure customer satisfaction and enhance their propensity to revisit, form the basis of competitive advantage. Scholars have agreed that in the tourism supply chain, the willingness of buyers and suppliers to share information and to work in a collaborative manner is the key to success (Buhalis, 2000a; Buhalis & Laws, 2001). Some even contend that better logistics service performance and closer relationships with clients using information technology can help reduce transaction costs (Rabinovich, Knemeyer & Mayer, 2007).

In short, it is believed that logistics service performance plays an equally important role in the tourism supply chain as in manufacturing supply chains in enhancing customer satisfaction and loyalty. Table 2.2 shows the importance of the logistic service performance measures used in manufacturing, adopted from previous manufacturing studies. Developed from manufacturing studies, due to the lack of logistics service performance studies in the tourism literature, this study next presents the performance measures in the manufacturing supply chain.

Table 2.2 Performance Measures in Manufacturing Supply Chain

(Source: Compiled from Mentzer & Williams, 2001; Novack, Rhinehart & Langley, 1994)

Logistics Service Performance Measures	Manufacturing Supply Chain
Tangible	Material, production and distribution management of (a) result and budget (b) inventory value, and capital cost (c) turnover rate (d) productivity (e) internal lead times (f) product quality
Reliability	(a) Delivery performance and quality (b) Order fulfilment Performance (c) Perfect order fulfilment
Professionalism	(a) Know customer's needs well
Responsiveness	(a) Supply chain response in/on time (b) Production flexibility
Courtesy and security	(a) Personnel has a courteous contact manner
Accessibility	Not applicable
Communication, understanding, and complementary offer	(a) Always listen to your customer and make continuous improvements

Logistics service performance measurement can be largely used in measuring. How logistics service capabilities can be leveraged to add customers and increase supplier value through service performance is discussed in the manufacturing studies (Mentzer & Williams, 2001; Novack, Rhinehart & Langley, 1994). How to create an effective customer response-based system, positively affect customer satisfaction and provide a differentiating competitive advantage to customers (Bowersox, Mentzer & Speh, 1995) as the powerful determinants in improving effectiveness and efficiency to fulfil customer's needs could be used in measuring the performance of tourism providers as well. A firm's competitive advantage is the major differentiation to other competitors. In this regard, a Resource-Based Theory is widely used in judging a firm's competitive advantage in manufacturing and management literature (Barratt & Oke, 2007; Eltantawy, 2005; Hoyt & Huq, 2000). In order to enhance the understanding of logistics service performance, the next section reviews previous studies that discuss and provide a definition of logistics service performance.

2.5.2 Dimension of Logistics Service Performance

Studies on logistics service performance (see for example Beamon, 1999; Chow, Heaver & Henriksson, 1994; Davis, 2006; Fawcett & Cooper, 1998; Rabinovich, 2007; Richey, 2003; Stank et al. 2003) suggest that logistics service performance can generally be segmented into two categories: those focusing on service dimensions and those on service outcomes. The service quality measurement instrument, the SERVQUAL scale, developed by Parasurman et al. (1985, 1988), is the most commonly used tool to assess service quality between suppliers and customers in the service industry. SERVQUAL has been adopted and updated by many studies to include different aspects of performance of logistics operation and relationship maintenance in the manufacturing industry (Hovora, 2001; Mentzer & Williams, 2001; Novack, Rhinehart & Langley, 1994; Parasuraman, Zeithaml & Berry, 1988; Stank et al. 2003; Wang & Sarker, 2006; Yuen, 2006). However, little has been done in tourism research on the impact of service quality on logistics service performance.

SERVQUAL has five dimensions as follows: '(1) reliability (i.e. the ability to perform the promised service dependably and accurately); (2) responsiveness (i.e. the willingness to help clients and to improve and provide prompt service); (3) assurance (i.e. the knowledge and courtesy of employees and the ability to convey trust and confidence); (4) empathy (i.e. the provision of caring, individualised attention to customers); and (5) tangibles (i.e. the appearance of physical facilities, equipment, personnel, and communications materials)' (Stank et al. 2003, p. 28). When applied in measuring logistics service performance in the manufacturing industry, the SERVQUAL scale focuses more on tangible actions directed toward physical objects than intangible actions directed toward thoughts and attitudes (Stank et al. 2003). Since different industries have different foci, Schiefelbusch et al. (2007) suggest that researchers should carefully assess which issues are important to service quality in different industries and to modify the SERVQUAL scale accordingly. It is considered that in the tourism industry, both Eraqi's (2006) and Yilmaz and Bititci's (2006a, 2006b) tourism product characteristics should be carefully considered and modified to

fit the logistics service performance measurement. This research therefore includes all the relevant measures in tourism and manufacturing to test the impact of logistics service performance on tourism.

2.5.3 Outcomes of Logistics Service Performance

Some scholars (Baker & Crompton, 2000; Kandampully & Promsivapallop, 2005; Lee, 2005; Teh & Cabanban, 2007) argue that, in the service industry, customer satisfaction results mainly from service quality. As Su (2004, p. 399) claims, 'providing services which customers prefer is a starting point for providing customer satisfaction'. Customer satisfaction is a customer's overall judgment regarding the extent to which product or service performance matches expectations (Stank et al. 1999). Zeithaml (2000) suggests that customer satisfaction should be considered as a cumulative evaluation in the service performance dimension. Also, service performance studies conducted by Akan (1995), Augustyn and Ho (1998) and Aghazadeh (2004) conclude that good service will positively create customer satisfaction, loyalty, and repurchase intention.

Similar findings are evident in many logistics service quality studies including Parasuraman et al. (1988), Novack, Rhinehart and Langley (1994), Hovora (2001), Mentzer and Williams (2001), Mentzer and Williams (2001), Stank et al. (2003), Wang and Sarker (2006) and Yuen (2006). These studies further reveal that logistics operational performance such as product availability, product condition, delivery reliability and speed, and service responsiveness will positively affect customer satisfaction, loyalty and repurchase intention, and assist in gaining market share and profit over competitors. In addition, those findings help to differ the development from existing findings in tourism studies (Chen & Tsai, 2007; Cheng, Chen & Chang, 2008), which also use SERVQUAL scale to develop the tourism suppliers' service and performance. In tourism literature, tourism products and tourism suppliers' service quality are used to measure their impacts on tourist satisfaction and loyalty. However, in the manufacturing literature, each supplier has its own manufacturing or producing activity. Suppliers' activities form a service channel, which is linked together as an

overall performance to affect customers' perceived service value and satisfaction. Therefore, this study separates from tourism suppliers' service performance and logistics service performance to test their impacts on customer satisfaction and loyalty individually.

The next section reviews these four factors in order to understand the overall relationships amongst them.

2.6 Service Quality, Perceived Service Value, Customer Satisfaction and Customer Loyalty

Unlike other consumer products, tourism products are consumed and produced simultaneously in a service (Alampay, 2003). Clients play a significant part in determining the quality of perceived service beyond simply buying tangible goods. Parasuraman et al. (1985) indicate that service quality can be determined primarily after the consumer experiences the entire sales process. Chi (2005), Hu (2003) and Chacko, Davidson & Green (2005) also indicate that service quality is an important antecedent of customer satisfaction. They argue that service quality highly affects a tourist's perceived value of a destination and behavioural involvement in the visit. Thus, Churchill and Suprenant (1982), Cronin and Taylor (1992) and Kozak (2001) suggest that service quality performance could be an appropriate measurement to test customer satisfaction, because the customer is likely to be satisfied when a product or service performance is at a desired level. Some empirical tourism studies (Crompton & Love, 1995; Pizam, Neumann & Reichel, 1978; Qu & Li, 1997) already support the view that service quality performance could be used to test tourists' satisfaction with destinations regardless of existence of any prior customer expectations.

Recent marketing studies (Chen, 2003; Lee, 2005) claim that perceived service value is the important determinant of tourist satisfaction and loyalty. Perceived service 'value' highlights the term of value. Zeithaml (1998) identifies value as: (1) desired and received value at buying and in use; (2) low price; (3) what I want in a product; (4) quality of product; and (4) worth in what I pay and what I give.

The concept of perceived service value can be understood particularly in terms of what a customer needs and expects from a product, and can be used to test tourist behaviour (Chen, 2003). Lee (2005) has stated that perceived service value has an interaction with increasing customer satisfaction based on service quality. From Lee's study (2005), it seems that perceived service value has a stronger influence on satisfaction, behaviour and intention than service quality. Duman and Mattila (2005) use perceived service value as a measurement in the context of tourism. The final result shows that customers care about quality, price and their emotional response to service and reputation. Therefore, perceived service value has become a significant predictor of satisfaction and loyalty, and recent attention has been drawn to the influence of service quality on customer satisfaction and behaviour intention (Petrick, 2004; Lee, 2005). Oh (1999) declares that perceived service value has a stronger and more direct effect through word-of-mouth on loyalty, and indirectly on satisfaction, than service quality.

2.6.1 Perceived Service Value

Perceived service value is a customer's overall evaluation of purchasing (Sweeney & Soutar, 2001). Perceived service value can happen before, during or after buying or use. Some recent research on perceived service value indicates that it is a richer measurement of customers' overall evaluations of a service (Chen & Tsai, 2007; Duman & Mattila, 2005; Lee, 2005). Customers are concerned with every aspect of what they buy when purchasing a product. They are concerned about price, quality, risk, and time value during the purchasing (Oh, 2003). Perceived service value, therefore, includes every single factor affecting the purchasing conditions (Duman & Mattila, 2005; Sánchez et al. 2006). Chen and Tsai (2007) further indicate that perceived service value plays a moderating role between service quality and satisfaction. In summary, value for money, function and benefit from buying a product, as well as service attitude, trust and shopping efficiency, have been primarily used to measure the influence on satisfaction and loyalty in the recent marketing literature (Chen, 2003).

2.6.2 Definition of Customer Satisfaction

Over the past two decades, customer satisfaction research has been largely used in determining service quality, perceived service value, and customer loyalty (Bramwell, 1998; Chi, 2005; Lee, 2005; Oliver, 1981, 1989, 1997; Sweeney & Soutar, 2001; Tam, 2000). Customer satisfaction brings positive word-of-mouth recommendations (Baker & Crompton, 2000), increases loyalty (Gallarza & Saura, 2006; La, 2005), assists in maintaining long-term customer — business relationships (Wu, 2007), and thereby enhances market share and profitability (Stank et al. 2003). Most of the research defines satisfaction in three ways: (1) outcome or response: an emotional, cognitive and cognitive judgment (Stank et al. 2003); (2) the evaluation of a specific focus (i.e. expectation, product or purchasing experience etc.) (Westbrook & Oliver 1991); and (3) response time (i.e. prior to purchase, after purchase etc) (Engel & Blackwell, 1982; Mano & Oliver, 1993).

2.6.3 Operationalisation of Satisfaction

Many studies use the disconfirmation of expectations model as the main operationalisation of satisfaction (Oliver, 1981, 1989, 1992, 1997; Spreng & Mackoy, 1996; Tse & Wilton, 1988). Table 2.3 shows the summary of the operational definitions of customer satisfaction in the literature over the past two decades.

Table 2.3 The Summary Table of Conceptual Definition of Satisfaction

(Source: Adapted from Chi, 2005, p. 36 and Lee, 2005, p. 46-48)

Author(s)	Conceptual definition
Oliver (1981)	A summary psychological state resulting when the emotion surrounding disconfirmed expectation is coupled with the consumer's prior feelings about the experience (p.27)
Westbrook and Oliver (1991)	A post — choice evaluative judgment concerning a specific purchase selection (p.84)
Engel and Blackwell (1982)	An evaluation that the chosen alternative is consistent with prior beliefs with respect to that alternative (p.501)
Tse and Wilton (1988)	The consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption (p.204)

Oliver (1992)	A summary attribute phenomenon coexisting with other consumption emotions (p.242)
Mano and Oliver (1993)	An attitude-like post-consumption evaluative judgment varying along the hedonic continuum (p.454)
Halstead et al. (1994)	A transaction — specific affective response resulting from the customer’s comparison of product performance to some pre-purchase standard (Oliver 1989) (p.122)
Oliver (1997)	The consumer’s fulfilment response. It is a judgment that a product or service itself provided a pleasurable level of consumption-related fulfilment, including levels of under — or over — fulfilment (p.13)

Lee (2005) suggests that satisfaction is determined by tourists comparing their perception of service performance to expectations. Lee (2005, p. 48) further summarises that ‘a tourist’s expectations are confirmed when a service performs as expected; positively disconfirmed when the service performs better than expected; and negatively disconfirmed when the service performs worse than expected’.

In tourism studies, satisfaction is largely used to confirm that service quality meets tourist expectations. Tam (2000) suggests that satisfaction is more positively related to a perceived performance than to a disconfirmation measure of satisfaction. Crompton and Wilson (2002) indicate that when tourists perceive a high level of service quality, they are more likely to experience higher levels of overall satisfaction with the service. Thus, in tourism research, satisfaction and service performance (quality) are strongly connected in terms of measuring future revisit intentions. Service quality and perceived service value are usually viewed to satisfaction, which leads to loyalty. The next section presents the outcome of service quality: perceived service value, logistics service performance and satisfaction and loyalty.

2.6.4 Definition of Loyalty

Loyalty has been widely researched over the past three decades (Alegre & Clasera, 2006; Alexandris, Kouthouris & Meligdis, 2006; Jacoby & Chestnut, 1978; Knox & Walker, 2001; Oliver, 1997). Jacoby and Chestnut (1978) define loyalty as a customer’s repeat purchase patterns of the same brand over time. They further indicate that loyalty should include both behavioural and attitudinal components. Iwasaki and Havitz (1998)

suggest that behavioural loyalty is not sensitive to exploring the underlying development of the process of loyalty-formation. Therefore, the construct of behavioural loyalty could be separated from the attitudinal component (Amine, 1998; Lee, 2003). However, many studies still combine an initial attitudinal loyalty with an affective manner (such as emotion, feeling, mood or primary affect) (Lee, 2003), followed by an intentional stage (such as trust, fidelity or conviction) (Lee, 2003; La, 2005), which is all finally expressed through tourist behaviour (Knox & Walker, 2001; Oliver, 1997).

2.6.5 Operationalisation of Loyalty

Most marketing studies use repurchasing behaviour as the most important manifestation of customer loyalty (Chi & Qu, 2008; Henning-Thurau et al. 2002; Litvin, Goldsmith & Pan, 2008; Walker & Francis, 2002; Yüksel & Yüksel, 2007). However, Baloglu et al (2002) suggest that repurchasing behaviour can also be affected by various latent factors such as economic incentives or lack of alternatives. Thus, loyalty can not be viewed only as the product of the total number of repurchasing behaviours. Other factors like word-of-mouth recommendations, positive comments, willingness to forgive occasional mistakes, giving preference to a firm over its competitors and resistance to enticements from competitors are thus also commonly used to measure the level of loyalty. Henning-Thurau, Gwinner & Gremler (2002) and Chen and Tsai (2007) suggest that the most valuable benefit of loyalty is repeat customers bringing their friends to purchase from the same company. In short, in order to achieve a reliable measurement of customer loyalty, it is important that all the related factors should be considered in the assessment.

2.6.6 Customer Satisfaction and Customer Loyalty in Tourism

Customer satisfaction is often viewed as a key factor of repurchase behaviour because higher satisfaction results in higher customer expectations (Su, 2004). Consumers are 'less likely to change to a new business that does not compete on the basis of customer satisfaction' (La, 2005, p. 18-19). For the last two decades, customer satisfaction has been identified as a major determinant of loyalty (Akan, 1995; Chi, 2005; Hu, 2003,

Ping, 1993; Su, 2004; Wu, 2006; Yu & Goulden, 2006). Many studies have reported that customer satisfaction can achieve higher loyalty, positive word-of-mouth recommendations, and increase market share and profitability (Amine, 1998; Ballou, Rahardja & Sakai, 2002; Heskett, 2002; Oliver, 1997). Customer satisfaction functioning as an important antecedent of loyalty and the relationship between service quality and loyalty have been well established and confirmed in the marketing and management literature (Amine, 1998; Baker & Crompton, 2000; Becker, 1960; Johnson, 1973; Oliver, 1997; La, 2005; Wu, 2006). Loyalty as an outcome to those factors has been largely confirmed in these studies.

Customer loyalty has been defined as a repeated purchasing frequency or an intention or actual behaviour to repeatedly buy certain products (Stank et al. 1999). Hence, consumers can generally be considered to be loyal when they hold favourable attitudes toward a firm or its products or services, and when they repeatedly purchase from that company (Wong & Sohal, 2003). In order to understand customers' needs and purchasing behaviours, scholars have employed a variety of approaches to determine the factors impacting on loyalty. Among them, word-of-mouth, repurchasing intentions, complaint behaviour, willingness to pay more, and intention to buy more products are the most commonly used factors in loyalty measurements (Amine, 1998; Baker & Crompton, 2000; Becker, 1960; Johnson, 1973; Oliver, 1997; Knox & Walker, 2001; Wong & Sohal, 2003; La, 2005; Wu, 2006). These five factors have been confirmed and used to represent the definition of loyalty.

Notwithstanding, repurchase behaviour is considered to be the most important manifestation of loyalty (Knox & Walker, 2001; Wong & Sohal, 2003). Findings of many studies, such as Baker and Crompton (2000) and Zeithmal (2000), suggest that it is important to consider all relevant aspects of consumer behaviour that may be less prominent but nonetheless important indicators of loyalty in order to achieve a reliable assessment of customer loyalty. In this regard, loyalty behaviours such as old customers who are willing to promote and advertise the company through word-of-mouth to attract new customers and contribute to the firm's marketing sustainability cannot be ignored

(Heskett, 2002). This is particularly important in the tourism industry as word-of-mouth recommendations are a major way to sustain demand and attain market share.

In tourism studies, in order to assess tourists' intention to revisit, many social psychologists have also confirmed that higher tourist satisfaction leads to stronger tourist loyalty (Neal, Sirgy & Uysal, 1999; Pizma, Neumann & Reichel, 1978; Tsai, 2003). In a recent study, Lee (2005) reported that tourist satisfaction results in a positive tourist revisit behaviour. Oliver (1997, p. 34) further defines customer loyalty as a 'deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behaviour'. In short, many studies (see for example Clements & Josiam, 1995; Gitelson & Crompton, 1984; Murphy, Pritchard & Smith, 2000) report that tourist satisfaction is a key factor in determining loyalty. Further, service quality should be measured from actual service performance because it directly affects tourist satisfaction and indirectly results in loyalty.

Findings from other studies (for example, Akan, 1995; Laws 1998; Baker & Crompton, 2000; Ekinci, Prokopaki & Cobanoglu, 2003; Chi 2005, González, Comesana & Brea, 2007), using service quality as an antecedent to test its relationship to customer satisfaction and loyalty, reveal that service quality positively affects customer satisfaction. Table 2.4 summarises the major findings of previous studies on the relationship between service quality, customer satisfaction, and loyalty in tourism. It can be inferred that customer satisfaction, and service quality are both important antecedents of loyalty.

Table 2.4 Studies on Relationship between Service Quality, Customer Satisfaction and Loyalty in Tourism

Author(s)	Methodology	Database	Major Findings
Akan (1995)	A questionnaire survey is distributed to tourists who are at Istanbul international airport. Four different service performances have been tested including their importance to satisfy customers. A factor analysis is used in this study to analyse data.	228 samples are completed and return the questionnaires.	The service quality (such as employ performance, facility availability and price strategy) has a string effect to customer satisfaction, which directly influences repurchase intention.
Laws (1998)	Exploratory case study of visitor management at Leeds Castle. Also, using a visitor diary method to analyse tourist experience and satisfaction toward service quality.	The visit diary record in Leeds Castle, England.	A key finding of this study is that managing services for quality is to understand the satisfaction clients anticipate when purchasing a service.
Baker and Crompton (2000)	A questionnaire survey is employed to test the relationship among performance service quality, satisfaction and behaviour intention. A structural equation modelling is used to test the relationships among constructs.	A total of 369 participants who attended the festival returned their questionnaires.	Found that perceptions of quality of tourism supplies had a strong relationship to quality. Tourism suppliers need to invest in the supplies in order to meet an acceptable level of performance quality to satisfy customers.
Tam (2000)	A questionnaire survey is employed to test the relationship among performance, service quality, satisfaction and behaviour intention. A regression analysis is used to test the importance of effect between dependent	A total of 200 questionnaires distributed to customers who eat in a Chinese restaurant in north England in the summer of 1998 - a three-week investigation.	Service quality affects customer loyalty through satisfaction. Perceived value (i.e. price, convenience and availability of service) is the primary consideration to meet customers' expectations and has

	variable and independent variable.		a stronger and more direct influence on satisfaction and loyalty.
Ekinci, Prokopaki and Cobanoglu (2003)	A questionnaire survey is distributed to UK tourists who visit Cyprus in order to test the relationship among overall service quality, satisfaction and intention behaviour. A factor analysis is used to analyse data.	A total of 120 questionnaires are returned which are distributed in Heraklion Airport in July of 2000.	Service quality dimensions (such as tangible, intangible and overall satisfaction) are significantly affecting customer satisfaction and indirectly affect loyalty.
Chi (2005)	A questionnaire survey is distributed to tourists who visit Eureka Springs in order to test the relationship among overall destination image, satisfaction and loyalty. A structured equation modelling is used to test the relationships among constructs.	A total of 345 questionnaires are returned during the 20-day survey at the Eureka Springs' Welcome centre.	Service quality would be the most important factor than others (i.e. facilities, atmosphere and culture) to satisfy tourists' needs.
González, Comesana & Brea (2007)	A questionnaire survey is used to test the importance of service quality to customer satisfaction and loyalty in a Spanish spa resort. A regression analysis is used to analyse the relationships between variables.	A total of 100 questionnaires are returned.	High level of perceived service quality can improve customer satisfaction and intention behaviour (loyalty). High service quality level can increase word-of-mouth advertising and buying intention and decrease price sensitivity.

The existing literature also reveals that perceived service quality and customer satisfaction have long been dominating constructs in tourism marketing studies (Baker & Crompton, 2000; Bhattacharjee, Haider & Tanaboriboon, 1997; Weiermair & Fuchs, 1999). Many suggest that service quality influences customer satisfaction directly,

which in turn influences customer loyalty or intention to revisit (Wilkins, Merrilees & Herington, 2007; Jang & Feng, 2007). In other words, customer satisfaction plays a mediating role between service quality and customer loyalty. Walker and Francis (2002) contend that high perception of service quality triggers a satisfying feeling, which increases repurchase intention. Other researchers also concur that high perception of service value lead to greater satisfaction and affect intentions to repurchase (Tam, 2000; Tsaor & Wu, 2005; Woodside & Dubelaar, 2003).

In comparison, the impact of service quality on customer satisfaction and loyalty in other industries has been thoroughly investigated (Mentzer & Williams, 2001; Stank et al. 2003). In many studies of manufacturing and service industries, service quality is frequently measured by the level of responsiveness, empathy, assurance and reliability of a service supplier (Parasuraman, Zeithmal & Berry, 1985, 1988). The SERVQUAL model is the most commonly used instrument to measure service quality as provided by suppliers and perceived by customers. The SERVQUAL model in tourism studies needs to be modified due to the unique characteristics of tourism products.

As Yilmaz and Bititci (2006a) point out, tourism products have three distinctive characteristics unique to the tourism industry which render them different from other manufactured goods. These are: (1) intangibility (i.e. services that cannot be seen or touched prior to purchase); (2) perishability (e.g. an airplane seat or hotel bed which cannot be stored for future sale); and (3) inseparability (e.g. customers have direct experience of the production of the service and they are an integral part of the service process) (Baker and Crompton, 2000). These three unique characteristics of tourism products make it difficult to define and measure service quality in tourism.

These characteristics also make the tourism industry highly interdependent — that is dependence between the various players is high — and increase the significance of service quality. If one sector of the tourism supply chain fails to deliver a service, this will inevitably generate an effect on other sectors. This interdependency between sectors is effective on the overall service quality that the consumers perceive (Yilmaz & Bititci, 2006b).

Therefore, unlike in a sequential supply chain of physical products where individual players can focus on their own service quality on a piece — meal basis, service quality in a tourism supply chain demands a more holistic and collaborative approach from all tourism suppliers (Kandampully & Suhartanto, 2003; Kandampully & Promsivapallop, 2005). Since service quality in the tourism industry is basically an overall impression which is an amalgam of satisfactory travel experiences and a meeting of tourist expectations, it can easily be changed if one of the many tourism suppliers fails to perform and affects the tourists' perceived value through a service process (Buhalis, 2001). Therefore, it is important for all tourism suppliers to work together to improve the quality of service. For consumer products, it has been established that perceived value of service quality through the whole purchase experience will affect the intention to repurchase (Harrington & Power, 2001). Likewise, improved service quality in the tourism industry is considered to be antecedent of customer loyalty or intention to revisit.

2.7 Conceptual Model and Research Hypotheses

A summary description of the constructs of the conceptual model is given. The research hypotheses are based on the previous literature described through section 2.2 to section 2.6. Tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty are the five constructs which will be tested and analysed in the following chapters.

2.7.1 Tourism Suppliers' Service Quality

In tourism research, service quality has been extensively examined over the past two decades (Akan, 1995; Alotaibi, 1992; Baker & Crompton, 2000; Chi, 2005; Kandampully, 2000; Kandampully & Promsivapallop, 2005; Oh, Kim & Shin, 2004; Priskin, 2001; Sirakaya, Petrick & Choi, 2004). The SERVQUAL model (Parasuraman, Zeithmal & Berry, 1985, 1988) is the most commonly used instrument to measure service quality as provided by suppliers and perceived by customers. However, this study emphasises tourism suppliers' service quality in the context of logistics service

performance and overall tourist satisfaction. Thus, this study focuses on the logistics service performance measures in this dimension for the purpose of observing the overall tourism supply chain.

Improving customer satisfaction is the major service dimension in the logistics service industry. In order to assess the logistics capabilities and performance affected by suppliers' service quality, the SERVQUAL scale is largely used to carry out the application of logistics service performance measures and has been thus adopted into different service industries. Mentzer et al. (2001) point out that service quality is an attempt to understand a customer's satisfaction from the perspective of various needs. Bienstock et al. (1997) started modifying the SEVQUAL scale to measure logistics service performance. The modified SERVQUAL commonly focuses on customers' perceived service value, operational attributes and different product availabilities. The elements of this analysis include the following:

- (1) Based on many consumer behaviour studies (Hartline & Ferrell, 1996; Sparks, 2007; Wilkins, Merrilees & Herington, 2007), personnel service quality is an antecedent of operational performance. Daugherty, Stank and Ellinger (1998) and Stank et al. (1999) indicate that communications and responsiveness which are major service quality elements adopted from SERVQUAL have been shown to have a positive relationship with customer satisfaction. Therefore, this study uses personnel service quality as one of the dimensions in total tourism supplier service quality.
- (2) Buhalis and Law (2008), Lo, Cheung and Law (2004), Richey (2003) and Yuen (2006) suggest that information systems availability and service quality play an important role in connecting customers and suppliers together efficiently. Thus, information system quality will be used to examine the quality of reservation systems of tourism suppliers. Shapiro and Varian (1999), Chen and Well (2000), Chu and Choi (2000), and Morey, Shaw & Rowe (1991) suggest that information, including that on the web, should be adequate, truthful and reliable. Before purchasing a product, online users rely heavily on the information available on the website, which in turn determines their decision to buy.

- (3) The availability of tourism products which are requested by tourists is important in service quality. Customers can be satisfied when they are able to obtain the quantities they desire (Kisperska-Moron, 2005; Oh, 2003). Also, product availability is an important element in the manufacturing industry (Mentzer and Williams, 2001). To test the tourism supply chain performance, the indicator of providing the right quantity and quality of a product or service to tourists is an essential service performance measurement (Buhalis, 2000a).

Recent tourism literature (Chi & Qu, 2008; Lo, 2007) includes information systems availability and service quality in product availability. In the manufacturing studies (Mentzer, Flint & Hult, 2001; Mentzer, Myers & Cheung, 2004; Stank et al. 1999; 2003), the modified SERVQUAL in logistics service performance, however, commonly separates information service quality and the availability of products into two factors. This study adopts the concept of Mentzer, Flint & Hult (2001) and considers testing the impact of information service quality on logistics service performance. Therefore, this study uses three factors in the dimension of tourism suppliers' service quality.

2.7.2 Logistics Service Performance

In the manufacturing industry, the logistics service performance requested by customers is emphasized. Logistics service performance essentially emphasises the ability to handle order processes in a supply chain (Cheung et al. 2006; Mentzer, Flint & Hult, 2001; Mentzer, Myers & Cheung, 2004; Stank et al. 1999; 2003; Yuen, 2006). Through an examination of the unique characteristic of tourism products (Eraqi, 2006; Kisperska-Moron, 2005; Yilmaz & Bititci, 2006a, 2006b) — order accuracy (the right quantity of tourism product), order quality (how well the tourism product is presented and the supplier's commitment to provide a promised product delivery as scheduled), order efficiency (the concept of just-in-time to minimise inventory and maximise tourism production), and order discrepancy (the ability to handling the wrong order) — we can understand how efficiently and functionally tourism suppliers handle orders in the context of the perishability and inseparability of their tourism products.

Based on the existing literature, tourism suppliers' service quality is defined as perceptions of service quality performed by service suppliers which contributes to service quality, information efficiency and product availability. Richey (2003), Stank et al. (1999), Stank et al. (2003) and Davis (2006) suggest that service quality of suppliers has a positive influence on logistics service performance. They contend that professional service quality results in positive logistics service performance. Scannell et al. (2000) also indicate that high quality service performance results in positive suppliers' logistics service performance. For example, Richey (2003) asserts that availability of information technology systems can process and facilitate efficient and effective product service flow across the supply chain. He indicates that a high quality of information service and technological ability can bring out satisfactory logistics service quality and performance. In fact, Yilmaz and Bititci (2006a) indicate that order accuracy and quality is a main difference to win the satisfactory customer satisfaction in the tourism industry. They (2006b) include order accuracy and quality into one measurement scale to test its impact on tourist satisfaction. In addition, Yilmaz and Bititci (2006a) assert that how to serve customers efficiently and help them to change products quickly and flexibility is the main advantage of tourism suppliers to reach the high quality of services. In order to further understand this causal relationship within tourism, this study adopts SERVQUAL scale based on the previous discussion in the examination of tourism operation's attribute, and hypothesises that:

H1: Tourism suppliers' service quality positively influences logistics service performance.

2.7.3 Perceived Service Value

Perceived service value has been discussed in many marketing studies as 'one of the most silent determinants of customer satisfaction and loyalty' (Lee, 2005; p. 39). Lin (2007, p. 115) summarises that 'the perceived service value is the result of the customer's overall evaluation of the benefits gained by the customer (from a product or service) and the costs (i.e. money, time, efforts and energy) that he paid'. Lee (2005) and Um et al. (2006) indicate that after the customer receives the service provided, he or she might think the service value is more important than the cost in money or time.

There are four definitions of service value which have been used in past studies (Parasuraman & Grewal, 2000; Tian-Cole et al. 2002; Tsaur & Wu, 2005; Zeithaml, 1998). Lee (2005) concludes by defining perceived service values as: (1) value is low price; (2) value is whatever I want for a product; (3) value is the quality I get for the price I pay; and (4) value is that I get what I give. Most of the marketing studies suggest that an assessment of perceived service value should include a comparison of what a customer receives from product service quality (Lin, 2007). Zeithaml (1998), Tam (2000) and Lee (2005) report that perceived service quality directly leads to service value, and then leads to satisfaction and loyalty. Many other empirical studies in marketing support the positive relationship between service quality and customer satisfaction (Stank et al. 1999, 2003; Um, Chon & Ro, 2006). Professional service quality provides suppliers with enhanced insight regarding customer needs and wants (Stank et al. 1999, 2003). Furthermore, professional logistics service performance offers a firm the right amount of the right product at the right place at the right time in the right condition with the right information (Bienstock et al. 2007; Davis, 2006). Researchers conclude that service quality can directly or indirectly, through logistics service performance, enhance operational performance and efficiency resulting in customer satisfaction (Cheung et al. 2006; Yang, Humphreys & McIvor, 2006). These findings are the evidence to support the view that service quality and logistics service performance influence satisfaction.

Based on the previous literature, findings show that service quality can positively, both directly and indirectly, affect customers' perceived service value leading to customer satisfaction. Hence, this study hypothesises that:

H2: Tourism suppliers' service quality positively influences perceived service value.

H3: Tourism suppliers' service quality positively influences overall tourist satisfaction.

H4: Logistics service performance positively influences overall tourist satisfaction.

H5: Perceived service value positively influences overall tourist satisfaction.

2.7.4 Overall Tourist Satisfaction

Overall satisfaction is a much broader concept based on a holistic evaluation after purchase (Anderson & Fornell, 2000). Oliver (1997) indicates that overall satisfaction is not simply the sum of the individual assessments of each satisfactory attribute, but rather overall satisfaction and attribute satisfaction are distinct, though related, constructs. Many tourism studies support this view and use overall satisfaction as a major attribute except individual satisfaction attribute (Chi, 2005; Kandampully & Suhartanto, 2003; Lee, 2005). Those tourism studies mostly use tourist loyalty as an outcome that is affected by service quality, perceived service value, and overall tourist satisfaction as a mediating influence before loyalty.

2.7.5 Tourist Loyalty

In the tourism field, researchers generally consider tourism loyalty to be the result of an experience of travel (Lee, 2001), tourists' participation in travel activities (Hu, 2003), and 'the degree of interest in tourism product and the affective response associated with it' (Manfredo, 1989, p. 178).

In recent decades, tourism researchers have explored tourist loyalty in different tourism fields, such as shopping (Yüksel & Yüksel, 2007), golf (Markwick, 2000), risk adventure (Weber, 2001), and seasonal festivals (Lee, 2005) with different consumer behaviour involvement dimensions such as risk (Fujii, 2007; Hu, 2003; Toovey, 2006), price (Lee, 2005), service quality (Chi, 2005; Kandampully, 2000; Kandampully & Promsivapallop, 2005) and lifestyle (Lee & Sparks, 2007; Lyons et al. 2002). These researchers found that different travel activities could result in different levels of tourist loyalty, which could be due to the fact that tourism products are complicated in each field. Therefore, researchers test loyalty with different constructs because of the difference in tourism involvement (Chi, 2005; Hu, 2003; Lee, 2001; Lee, 2005).

However, as reviewed throughout this chapter, there are a few studies which test tourist loyalty using the effect of logistics service performance.

Therefore, as there are many studies investigating consumer behaviour to test loyalty in tourism, logistic service performance is a new construct which could be used to test the impact on tourist loyalty. Based on the above discussion, this study hypothesises that:

H6: Overall tourist satisfaction positively influences tourist loyalty.

Briefly summarising the above review, a conceptual model on the relationship among logistics service quality, logistics service performance, service value, overall tourist satisfaction and loyalty with all hypotheses is illustrated in Figure 2.3.

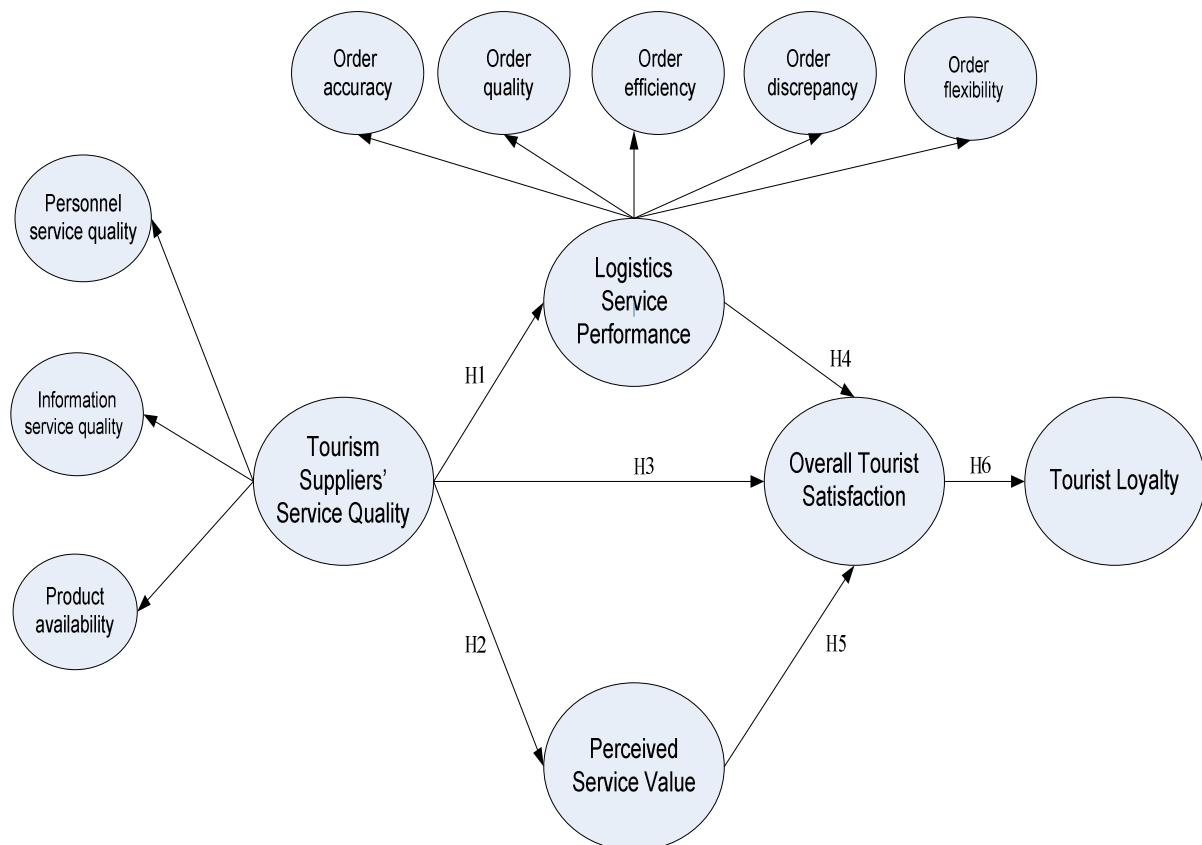


Figure 2.3 A Conceptual Model and Hypotheses

The conceptual model is proposed based on the literature review. The five constructs are associated to be tested their interrelationships. Six hypotheses are made based on the literature review through section 2.2 to 2.6.

2.8 Conclusion

This study argues that tourism suppliers' service quality and performance plays an equally if not more important role as that of the other dimensions in contributing to customer satisfaction and loyalty. The basis of this argument is that a tourism supply chain is similar to a manufacturing supply chain in terms of structure and interaction between parties. The existing literature has established that logistics performance in conventional supply chains can determine the competitiveness of the whole chain against others. This is because good logistics help not only to cut operating costs but also add value to the final product or service to differentiate it from others available in the market. Therefore, various players in the chain work closely together to produce and deliver a unique quality product or service to the end customer to meet their needs. Each party in the supply chain strives to add to the total value of the product or service so as to maximise total customer satisfaction, the attainment of which yields a competitive advantage to the individual player as well as an enhanced competence to the whole chain.

The unique characteristics of a tourism supply chain — namely intangibility, perishability and inseparability — render the task to secure customer satisfaction more challenging and important. As the production and consumption of a tourism product generally occur at the same time, tourism suppliers, travel agents and tour operators need to collaborate closely to achieve great efficiency, responsiveness, cost-effectiveness and high customer service level. The high level of interdependency makes value-adding through excellent logistics service performance the top priority of the chain. This is because if one link fails to perform, all the others will be affected regardless of their performances, as in tourism customer satisfaction in the tourism industry builds on the total experience and meeting of expectation. Therefore, if high

service quality or logistics service performance in tourism is not maintained, overall customer satisfaction will decline and customer loyalty or intention to revisit will not be diminished.

As service quality or logistics service performance within tourism is so important in determining overall customer satisfaction and loyalty, it will be profitable for tourism suppliers, travel agents and tour operators to pay more attention to this dimension of the tourism product. Whilst greater collaboration using real-time information technology is the major approach to providing a high quality and efficient service, more research to further explore the avenues for achieving greater flexibility and cost-effectiveness is desirable. To supplement the current literature, further studies on the impact of logistics service performance on tourist satisfaction and loyalty from both theoretical and empirical perspectives are recommended.

Chapter Three – Research Methodology

3.1 Introduction

This chapter describes the mixed methodology used in this study which involved both quantitative and qualitative data collection and analyses. First, a quantitative study was undertaken to help develop a framework for investigating the importance of tourism suppliers' service quality and logistics service performance in the tourism industry. Then, a qualitative study was conducted to understand the statistical findings of the quantitative survey.

Dooley (2002) states that qualitative data can promote an understanding of theory concerning the relationships that surface from quantitative procedures. Sarantakos (2005) further indicates that quantitative research is objective and seeks explanatory theory while qualitative research is subjective and aims at in-depth description. The strengths of the multi-method approach are that different perspectives on the same issue are collected, allowing for greater interpretation of the results and a more comprehensive understanding of the research problem (Teddlie & Tashakkori, 2003). Multi-method research aims to confirm and cross-validate research results using two methods to minimise the weaknesses within each individual method (Teddlie & Tashakkori, 2003). Qualitative methods can provide a greater quality of data to make up for the limitation in quantitative methods. This research employed both methodologies to triangulate and yield more comprehensive and meaningful data in answering the research questions and in achieving the following research objectives:

- (1) To measure the interrelationships among the constructs of tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction, and tourist loyalty; and
- (2) To identify the contribution of tourism suppliers' service quality, logistics service performance and perceived service value in enhancing tourist satisfaction and loyalty.

The quantitative part of the method used a questionnaire survey of international tourists in Taipei to test six hypotheses relating to the impacts of tourism suppliers' service quality, logistics service performance and perceived service value on overall tourist satisfaction and loyalty. The six main hypotheses as generated in Chapter 2, section 7 are as follows:

H1: Tourism suppliers' service quality positively influences logistics service performance.

H2: Tourism suppliers' service quality positively influences perceived service value.

H3: Tourism suppliers' service quality positively influences overall tourist satisfaction.

H4: Logistics performance positively influences overall tourist satisfaction.

H5: Perceived service value positively influences overall tourist satisfaction.

H6: Overall tourist satisfaction positively influences tourist loyalty.

A qualitative method was then conducted to examine in detail how service quality and the performance of tourism suppliers' impact on using tourist satisfaction and loyalty, using Taipei as a travel destination in the qualitative study. The analysis also provided insights on important community issues such as tourism service quality, perceived service value, overall tourist satisfaction and loyalty.

3.2 Research Design

3.2.1 A Mixed-Method Approach

This study was designed to use a mixed-method approach following current tourism research trends. In recent years, tourism studies (Lee, 2001; Lee, 2003; Chi, 2005; Lo, 2007) have adopted a quantitative approach utilising a sequential explanatory design involving data collection and analyses. Most studies used the quantitative method to test models and hypotheses developed from current literature and theory. This study follows the conventional approach but also understands the quantitative findings with a qualitative study to determine how tourist satisfaction and loyalty are affected by

logistics service quality and performance in reality. The merits of using a multiple research method are well known. Creswell and Plan-Clark (2007) and Crewerr et al. (2003, p. 212) argue that ‘a mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which data are collected concurrently or sequentially, are given a priority, and involves interaction of the data at one or more stages in the process’. Cresswell et al. (2007) indicate that qualitative research helps to explain by interpreting the results through distinct paradigms that correspond to the findings from quantitative studies, thus avoiding the limitations of single methods. Therefore, a mixed method can be reinforced by integrating quantitative and qualitative data analyses (Creswell et al. 2007). Teddlie and Tashakkori (2003) similarly state that the qualitative method brings a more in-depth understanding to reinforce the explanation of statistical results of quantitative data. For these reasons, a multiple method is adopted in this study.

In the first part of the research, a theoretical framework depicting several hypothesised relationships among the constructs and the dependent variables based on the literature was developed. A questionnaire survey was then undertaken to collect data to test these hypothesised relationships. In the second part of the research, a qualitative study was conducted to investigate the impacts of logistic service performance on overall tourist satisfaction and loyalty using the city of Taipei as an illustrative example. The aim was to use the case study findings to provide evidence to support the results of the quantitative analysis as well as to propose some generic guidelines on improving overall tourist satisfaction and loyalty through the provision of better logistics service quality and performance. In the following sections, both the quantitative and the qualitative methods are described in detail.

3.2.2 Quantitative Method

3.2.2.1 Method

The major purpose of this study was to test the impact of logistics service performance in tourism as described in Chapter 2. The proposed model explains how tourism

suppliers' service quality, logistics service performance, perceived service value, and overall tourist satisfaction affect tourist loyalty. Due to a few measurements in the dimension of perceived service value, overall tourist satisfaction, and tourist loyalty, therefore, only tourism suppliers' service quality and logistics service performance are included in the test of exploratory factor analysis and confirmatory factor analysis. An overview of the steps taken to develop the methodological framework is presented in Figure 3.1. The following discussion explains its development.

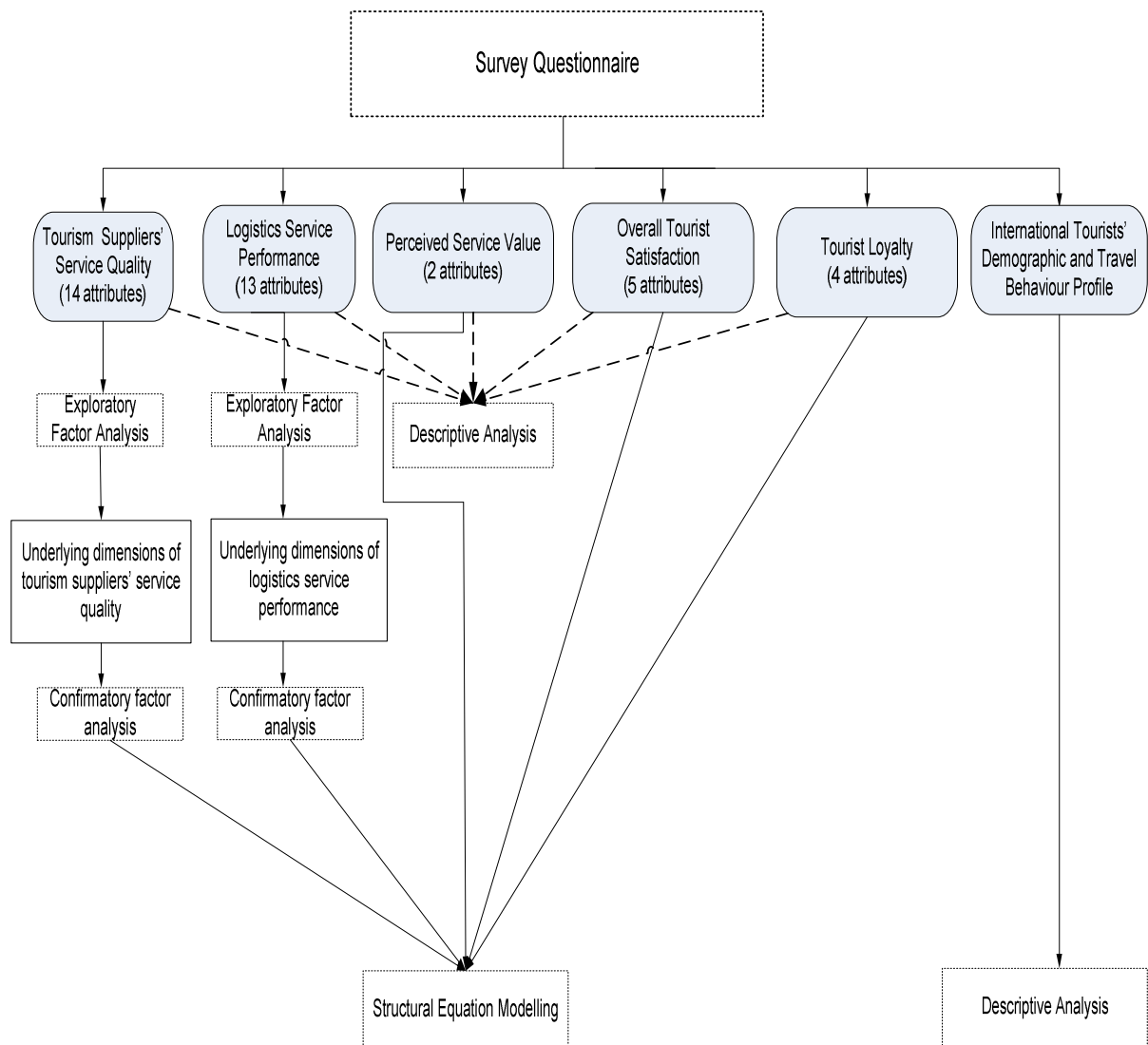


Figure 3.1 Methodological Framework

The first step of the research methodology was to design a survey instrument to collect data relating to the main constructs. Measurement for the constructs was developed on

the basis of the literature review and similar scales used in both tourism and manufacturing studies (Parasuraman, Zeithmal & Berry, 1985, 1988; Mentzer & Williams, 2001; Stank et al. 2003). The next step was to identify the potential respondents and to select the data collection method which is presented in the following section. To survey tourists of different nationalities, questionnaires in three different languages were used (Appendix A). According to the Taiwan Tourism Bureau 2006 year book, the three major categories of international tourists visiting Taipei were Japanese (30%), Chinese from Mainland China (20%), and Americans (15%). Hence, the original questionnaire in English was translated into Japanese and Chinese to facilitate a survey of different groups of tourists. The author recruited one English and one Japanese bilingual — editor to check the accuracy of language. The researcher. From Taiwan, is Chinese speaking; hence, translated the Chinese version of the questionnaire by herself. The final step was to analyse the data collected using a series of quantitative methods including Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM).

3.2.2.2 Survey instrument

The survey questionnaire consisted of questions relating to tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty. These are the main constructs and dependent variables as depicted in the theoretical framework developed in Chapter 2. Copies of the questionnaire (English/Mandarin/Japanese) can be found in Appendix A.

The measurement factors used in the questionnaire were adapted in part from the SERVQUAL scale (Parasuraman, Zeithmal & Berry, 1985, 1988). The survey questionnaire consisted of five major sections. The first section of the questionnaire consisted of questions relating to three factors (personnel service quality, information service quality and product availability). A total of fourteen measurement items were used to examine tourism suppliers' service quality. The respondents were asked to evaluate the extent to which they agreed or disagreed with statements that describe the service quality of tourism suppliers on a seven-point Likert scale from 1= *Strongly*

Disagree to 7= *Strongly Agree*. Table 3.1 shows the measurement of tourism suppliers' logistics service quality derived from a review of previous literature in this study.

Table 3.1 Measurement Items of Tourism Suppliers' Service Quality

Factors	Indicators	Authors
Personnel Service Quality (PSQ)	<p>PSQ1: Professional customer personnel who make an effort to understand my situation.</p> <p>PSQ2: Professional customer personnel who can resolve my problem.</p> <p>PSQ3: Professional customer personnel who know my request and needs well.</p> <p>PSQ4: Professional customer personnel who are willing to help me.</p> <p>PSQ5: Professional customer personnel who listen to my suggestions.</p> <p>PSQ6: Professional customer personnel who make a continuous improvement in the way they provide service.</p> <p>PSQ7: Professional customer personnel who can be responsive to problems that arise suddenly.</p>	<p>Hartline & Ferrell, 1996; Stank et al. 1999, 2003; Forster & Cadogan, 2000; Hartline, Maxham & O. Mckee, 2000; Jan & Cai, 2002</p>
Information Service Quality (ISQ)	<p>ISQ1: Tourism product information (such as airlines, hotels, restaurants, shopping centres, and seasonal festivals and activities) is available online.</p> <p>ISQ2: Online reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are available.</p>	<p>Park & Kim, 2003; Yuen, 2006; Wu, 2007</p>

	ISQ3: Online reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are easy to use.	
Product Availability (PA)	<p>PA1: A variety of tourism attractions (such as historic or cultural sites, scenery, seasonal festivals, and international events).</p> <p>PA2: A wide selection of tourism facilities and services (such as airlines, buses, parks, zoo, and golfcourses).</p> <p>PA3: Variety of amenity services (such as hotels, restaurants, entertainment, and shopping options).</p> <p>PA4: Convenient local transport services (such as Taiwan high-speed rail, Taipei mass rapid transit system, train, buses, and taxis).</p>	Buhalis, 2000a, 2000b; Mentzer & Williams, 2001; Yang & Jun, 2002

The second section of the questionnaire addressed the thirteen measurement items of logistics service performance in terms of five factors: order accuracy (OA), order quality (OQ), order efficiency (OE), order discrepancy (OD), and order flexibility (OF). Order accuracy was measured by four items, order quality by four items, order efficiency by three items, order discrepancy by one item, and order flexibility by one item. All of these measurement items were evaluated in a seven-point Likert scale from 1= *Strongly Disagree* to 7= *Strongly Agree*. Table 3.2 lists the measurement items of logistics service performance supported by past literature.

Table 3.2 Measurement Items of Logistics Service Performance

Factors	Indicators	Authors
Order Accuracy (OA)	<p>OA1: Seldom make mistakes in travel date or time in booking airline tickets.</p> <p>OA2: Seldom make mistakes in booking hotel rooms.</p> <p>OA3: Seldom make mistakes in booking restaurant seats.</p> <p>OA4: Seldom make mistakes in pick-up time in booking taxi services.</p>	<p>Stank, 1999, 2003; Hou & Huang, 2006; Mentzer and Williams, 2001; Zheng et al. 2006</p>
Order Quality (OQ)	<p>OQ1: Provide on-time luggage transfers.</p> <p>OQ2: Provide on-time travel transports.</p> <p>OQ3: Supply tourism products (such as rooms, food and beverage, and travel arrangements) that meet my order request.</p> <p>OQ4: Seldom fail to confirm my order.</p>	<p>Bowersox, 1989; Bradley, 1994; Daughetry, 1998</p>
Order Efficiency (OE)	<p>OE1: Make it easy for me to find another substitute reservation when a full booking of tourism product occurs.</p> <p>OE2: Respond to changes in customer order satisfactorily.</p> <p>OE3: Rectify mistakes they made in customer orders quickly.</p>	<p>Mentzer, Flint & Hult, 2001 ; Mentzer, Myers & Cheung, 2004; Yuen, 2006</p>
Order Discrepancy (OD)	<p>OD1: Make it easy for me to make last-minute change to airline or hotel reservations before arrival.</p>	<p>Mentzer, Flint & Hult, 2001 ; Mentzer, Myers & Cheung, 2004</p>
Order Flexibility (OF)	<p>OF1: Modify customer orders readily in terms of arrival date and quantity upon request.</p>	<p>Bradley, 1994; Lin, 2007</p>

The third section of the questionnaire outlined the two measurement items of perceived service value. The respondents were asked to evaluate the extent to which they agreed or disagreed with statements that described the relationship between tourism suppliers' service quality and perceived value. A seven-point Likert scale that ranged from 1= *Strongly Disagree* to 7= *Strongly Agree* was used. Table 3.3 outlines the measurement items of perceived service value alongside the relevant literature.

Table 3.3 Measurement Items of Perceived Service Value

Factors	Indicators	Authors
Perceive Service Value (PSV)	PSV1: Render good service value in comparison to the price I paid. PSV2: Provide me with a good deal.	Cronin & Taylor, 1992; Otto & Ritchie, 1996; Zeithaml, 1998; Lee, 2005; Lin, 2007

The fourth section of the questionnaire used five indicators of overall tourist satisfaction as an overall measurement of satisfaction (see for example Oliver, 1989, 1992; Tse & Wilton, 1988; Tam, 2000; Kandampully & Suhartanto, 2003; Chi, 2005; Lee, 2005) to test the relationship amongst tourism suppliers' service quality, logistics service performance, perceive service value and overall tourist satisfaction. A seven-point Likert scale that ranged from 1 = *Strongly Disagree* to 7 = *Strongly Agree* was used to investigate tourists' judgment of the above three dimensions of overall tourist satisfaction. Table 3.4 shows the measurement items of overall tourist satisfaction.

Table 3.4 Measurement Items of Overall Tourist Satisfaction

Factors	Indicators	Authors
Overall Tourist Satisfaction (OTS)	OTS1: I was fully provided a good service quality to satisfy me. OTS2: Personnel service made me happy. OTS3: The performance of taking my order is satisfactory. OTS4: Overall service is worth the money. OTS5: The experience of this destination made me	Fornell, 1992; Oliver, 1981, 1989, 1992; Halstead et al. 1994; Spreng & Mackoy, 1996; Tse & Wilton, 1988; Tam, 2000; Crompton & Willson, 2002; Kandampully & Suhartanto, 2003; Chi, 2005; Lee, 2005

	happy.	
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The fifth section of the questionnaire used four indicators to test overall tourist satisfaction and its relationship with tourist loyalty. Many tourism studies (for example, Akan, 1995; Ping, 2001; Caruana, Money & Berthon, 2000; Walker & Francis, 2002; Baloglu & Uysal, 1996; Su, 2004; La, 2005; Chi, 2005; Yu & Goulden, 2005; Wu, 2006) use satisfaction as an antecedent measure item to test its influence on loyalty. The four measurement items — repurchase behaviour, word-of-mouth recommendations, making positive comments and willingness to forgive occasional mistakes — were used to test tourist loyalty, which is indirectly affected by tourism suppliers’ service quality, logistics service performance, and perceived service value, with satisfaction as a mediator. A seven-point Likert scale that ranged from 1 = *Strongly Disagree* to 7 = *Strongly Agree* was used to assess tourist loyalty. Table 3.5 demonstrates the measurement items of tourist loyalty alongside a review of past studies.

Table 3.5 Measurement Items of Tourist Loyalty

Factors	Indicators	Authors
Tourist Loyalty (TL)	<p>TL1: Say positive things about Taipei to other people.</p> <p>TL2: Visit Taipei again.</p> <p>TL3: Recommend Taipei to my friends to visit.</p> <p>TL4: Consider Taipei as my first choice to visit in the future.</p>	<p>Akan, 1995; Ping, 1993; Parasuraman & Grewal, 2000; Caruana, Money & Berthon. 2000; Baloglu, 2002; Walker & Francis, 2002; Gunnarsson & Johnsson, 2003; Su, 2004; La, 2005; Chi, 2005; Yu & Goulden, 2005; Wu, 2006</p>

The last section of the questionnaire was designed to survey tourists’ characteristics including gender, age, educational level, income and place of residence, career and purpose of the trip, length of stay, information resources, and activities attended. Items were derived from several studies including Lee (2003), Chi (2005) and Yuen (2006).

3.2.2.3 Validity and reliability of the questionnaire

This study used four steps to test the validity and reliability of the measurement items derived from the literature. Validity is the extent to which a scale or set of measures accurately represents the concept of interest (Hair et al. 2006). This study employed two validity checks for the measurement items, namely content validity and construct validity (Im, 2003).

Content validity represents the comprehensive and reliable measurement of all the dimensions of a construct by an instrument (Wu, 2006). Nunnally (1978) claims that the standard of content validity is based on a representation of set items of an instrument and the employment of sensible methods of scale in constructs. In this study, 38 indicators representing five dimensions (or constructs) were used to measure the impacts on tourist satisfaction and loyalty. All of the measurement items for each construct were adapted from the literature. Expert examination (i.e. a sincere check in both accuracy and correction of each question referring to the research hypothesized constructs) and a pilot test (section 2.3.1) were employed to ensure the suitability of each item, which helped to justify the content validity of the instrument.

Construct validity is generally used to test if a variable is genuinely a construct. It is used to check if a variable correlates with others in the study and to ensure the conceptual model is internally consistent, statistically speaking (Im, 2003). Usually, ‘researchers establish construct validity by correlating a measure of a construct with a number of other measures that should, theoretically, be associated with it (convergent validity) or vary independently of it (discriminate validity)’ (Chi, 2005, p.102).

Convergent validity refers to the extent to which multiple attempts to measure the same concept with different methods are in agreement, whereas discriminate validity is the degree to which a concept differs from other concepts (Hair et al. 2006). To establish convergent and discriminate validity, correlations between the latent constructs in factor

analyses were checked. In this study, multi-factor analyses, such as Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), which ‘concerns relationships among variables is in the explication of constructs’ (Nunnally, 1978. p. 329), were employed to test the convergent validity of measurement scales. After undertaking a validity check of the measurement scale via EFA and CFA, the convergent validity of the scale was measured by the composite reliability (CR) and the average variance extracted (AVE). Higher CR and AVE values imply higher convergent reliability of measurement.

A discriminate validity is established to measure constructs that theoretically should not be related to each other (Hair et al. 2006). To estimate the degree to which any two measures are related to each other, the correlation coefficient is commonly used to observe intercorrelations among measures. Typically, AVE values should exceed the square of the correlations between each pair of latent constructs (Fornell & Larcker, 1981).

Reliability is defined as the consistency of observations or measures (Nunnally, 1978). Reliability implies that the index of an instrument is stable. It is determined by Cronbach’s Alpha coefficient, which is based on the internal consistency of the scale (Hair et al. 2006). The higher the value of Cronbach’s Alpha coefficient, the higher the internal consistency of the item measurement of each construct, suggesting a high reliability of the survey instrument (Wu, 2005). Hair et al. (2006) claim that a minimum Cronbach’s Alpha coefficient of 0.7 can be considered acceptable for internal consistency across items. This study follows this guideline using a cut-off point of $\alpha=0.70$ as a reasonable indicator of fit for each construct. Further elaboration of the above methods for validity and reliability checks is described in Section 3.4 of the statistical procedure.

3.2.2.4 Ethical consideration

This study followed the Ethics Guideline Procedures as outlined by RMIT University in the Ethic Review Process held on 14 December 2005. Ethical approval and ethics consideration were presented to participants before they filled in the questionnaires. The

researcher explained the objectives of the study and provided the ethics guidelines (Appendix B) to participants prior to the commencement of the survey. Therefore, all participants understood their rights and that their participation in the survey was entirely voluntary. All participants could withdraw at any stage of the survey as they wished.

3.2.3 Statistical Procedure

3.2.3.1 Pilot test

Prior to the main survey, a pilot test was conducted to determine if the questionnaire was clear and ready for use. Five tourism experts, including two academic professionals, one agent, one operator, and one tourism supplier (such as hoteliers and airline staff) were asked to complete the questionnaire and comment on its clarity and user-friendliness. Based on their feedback, minor changes to the wording of some questions were made to ensure that the questionnaire was easy to understand. To further test the revised questionnaire, a small pilot study was carried out at the Taoyuan International Airport of Taipei by randomly surveying 46 inbound tourists. The purpose of the pilot study was to obtain feedback from tourists to determine if the design of the questionnaire was appropriate. The results were also used to test the content validity and clarity of the measurement scale and to conduct a reliability assessment of the degree of consistency among multiple measurements of variables (Hair et al. 2006). A covering letter explaining the purpose of the survey was attached to the questionnaire. There were a total of 51 participants in the pilot test. Feedback suggested that there was no need to further revise the questionnaire.

In terms of the reliability scores, Cronbach's Alpha coefficient ranged from 0.749 for perceived service value to 0.928 for overall tourist satisfaction indicating that the scales used in this study were relevant in measuring the constructs of interest. In general, an Alpha score of a measurement scale should be removed if it has low item-to-total correlations (<0.40) because it is not considered representative of a unique and significant theoretical dimension (Hair et al. 2006). Alternatively, the value of Cronbach's Alpha should be at least 0.70 in order for the measurement scale to be

significant. It is better to purify the low scales before any further analysis is conducted. In this pilot survey, all the constructs met the above requirements. Therefore, all measurements were retained at this stage. Details of the reliability of measurements are shown in Table 3.6.

Table 3.6 Reliability of Measurements in the Pilot Test

Construct	Number of measurement items	Cronbach's Alpha (α)
Tourism suppliers' service quality	14	0.881
Logistics service performance	13	0.905
Perceived service value	2	0.749
Overall tourist satisfaction	5	0.928
Tourist loyalty	4	0.891

3.2.3.2 Sampling

This study targeted the population of international tourists who stopped at Taoyuan International Airport, Taipei, Taiwan, stayed at hotels, motels, and bed'n'breakfast accommodation, and visited major sightseeing locations and shopping centres during a three-month survey period. The covering letter Plain Language Statement and questionnaire were distributed to the participants in person during a one-month survey period (Appendix A). Once the respondent agreed to participate, the purpose of the survey was explained and the self-administered questionnaire was distributed for completion. After completing questionnaires, participants returned the questionnaire to the researcher herself.

In regards to the target sample size, Hair et al. (2006) state that the sample size suitable for most multivariate analysis approaches should have a minimum ratio of at least five respondents for each estimate item. This study had 38 variables (excluding variables for travel and demographic characteristics) for measuring constructs of tourism suppliers' service quality (fourteen variables), logistics service performance (thirteen variables), perceived service value (two variables), overall tourist satisfaction (five variables), and

tourist loyalty (four variables). Based on this number of variables, the sample size suitable for this study was considered to be 185 (Hair et al. 2006), or approximately 200. Chi (2005) suggests that 385 (see Note below) should be the most appropriate sample size for a sample to obtain 95% accuracy and a 95% confidence level. This study's original sample size was 1,000 during the three-month random survey in Taipei. A total of 654 responses out of 1,000 distributed questionnaires were received. To ensure the accuracy of the data, all returned questionnaires were thoroughly examined. Data screening was conducted using the Statistical Package for the Social Science (SPSS) version 15.0. After checking the whole data set, a usable sample size of 425 was obtained which was above the 385 recommended for a 95% accuracy and confidence level to process the statistical analysis.

Note: * Confidence interval approach is used to determine the sample size (Burns & Bush, 2003). The formula for getting 95% accuracy at the 95% confidence level is:

$$N = z^2 (pq)/e^2 = 1.96^2 (0.5 * 0.5)/0.05^2 = 385$$

Where: N = sample size, z= standard error associated with chosen level of confidence (95%),
 p = estimated variability in the population 50%
 q = (1-p), and
 e = acceptable error +/- 5% (desired accuracy 95%)

3.2.3.3 Data screen

Before conducting multivariate analyses, data screening was conducted using SPSS 15.0 to check any data entry errors in order to maintain accuracy and consistency of the data set. Arbuckle (1996), Chi (2005), Chiou (2006) and La (2005) indicate that the data of questionnaires which miss at random or have more than one-fifth of blank ratings from the returned surveys should be deleted from the responses. A listwise deletion is suggested in this situation. However, if any data have the same repeated responses, or are missing completely random, the response should be to use pairwise deletion because this method is most suitable to remove bias equally.

3.2.3.4 Data analysis

This section presents the process of data analysis and its results. To understand the background of the respondents, descriptive statistics such as frequencies, mean and standard deviations were used to describe the distributions of the respondents in terms of socio-demographic, attitudinal and behavioural characteristics towards their travel in Taipei. To analyse the score distribution for each attribute, descriptive analysis of mean and standard deviation of the scores on tourism suppliers' service value, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty was performed using SPSS 15.0.

The major statistical plan of this study was to employ Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM). EFA with Principal Component Analysis was applied to determine the number of factors associated with tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty. EFA was used to eliminate survey measurement items which had less than 0.30 loadings on factors or had high cross-loadings over two more factors (Hair et al. 2006). Fit factors were then used for the next step of CFA. CFA was undertaken to develop two measurement models (tourism suppliers' service quality and logistics service performance) to determine if each of the variables as proposed in the hypothesised model was fit for the underlying constructs. In CFA, discriminate validity can be assessed because factor loadings under each construct can be represented by CFA. CR and AVE (convergent validity) were also used to assess under CFA to represent the good fitness of constructs. Finally, SEM was used to identify the hypothesised relationship amongst all constructs. In SEM, direct and indirect effects from endogenous variable to endogenous variable provide a holistic relationship among overall constructs. In SEM, a discriminate validity and a convergent validity can be represented to indicate the overall good fitness of the whole constructs. Details of the data analyses using EFA, CFA and SEM follow.

3.2.3.5 Exploratory factor analysis (EFA)

Exploratory factor analysis was used to describe data grouping by variables that were correlated with one another, but independent of other subsets of variables (Hair et al. 2006). EFA is usually used as an initial step for identifying whether factor structures are suitable and appropriate for hypothesised constructs based on the literature review. EFA in conjunction with the Principal Component Analysis (PCA) method is largely used for the purpose of data reduction. PCA with Varimax rotation was used for deriving factor loadings, assuming that factors are correlated to generate a factor correlation matrix. Data was analysed by PCA with Varimax rotation to obtain the best fit items under each factor.

In this study, there were 27 items related to the dimensions of total tourism suppliers' service quality and logistics service performance which were examined to identify whether this study needed to reduce the sub-dimensions under proposed dimensions in order to improve the efficiency and effectiveness of further analysis.

To ensure the suitability and appropriateness of EFA, several assumptions were needed (Hair et al. 2006):

- (1) The data correlation matrix has to be greater than 0.50 to justify the application of factor analysis.
- (2) Bartlett's test of sphericity, which provides the statistical probability of significant correlations among variables in the entire correlation matrix, and the Kaiser-Meyer-Olkin measure of sample adequacy (MSA), which measures the appropriateness of factor analysis, should be significant ($p < 0.05$). Furthermore, an outcome greater than 0.6 should be expected for the factor analysis.
- (3) Factor extraction, which refers to determining the smallest number of factors that can be used to best represent the interrelations among the set of variables, should be greater than one and should together explain 60% of the total variance to be clarified as satisfactory. In this study, principal

component analysis was used to determine the number of factors that should be retained.

To ensure the internal reliability of factors, Cronbach's Alpha coefficient was employed in EFA again.

3.2.3.6 Confirmatory factor analysis (CFA)

Confirmatory factor analysis was applied to confirm the factor structure developed from EFA. EFA was employed in the first stage to ensure that there are variables correlations underlying each dimension. CFA was used to examine the overall fit of the hypothesised structured model and to validate scales in specific constructs. CFA provides a statistical solution to prove the hypothesised model which is not only statistically significant, but also conceptual meaningful in the survey result. There were several tests for model fit criteria which were also considered. These criteria for absolute fit indices were:

(1) Fit Statistics:

- The overall chi-square statistic which provides a test of whether the sample covariance matrix is equivalent to model — implied covariance matrix, within sample error. Bollen (1989) states that values between 2.0 and 5.0 indicate a reasonable fit. Jöreskog and Sörbom (1998) claim that the acceptable value is less than 3.0. The chi-square statistic is sensitive to large sample sizes. Researchers should take into consideration and be aware of the interpretation of sample size influences.

- The standardised root mean square residual (SRMR), which is the 'standardized value of an average of the residuals between individual observed and estimated' covariance and variance terms (Hair et al. 2006, p. 747). Lower SRMR values represent a better fit in the model. The closer the value is to zero, the better is the model fit.

- Hoelter's critical N (CN) is used to judge whether sample size is adequate. Sample size is adequate if $CN > 200$. A CN under 75 is considered unacceptably low to accept a model by chi-square (Chiou, 2006).

(2) Incremental Fit Indices:

- The goodness-of-fit index (GFI). The GFI is an early attempt to produce a first statistic that is less sensitive to sample size (Hair et al. 2006). The GFI measures the relativity of variance and covariance that are accounted for by the implied model (Chi, 2005). The possible range of GFI value is between 0 and 1.0, with higher values considered good.
- The adjusted goodness-of-fit index (AGFI). The AGFI takes into account differing degrees of model complexity compared to the GFI. Both of them basically 'compare the hypothesised model with no model at all' (Huang, 2007, p. 135). AGFI values are typically lower than GFI values in proportion to model complexity.
- The normed fit index (NFI). The NFI is the original incremental fit indices. Huang (2007, p. 135) states that NFI is 'calculated based on the concept of independent model (null model). The independent model is a baseline against which to compare alternative models for the purpose of evaluating the gain in improved fit'. NFI values range between 0 and 1. If the value is 1, the model has a perfect fit.
- The non-normed fit index (NNFI). The NNFI was proposed by Bentler and Bonnet (1980), and is mathematically equivalent to the Tucker-Lewis Index (TLI) in Analysis of Moment Structures (SPSS/AMOS) proposed by Tucker and Lewis (1973). TLI (or NNFI) is similar to NFI, but penalises for model complexity (Chiou, 2006). Tucker and Lewis (1973) state that TLI is relatively independent of sample size. They state that TLI (or NNFI) closes to one which indicates a good fit. However, NNFI values below 0.90 indicate a required further modification of the model.

LISREL displays NNFI as an incremental fit index. Therefore, this study used NNFI as one of the incremental fit indices

- The comparative fit index (CFI) offers a comparative fit model to a worst case. It has been suggested that CFI should range from 0 to 1. A well-established CFI value is 0.90 or above for adequate fit of the model.

(3) Residuals:

- The root mean square error of approximation (RMSEA) ‘attempts to minimize the impact of sample size and to shift the research focus from exact fit to appropriate fit’ (Chi, 2005, p. 108). RMSEA values should be between 0 and 0.08 indicating a good appropriate overall fit (Brown & Cudeck, 1993).

The summary table of those criteria is shown in Table 3.7.

Table 3.7 Summary of Fit Statistics

Fit measure	Acceptable value
χ^2 test (probability value)	$p > 0.05$
χ^2/df (normed chi-square)	< 3
Standardised root mean square residual (SRMR)	< 0.10
Critical N	> 200
Goodness-of-fit index (GFI)	> 0.90
Adjusted goodness-of-fit index (AGFI)	> 0.90
Normed fit index (NFI)	> 0.90
Non-Normed Fit Index (NNFI)	> 0.90
Comparative fit index (CFI)	> 0.95
Root mean square error of approximation (RMSEA)	< 0.08

If items did not reach the absolute fit indices as described above, they were deleted from the specific constructs until a good model fit was reached (Hair et al. 2006). For instance, Hair et al. (2006) and Chiou (2006) suggest that if the model does not fit into an acceptable level of goodness of fit index (GFI), the model should be modified until the GFI reaches an acceptable level. After all model fits are evaluated, the measurement of constructs would be employed to assess for construct reliability. There were two measurements commonly used to assess the significance of indicator loadings. One was composite reliability (CR) and the other was average variance extracted (AVE). Values

of CR and AVE are better when closer to 1, which means indicators are better to act as the latent construct. Chiou (2006) suggests that AVE is better at 0.5 and CR is better at 0.6. After that, the discriminate validity was examined by comparing AVE values with the square of correlations between each pair of constructs. To reach a satisfactory discriminate validity, the AVE values should be over the squared correlations values (Fornell & Larcker, 1981). After all measurement items reached CFA criteria, this study could then go to the next data analysis stage, SEM.

3.2.3.7 Structural equation modelling (SEM)

Structural equation modelling (SEM) was adopted to test the hypothesised model from Chapter 2, section 7. SEM is a multivariate technique that seeks to explain the relationship among multiple variables of underlying constructs, and to test if these variables could form a structural model (Hair et al. 2006). In the SEM measurement construct, the full construct consists of observed measurements and their latent constructs. SEM can test not only the measurement and structural models simultaneously, but also examines the compatibility of the models with the data and the significance of the individual casual paths (Hair et al. 2006). In general, Hair et al (2006, p. 759) suggests seven steps of how to use SEM:

- (1) Develop a theoretically based model;
- (2) Construct a path diagram of causal relationships;
- (3) Convert the path diagram into a set of structural equations and a measurement model;
- (4) Choose the input matrix type and estimate the proposed model;
- (5) Evaluate goodness-of-fit criteria; and
- (6) Interpret and modify the model (if theoretically justified).

SEM has been widely used in a number of fields such as marketing, management, psychology and sociology. In recent years, tourism research has started to explore a series of interrelated questions, and in so doing has applied SEM within tourism studies in order to promote the quality of research. There are some recent tourism studies that have used SEM and include Chi (2005), Lo (2007) and Wu, Wei and Chen (2008). In

this regard, this study seeks to further test the hypothesised construct relationships in order to assess the research model using SEM.

A structural equation model (LISREL/SIMPLIS syntax 8.80 version with Maximum Likelihood Estimation) was used to identify the conceptual and structural link amongst constructs. SEM was largely used to assess the direct and indirect relationships between latent variables in the hypothesised model. As the purpose of this study was to identify the impact of tourism suppliers' service quality, logistics service performance and perceived service value on tourist satisfaction and loyalty, a structural equation model was applied to examine the multiple relationships amongst constructs. The six main hypotheses were tested for their direct/indirect relationships among the latent and observed variables.

In this study, a dependent variable in one relationship could be an independent variable in another relationship (see Table 3.8 and Figure 3.2). SEM was expected to test structural paths between latent variables and test the overall fit of the hypothesised model. The evaluation of overall model fit was tested in goodness-of-fit indices such as absolute fit measures, incremental fit or relative measures, and parsimonious fit measures (Kline, 1998, 2004). The absolute fit measure was tested for overall model fit with no adjustment for the degree of over-fitting. There were several fit measures which should be fit in the test: the normed chi-square (<3); goodness-of-fit index (GFI) (>0.9); standardised root mean square residuals (SRMR) (<0.1); root mean square error of approximation (RMSEA) (<0.08); the comparative fit index (CFI) (>0.95); the Normed fit index (NFI) (>0.90); the non-normed fit index (NNFI) (>0.90); and critical number (>200). If the test result revealed an adequate overall fit of the above required fit measurements, the conceptual model and hypotheses presented in this study were sustained. Otherwise, a modification would be required to determine the significance of improvements brought about by the suggested modified models. An incremental fit measure or relative indices would then be employed to compare the proposed model, followed by parsimonious fit measures adjusting the measures of fit to provide a new comparison between models. Finally, the researcher compares the differences between

models, and decides if it is better to implement changes based on the statistical suggestions of SEM.

In short, this study used SEM which was the most appropriate technique to adopt to test a set of relationships formed by a large-scale model (Hair et al. 2006). Current tourism studies (Hu, 2003; Chi, 2005; Lin, 2007; Wu, Wei & Chen, 2008) with a set of interrelated questions have now, they become to use SEM in order to the promote the quality of their research. This study as a tourism research, therefore, in order to answer the research question and hypotheses, this thesis used SEM to test the interrelationship among the five constructs.

Table 3.8 Constructs and Observed Variables in the Proposed Model

Constructs	Observed factors	Indicators and survey questions	Scale
Exogenous construct (ξ_1) Tourism suppliers' service quality (TSSQ)	TSSQ1: Personnel service quality (PSQ) TSSQ2: Information service quality (ISQ) TSSQ3: Product availability (PA)	PSQ1~ PSQ7 ISQ1~ ISQ3 PA1~ PA4	A seven - point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree)
Endogenous construct (η_1) Logistics service performance (LSP)	LSP1: Order accuracy (OA) LSP2: Order quality (OQ) LSP3: Order efficiency (OE) LSP4: Order discrepancy (OD) LSP5: Order flexibility (OF)	OA1~ OA4 OQ1~ OQ4 OE1~ OE3 OD1 OF1	A seven - point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree)
Endogenous construct (η_2) Perceived service value (PSV)	PSV1 PSV2		A seven - point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree)
Endogenous construct (η_3) Overall tourist satisfaction (OTS)	OTS1 OTS2 OTS3 OTS4 OTS5		A seven - point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree)
Endogenous construct (η_3) Tourist loyalty (TL)	TL1 TL2 TL3 TL4		A seven - point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree)

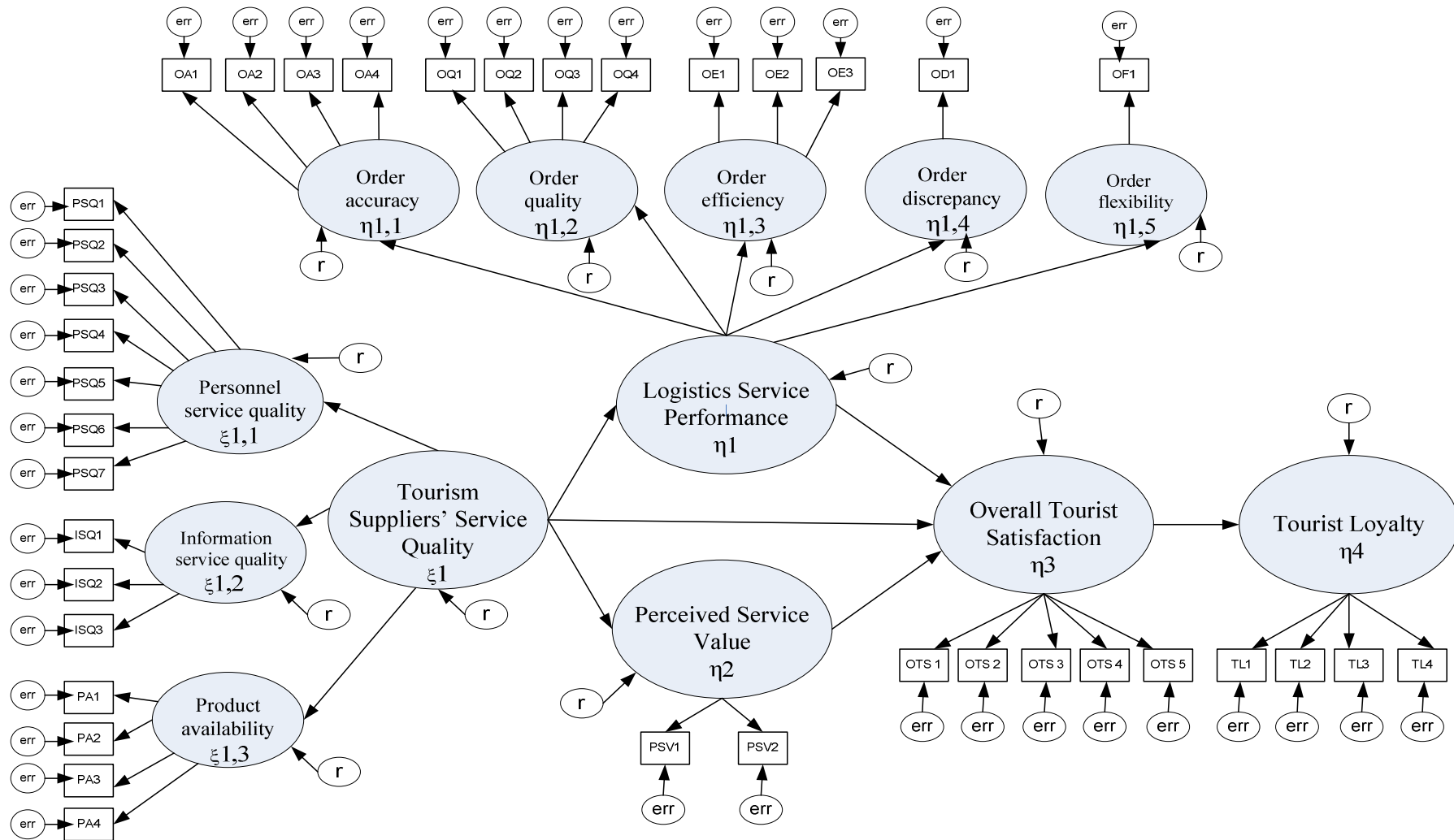


Figure 3.2 Initial Empirical Model

3.2.4 Qualitative Method

3.2.4.1 Introduction

Peszynski (2005) states that the qualitative method is used to explore the nature and to gain a richer understanding of the research object. Denzin and Lincoln (1994) state that qualitative research may be used for investigating topics which are interdisciplinary, transdisciplinary and sometimes counterdisciplinary. Chang (2004) also mentions that the qualitative approach is the best for questions or problems that require ‘thick description’ or detailed analysis in order to produce valuable explanations. In this vein, this study used the qualitative method as the triangulation to confirm and strengthen the findings of the quantitative analysis. The qualitative method was designed to explore and identify the nature of the tourism service quality and logistic service performance in enhancing tourist satisfaction and loyalty. The objective of using the qualitative method was to further explore the details revealed in the quantitative analysis and address the issues of the tourism industry in practice. The objectives of the qualitative analysis were as follows:

- **To extend and corroborate the findings from the quantitative study**

Statistical results cannot further describe the interaction among factors in the hypothesised model. Hence, this study used Taipei as a survey destination and employed an in-depth exploratory examination of the impacts of service quality, logistics service performance and perceived service value on overall tourist satisfaction and loyalty.

In order to obtain richer information on tourism logistics service performance and other factors in the case study, the research hypotheses and propositions were used as guidelines for data collection. Information on the logistics service performance of Taipei city was sought from interviews. Patton (2002, p. 39) indicates that qualitative research ‘produces findings derived from real — world settings where the phenomenons of interest unfold naturally’. Hoepfl (1997, p. 15) defines qualitative research as seeking ‘illustration, understanding, and extrapolation to similar situations’. Semi-structured interviews with open-ended

questions provided an understanding of the impacts of logistics service performance on Taipei's tourism industry. In the following sections, the research design, research process, instruments, data collection and analysis, and validity and reliability of research design are described.

3.2.4.2 The Research Design

3.2.4.2.1 Method

The purpose of the qualitative study was to expand the hypothesised model that demonstrates *how* and *why* conceptual constructs positively or negatively affect tourist satisfaction and loyalty. An in-depth interview is the most widely employed method in a qualitative study (Bryman, 2004). The qualitative interview is a flexible and attractive approach to interviewees who are willing to provide insight and information relating to the research context. Furthermore, 'this technique is often used to obtain the personal descriptions and accounts that can be helpful in developing theory, as opposed to measuring certain variables suggested by a theory' (Kayat, 2000, p. 125). This study used interviews to gather required and true value data. A semi-structured interview format was chosen for the interviews. The researcher presents the topic and focus of the research area to interviewees, who can then offer in-depth and related information in response to a series of structured questions (Gall et al. 2003).

Yin (1994) also suggests that a skilled interviewer can yield much data which may be tested for significance and relationship to the whole, while not losing the nuances and understandings of each individual interviewee. Gall, Gall and Borg (2003) also state that interviewees can provide more details and information and clarify vague statements. Gall, Gall and Borg (2003, p. 222) indicate that the interview method can 'build trust and rapport with respondents, thus making it possible to obtain information that the individual probably would not reveal by any other data collection method'. Accordingly, this research used an interview technique to achieve some of the research objectives.

For the purpose of guiding the researcher in collecting, analysing and interpreting data, this study involved a complete research procedure to ensure the research

design is accurate. Yin (1994) states that a good research design for the qualitative method has the following components: (1) statement of research questions; (2) the propositions of the study; (3) the unit of analysis; (4) the logical link between the data and the propositions; and (5) the criteria for interpreting the findings.

The objective of this study was to determine the influence of logistics service performance and other factors on the tourism in practice. Chapter 2 outlined the theoretical framework, which was tested using a positivist approach. Lee (1991) states that the positivist approach assumes that phenomena can be observed objectively and rigorously. Greenfield, Greene and Johanson (2007) further indicate that using the positivist paradigm, the researcher as an outsider to observe the area in order to make reliable predictions and explanations. Braa and Vidgen (1999, p. 32) suggest that ‘a positivist research is suitable for using a technique such as interviews to support and understand the prediction of the research framework.’ Therefore, a positivist approach can be used in this study to supplement the quantitative analysis of this study.

The tourism industry of Taipei city was used for an in-depth qualitative study. The reason for selecting Taipei is that it is not as popular a destination as Hong Kong or Singapore within Asia. Further, the researcher is a Taiwanese national who, as an academic in tourism, is familiar with the tourism industry in Taiwan and in the future intends to develop a marketing strategy to help Taiwan to compete other popular Asian travel destinations.

The objective of this study is to understand the major elements in logistics service performance and other factors which affect tourist satisfaction and loyalty. International tourists in Taipei may offer the ideal feedback for this study, and might indicate the insufficiency of tourism products and areas in which Taipei needs to improve. In this way, they can offer the necessary observation and analysis of the research object for this study.

The interview questions are based on the Chapter 2 Literature Review, and the analysis of the data development the hypothesised model. Data collection using interviews suggested by Merriam (1988) and Yin (2002) were used in order to enrich the investigation of real-life phenomena.

3.2.4.2.2 Interview questions

The tourism logistics service performance variables adopted in the hypothesised model in this study — order accuracy (OA), order quality (OQ), order efficiency (OE), order flexibility (OF), and order discrepancy (OD) — were used to formulate the interview questions in the case study of tourism logistics service performance in Taipei. The information collected in the interviews was used to answer the research question:

How would logistics service performance affect and increase tourist satisfaction and loyalty?

Through semi-structured interviews, this study aimed to discover the actual practices in the tourism industry. Interviews were conducted and interviewees were asked to provide answers to questions developed the basis of the theoretical framework. The interview questions included the following:

1. Based on your knowledge of Taipei, could you identify the range of tourism facilities and services available (such as airline, hotel and restaurant) to a visitor to this city?
2. Can you provide detailed comments on the provisions of these services and facilities in terms of their adequacy in meeting the needs of tourists? Please elaborate on the reasons for your observations.
3. Can you comment on the quality of these services and facilities with respect to their:
 - a) Personnel service
 - b) Information service quality
 - c) Product availability
 - d) Order accuracy
 - e) Order quality
 - f) Order efficiency
 - g) Order discrepancy
 - h) Order flexibility

4. Do you think that the way in which these facilities and services are organised has helped to enhance the experience of tourists to the city and its attractions?
5. Do you feel that tourists, in general, are concerned (or not concerned) about the quality of these facilities and services? What types of tourists, in your view, would be most concerned, and what types would be least (or not) concerned with the quality of these services and facilities?
6. From your observation, do you think that the quality of the tourist facilities and services available in Taipei play a role in attracting tourists to visit the city and its attractions? If so, in what way, and how significant has the effect been? If not, please indicate the areas of deficiency.
7. Can you provide some anecdotal evidence relating to the effects of these services and facilities on the experience of tourists in recent times?
8. Are you able to offer any other comments on the adequacy and quality of logistics services in the tourism sector in your region of operation?

The eight interview questions incorporated the various constructs (for example, suppliers' service quality, logistics service performance, and perceived service value) and dependent variable (for example, overall tourist satisfaction and tourist loyalty) of the theoretical framework. Information and comments provided by the interviewees helped triangulate the findings from the quantitative study.

3.2.4.2.3 Use of interviews as a data collection methodology

In order to observe the reality of logistics service performance in Taiwan tourism, a semi-structured interview was adopted for gathering the required data. Flick (2006) suggests that semi-structured interviews can bring out specific elements that determine the impact or meaning of an event for the interviewee, thus preventing the interview from remaining on the level of general statements. In addition, this reconstruction of subjective theory might support the research aims by presenting the complex knowledge offered by these interviewees (Kvale, 1999). A semi-structured interview was also easy to apply to the theory because shaping the contents of subjective theory into target answers is more flexible and adoptable to award the non-numerical data from participants.

However, Weitzman (2000) states that a semi-structure interview would narrow down the possible data that might not relate to the research question. Therefore, this study finished with open-ended questions to interviewees to enable them to provide information which may not relate to the interview questions, but which they felt they would like to share.

3.2.4.2.4 Sampling procedures

The participants in the study included tourism professionals such as airline operators, hotel front office managers, restaurant managers, tourism operators, and tourism government department staff in Taipei. Overall, eight in-depth, semi-structured, one-on-one, face-to-face interviews of 60 minutes length were conducted at five-star hotels, restaurants, travel agencies, and the Taiwan Tourism Bureau in Taipei during the period May to July, 2007.

Interviewees included front desk managers, restaurant senior executives, tour operators, logistics experts, and a senior tourism manager of the Taiwan Tourism Bureau. The main objective of this study was to determine the importance of logistics service performance on tourist satisfaction and loyalty. Therefore, it was necessary to find out its influence on each supplier of tourism in Taipei. All members interviewed are listed anonymously in Table 3.9, which provides the background of each participant as well as the date and time of the interviews. Meanwhile, the reasons for choosing these interviewees are described below.

Table 3.9 Interviewees' Background and Interview Time

Name	Position	Company	Experience	Interview Time and Date
Participant A	Commercial Manager	E International Business Travel	5 years' tourism operator's experience in in-bound group sales, reservation and travel product arrangement and sales	11:00 a.m. to 12 p.m. on 23 May 2007
Participant B	Marketing Manager	Norms Travels, Inc.	5 years' tourism operator's experience in inbound tourist	3:40 p.m. to 4:20 p.m. on 29 May 2007

			travel arrangement, reservation, and group sales	
Participant C	Assistant Manager of Front Office	Grand Hyatt Taipei	7 years' experience in 5-star hotel at front desk, concierge, customer relations and travel consultant	2:00 p.m. to 3:00 p.m. on 21 June 2007
Participant D	Manager of Food and Beverage	Grand Hyatt Taipei	7 years' experience in food and beverage administration of 5-star hotel	3:00 p.m. to 4:30 p.m. on 21 June 2007
Participant E	Director of Food and Beverage Department	Sheraton Taipei Hotel	15 years' experience in food and beverage administration at 5-star hotel	2:00 p.m. to 3:00 p.m. on 26 June 2007
Participant F	Manager of Front Office Department	Sheraton Taipei Hotel	10 years' experience in 5-star hotel at front desk, concierge, customer relations and travel consultant	3:00 p.m. to 4:15 p.m. on 26 June 2007
Participant G	Head of Transportation Logistics Management Department	Kei-nan University	Six years' academic experience in transport and logistics research area	12:00 p.m. to 1:15 p.m. on 2 July 2007
Participant H	Section Chief of Planning Division	Tourism Bureau of Ministry of Transportation and Communications, Taiwan, Republic of China	10 years' experience in travel planning and promotion in Taiwan Tourism Bureau	2:00 p.m. to 3:00 p.m. on 10 July 2007

(1) Front desk manager: In a hotel, a front desk manager is considered to be a vital part of the operation. Hotel managers have a high level of contact with

guests, especially frontier international travel (FIT) guests. The front desk manager or a concierge will be FIT guests' primary travel consultant and as such will receive the majority of their complaints (Yamamoto & Gill, 1999). Thus, this survey recruited two hotel front desk managers of five-star hotels to participate in the interviews. Front desk managers are required to understand both hotel operation and hospitality services as well as travellers' needs. Therefore, this study recruited the front desk manager as one of the vital interviewees in the survey.

(2) Travel operator: A travel operator plays a significant contact role for international travellers before they arrive. The primary job of the travel operator is to help travellers organise their travel activities (Davies & Downward, 2007). Hence, a travel operator must well understand tourists' needs and wants and also be familiar with the local tourism supply and operations. Two major inbound travel agents were invited to these this interviews in order to provide different perspectives, concerning the Taipei tourism industry and international travellers.

(3) Restaurant manager: This study invited two major five-star hotel restaurant managers to participate in the interviews. According to the Taiwan Tourism Bureau (2006), the major reason that international tourists visit Taipei is because of the gourmet food. Restaurant managers have many chances to contact and talk with tourists, and would therefore have the chance to know tourists' needs and understand their opinions about Taipei tourism.

(4) Logistics expert: There was a need to invite tourism logistic managers and experts to participate in this survey. This study invited the Department Head of Airline Logistics at Kainan University to have an in-depth interview to discuss the tourism logistics performance in Taipei.

(5) Tourism bureau government staff: Finally, this study needed the opinion of Taiwan's Tourism Bureau opinion to explore the current state of Taipei's tourism, particularly, as a governmental point of view may be different to that of industry. Thus, this study invited one senior manager in tourism planning from Taiwan's Tourism Bureau to offer their opinion and provide archival documents of the development of tourism in Taipei to further validate the findings.

3.2.4.2.5 Interview procedures

A letter containing the RMIT University Consent Form and Interview Guide (Appendix C and D) was sent to interviewees to confirm their participation. The letter explained the general topic of the interview, RMIT University’s ethics requirements, and contact information and interview questions. Interviews were tape — recorded and transcribed from Mandarin into English. The primary source of data collection consisted of open-ended questions in semi-structured interviews. The interview questions were designed to get respondents talking about tourism service quality and logistics service performance in the tourism industry of Taipei. Interviewees were invited to speak about any issue surrounding this topic if they had other opinions beyond the scope of the original questions. The questions were thus only provided as a guide to interviewees to standardise the data needed from interviews.

3.2.4.2.6 Reliability and validity

In order to make sure the reliability of data could be attained through the internal consistency, this study used various questions to measure the same concept. Table 3.10 represents the data that needed to be collected in the interviews.

Table 3.10 Data that needed to be collected in the interviews
(referring to the dimension of logistics service performance)

Constructs of logistics service performance	Source of data	Interview questions	Obtained from
Order Accuracy	Participant A, B, C, D, E, F, G and H	Q2, Q3, Q4, Q5, and Q8	Semi-structured interview
Order Quality			
Order Efficiency			
Order Discrepancy			
Order Flexibility			

Table 3.11 Data that needed to be collected in the interviews

(referring to the dimension of tourism suppliers' service quality, perceive service value, overall tourist satisfaction and tourist loyalty)

Constructs of Logistics service quality	Source of data	Interview questions	Obtained from
Personnel service quality	Participant A, B, C, D, E, F, G and H	Q1, Q2, Q4, and Q5	Semi-structured interview
Information service quality			
Product availability			
Constructs of perceived service value	Source of data	Interview questions	Obtained from
Perceived service value	Participant A, B, C, D, E, F, G and H	Q5, Q6 and Q8	Semi-structured interview
Constructs of overall tourist satisfaction	Source of data	Interview questions	Obtained from
Overall tourist satisfaction	Participant A, B, C, D, E, F, G and H	Q4 and Q6	Semi-structured interview
Constructs of tourist loyalty	Source of data	Interview questions	Obtained from
Tourist loyalty	Participant A, B, C, D, E, F, G and H	Q4 and Q6	Semi-structured interview

For the internal consistency of the data reliability, this study used various questions to measure the same concept (see Table 3.11). This study thus involved a series of questions associated with the constructs aimed at measuring the same concepts.

The interviews were recorded on audiotapes. Prior to the interview, the working functionality of the tape recorder was carefully tested, including to check that the recorded voice could be clearly heard. To achieve the reliability of the data gathered, this researcher carefully and repeatedly listened to the contents of the recorded interviews to ensure the interview data could not be misunderstood.

For the validity of the study, it was vital to verify the truth and accuracy of interviewees' statements (Chang, 2004). The activity of member checks was

performed to ensure that the interview content was derived correctly and related to the research issues. In this regard, a RMIT University Consent Form and Interview Guide were given to each participant prior to the interview process. This activity was to make sure that interviewees were aware of the ethical issues and objectives of the study (Boudreau, Gefen & Straub, 2001; Peszynski, 2005). Also, the researcher asked participants whether they permitted the recorder to tape record the interviews. Afterwards, the transcripts of interviews were sent to interviewees. With this regard to content validity, the results of interpreting the data were further confirmed and established through the literature review. This was helpful to verify the interview content as supported by previous literature, thereby to obtain content validity.

3.2.4.2.7 Data analysis and interpretation

Straub, Boudreau and Gefen (2004) and Teddlie and Tashakkori (2003) state that qualitative data are gathered from a conceptual analysis of transcribed interviews. This methodology is used to measure and provide evidence for research questions from recorded or written texts. There are several ways to undertake this qualitative data analysis. According to Yin (2002), qualitative data, as deriving mainly from texts, should be interpreted for meaning and narrative. Thus, a literature review can help the researcher to think thoroughly through all the data logically. Also, determining the correct meaning of words used in interviews is important to the analysis. In this study, the transcribed interview data and documents were presented in Mandarin. Thus, it was necessary to hire a language expert who is good at both English and Mandarin to check the data with the researcher, in order to achieve data reliability and validity.

The transcribed interviews were prepared for coding in this researcher's office and a selective coding procedure was used based on codes representing each dimension in the theoretical construct. In order to identify the theoretical constructs of this study, the transcribed interviews would be presented by different columns which were represented the dimensions of this study. The result of two data analyses (quantitative and qualitative methodology) were then arranged in a table to compare the dimensions.

After interpreting the data, the researcher categorised data by coding them according to the theoretical framework and interview guide. Tables 3.10 and 3.11 show the labels given to the data. Based on questions within their constructs (Table 3. 10 and 3.11), this thesis will code the data by constructs. After coding, in Chapter 5 data will be displayed in sentences with quotations to represent the different concepts revealed from interviews.

3.3 Summary and the Role of Researcher

A mixed methodology was employed to capture the reality of logistics service performance in Taipei tourism, and to examine whether the data was accurate in the conceptual model examined through a quantitative methodology. Since the form of the data collection were mainly text-based, it was necessary to read into these using one's knowledge and logical analysis (Chang, 2004; Kaplan & Duchon, 1988; Walsham, 1995 a). In addition, the researcher used literature to support the reliability and validity of the qualitative data analysis, which then further confirmed the results of the quantitative data analysis.

The researcher has a background and professional interest in the hospitality and tourism field, has some publications within the tourism research (Appendix E), and holds a lecturer position in the Department of Hotel Business Management of Mingshin University in Taiwan. She also participated in the annual project of tourism development of the Taiwan Tourism Bureau in 2001. The role of the researcher herself has been to systematically and correctly collect the data needed from the interviewees. After data collection, the researcher will cautiously seek to understand and analyse the interviews and interpret the data into a meaningful result (Kayat, 2000; Peszynski, 2005; Walsham, 1995b).

This chapter presented the design and methodology of this research. The advantage and necessity of using a mixed research method, the selection of the sample, the data analysis plans and the testing of the validity and reliability of the data were discussed. Based on the methodology discussed, this research began with the quantitative analysis; then the EFA, the CFA and the SEM were employed to access research constructs and examine a series of relationships

amongst variables. This was followed by the qualitative study, which was used to further confirm the quantitative findings and provide more detailed information through interviews. In the remainder of this thesis, details of the data analyses are discussed: quantitative data analysis in Chapter 4 and qualitative data analysis in Chapter 5. Discussions of the findings of both the qualitative and the quantitative analyses are presented in Chapter 6.

Chapter Four – Quantitative Data Analysis

4.1 Introduction

This chapter presents the data analysis of the survey conducted in Taipei, Taiwan. Quantitative data can demonstrate relationships among measurement constructs. Additionally, in the first stage of data analysis, quantitative data can generalise specific observations and cast new light on future findings (Cresswell & Clark, 2007).

This chapter presents the results of the data analysis for the collected data reported in Chapter 3, section 2.3. A total of 1,000 questionnaires were collected. Descriptive statistics were then used to describe the socio-demographic, attitudinal and behavioural characteristics of the respondents in relation to their travel in Taipei. Next, a reliability test of each individual variable was performed to test individual measurement scales to ensure that they achieved an acceptable level of reliability for subsequent analysis steps. The next step of the data analysis was to subject each multi-indicator measurement scale to an Exploratory Factor Analysis (EFA) and a Confirmatory Factor Analysis (CFA) to identify their underlying dimensions and statistically test in goodness-of-fit in dimensional structure. Finally, the major characteristics of this study – tourism suppliers' service quality, and logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty – were analysed by means of structural equation modelling in order to investigate the hypothesised relationships among constructs. An overall goodness-of-fit between the proposed model and the collected data was assessed by SEM to conclude the chapter. A summary of the quantitative data analysis is then provided.

4.2 Data Screen

There were in total 654 valid responses out of 1,000 surveys distributed to international tourists in Taipei, Taiwan. A 65.4% response rate was achieved from the questionnaire survey distributed between the 1 May and 30 June, 2007. As a result of the 1,000 responses, after a data screen, this study achieved a final result

of 425 valid responses which form the basis of this data analysis, which achieved a response rate of 42.5%.

4.3 Demographic and Sample Profile

Out of 425 respondents travelling in Taipei city during the survey period, 45.9% were male and 54.1% were female indicating an equal representation. The largest age group category was 26 to 35, 45.2% of the total respondents, followed by the age group 36 to 45, 22.1% of the total sample, and 21.9% of the total sample were aged between 18 and 25. The age group of 45 to 55 and 56 to 65 occupied 8% and 2.8% of the total sample respectively. This age group classification followed a normal distribution.

Table 4.1 Demographic and Travel Information of the Respondents

Demographic and other statistical information	Frequency	Percentage (%)
<u>Gender</u>		
Female	230	54.1
Male	194	45.6
Missing value	1	0.3
<u>Age</u>		
18 – 25	93	21.9
26 – 35	192	45.2
36 – 45	94	22.1
45 – 55	34	8.0
56 – 65	11	2.6
Missing value	1	0.2

The ethnic backgrounds of respondents in this survey almost followed the annual inbound international tourists' distribution ratio (TTB, 2006). 77.2% of respondents were from Asia (50% from Japan, 25% from Mainland China, 20% from ASEAN countries, and the rest were from Australia or New Zealand). 9.4% and 8.9% of total respondents were from America and Europe respectively. Finally, 3.8% of all respondents were from Middle Eastern countries. This survey

also included 0.5% respondents from Russia. The ethnic background information is represented in Table 4.2 below.

Regarding the respondents educational background, 51.1% of the total samples have a four-year college degree which was the largest group in the education demography. 15.8% have a two-year college qualification, 15.3% have a high school or vocational school qualification, 14.8% have a Masters degree, 1.9% has a PhD, and 0.2% has elementary schooling only. The demography of educational background is represented in Table 4.2 below.

Table 4.2 Demographic and Travel Information of the Respondents (Continued)

Demographic and other statistical information	Frequency	Percentage (%)
<u>Ethnic background</u>		
Asia, Australia, and NZ	328	77.2
Europe	38	8.9
Middle East	16	3.8
North or South America	40	9.4
Russia	2	0.5
Missing value	1	0.2
<u>Education</u>		
Elementary	1	0.2
High school or Vocational school	65	15.3
2-year college	67	15.8
4-year college	217	51.1
Masters degree	63	14.8
Doctorate degree	8	1.9
Missing value	4	0.9

In regards to the occupation of participants, 15.8% of the total sample have a job in production, 14.8% respondents are students, 14.1% have a professional or related work, 12.5% hold management positions, 7.8% are administrative staff, and 6.6% are in sales. The remainder of the respondents are in other fields (4%), as well as being self-employed (3.5%), housewife (2.6%), construction (1.4%), retired (1.2%), transportation (1.2%), installation or related (0.9%), and fishing

(0.5%). The information concerning participants' occupations is represented in Table 4.3 below.

Table 4.3 Demographic and Travel Information of the Respondents (Continued)

Demographic and other statistical information	Frequency	Percentage (%)
<u>Occupation</u>		
Administrative support	33	7.8
Management	53	12.5
Government or military	13	3.1
Professional and related	60	14.1
Farming, fishing or forestry	2	0.5
Installation, maintenance or repair	4	0.9
Transportation and related	5	1.2
Sales and related	28	6.6
Construction	6	1.4
Production	67	15.8
Service	43	10.1
Student	63	14.8
Self-employed	15	3.5
Housewife	11	2.6
Retired or Not in the workforce	5	1.2
Others (please specify)	17	4.0

The majority of respondents (46.4%) were staying for more than a week in Taipei, indicating that these respondents were holidaying in Taipei rather than attending a business meeting or being in transit. 28.2% of respondents were staying in Taipei for three to five days, followed by 13.6% of respondents staying for one week, 8.2% were staying between one and two days, and 3.5% of total respondents were staying in Taipei for less than one day. The information about duration of participants' stay is reported in Table 4.4.

Other background factors of the tourists include: frequency and purpose of visiting Taipei. In this survey, half of the respondents (50.6%) travelled to Taipei

for the first time. 27.3% of the total samples were repeat travellers, visiting Taipei for the second or third time; 6.1% were visiting Taipei for the fourth or fifth time, and 15.3% of the total sample had visited Taipei more than five times. Almost 48.7% of all respondents had visited Taipei more than twice, indicating that nearly half of the sample could provide accurate responses about logistics service performance affecting their return visit intention for this study in so far as they were repeat and potentially loyal tourists to Taipei. This information is reported in Table 4.4.

Table 4.4 Demographic and Travel Information of the Respondents (Continued)

Demographic and other statistical information	Frequency	Percentage (%)
<u>Time</u>		
First time	215	50.6
2-3 times	116	27.3
4-5 times	26	6.1
More than 5 times	65	15.3
Missing value	3	0.7
<u>Duration</u>		
Less than one day	15	3.5
1-2 day	35	8.2
3-5 day	120	28.2
A week	58	13.6
More than a week	197	46.4

In this study, the purpose of travel in Taipei and information about Taipei tourism are considered in order to identify potential tourism advertising in Taipei. Approximately 36.7% of respondents were vacationing in Taipei, 35.8% were on a professional visit, 13.9% were attending special events such as a friend's wedding or one of Taipei's seasonal festivals, 11.1% were staying for leisure purposes, and the remaining respondents 2.6% were visiting Taipei as part of their international flight transit. This information is reported in Table 4.5.

39% of the sample were travelled by themselves and knew Taipei's tourism via word of mouth (29.1%). 22% of the respondents gained their knowledge from a travel agent, 19% from previous trips in Taipei (which could reflect on and

investigate accurate factors of repeat travel or loyalty), 13.5% from internet surfing, 6.6% from the Taipei tourism bureau's advertisements and promotion, 6.6% knew Taipei from other sources, and 3.1% gained information from Taipei tourism brochures and travel books. In total, 51.1% of total samples were travelling in Taipei because of the tourist loyalty factor. This information is reported in Table 4.5.

Table 4.5 Demographic and Travel Information of the Respondents (Continued)

Demographic and other statistical information	Frequency	Percentage (%)
<u>Travel party</u>		
By yourself	166	39.0
With your spouse	56	13.2
With your family and children	38	9.0
With your friends and relatives	80	18.9
With business associates	68	16.0
With a group	16	3.8
Missing value	1	0.1
<u>Travel purpose</u>		
Vacation or pleasure	156	36.7
Business or professional visit	152	35.8
En route to somewhere	11	2.6
Leisure	47	11.1
Attend special events	59	13.9
<u>Information</u>		
Previous trip(s)	80	19
Internet	57	13.5
Brochure or travel guidebooks	13	3.1
Travel agent	93	22
Word of mouth	123	29.1
Advertisements	28	6.6
Other	28	6.6
Missing value	3	0.1

The demographic information offers an overall descriptive background of the participants. From the statistical analysis of each table, this research can assume

that the data collection fits the normal distribution. Also, the different purpose of travelling in Taipei can provide the Taiwan Tourism Bureau (TTB) with overall information about international tourists. In future, TTB can use this demographic information, the implications for tourism management and the suggestions offered in Chapter 6 to devise a marketing strategy to promote Taipei tourism to target markets.

4.4 Descriptive Analysis of Questions

In tourism research, service quality has been extensively examined over the past two decades (Kandampully, 2000). The service quality instrument (SERVQUAL) (Parasuraman, Zeithaml & Berry, 1985, 1988) is the most commonly used instrument to measure service quality as provided by suppliers and perceived by customers. This study widely applied the SERVQUAL scale as a basis for the development of new scales appropriate for the tourism industry, taking into account its unique product characteristics. The next section is divided into various subsections which are based on the five major constructs of the hypothesised model outlined in Chapter 2, section 7. The subsections include tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty.

4.4.1 Tourism Suppliers' Service Quality (TSSQ)

In the dimension of tourism suppliers' service quality (TSSQ), respondents rated the first factor of 'personnel service quality' (PSQ) highly in all seven attributes, from $\bar{n} = 4.78$ to $\bar{n} = 5.01$ (Table 4.6, p. 98). This result indicated that international tourists agree that professional service quality does exist among Taipei's hospitality staff.

In the dimension of 'information system quality' (ISQ), all three attributes are above $N = 5.00$. Results indicate that respondents strongly agree that Taipei's information system quality in terms of reservations and online information availability of tourism products are highly regarded.

In product availability (PA), all four attributes ranged between $\bar{n} = 5.12$ and $\bar{n} = 5.30$. These results reveal that tourists surveyed were satisfied with the variety and availability of all travel products. They especially agreed with PA4, $\bar{n} = 5.30$, which states that 'Taipei offers convenient local transport services'.

4.4.2 Logistics Service Performance (LSP)

Logistics service performance essentially emphasises the ability to handle order processes in a supply chain (Mentzer & Williams, 2001). Based on the unique characteristics of tourism products (Eraqi, 2006), in the survey questionnaire this study used the following: order accuracy (OA) (referring to the right quantity of tourism product); order quality (OQ) (referring to how well the tourism product presents, and the supplier's commitment to deliver a promised product as scheduled); order efficiency (OE) (referring to the concept of 'just-in-time', to minimise inventory and maximise tourism production); order discrepancy (OD) (referring to the ability to handle the wrong order); and order flexibility (OF) (how efficiently and functionally tourism suppliers handle order requests in the context of the characteristics of perishability and inseparability of tourism products).

In the dimension of logistics service performance, and in terms of the first factor, order accuracy, all respondents agreed that tourism staff could order accurately and seldom made mistakes. The results ranged from $\bar{n} = 5.04$ to $\bar{n} = 5.15$. Although there are a variety of businesses in the tourism industry in Taipei, the results indicate that overall it is highly commended for its reservation accuracy. International tourists were satisfied with the accuracy of reservations, which indicated that overseas bookings had little to worry about in terms of Taipei's logistics service performance.

In order quality, the results ranged between $\bar{n} = 5.00$ and $\bar{n} = 5.08$, and indicated that tourists were mostly satisfied with reservations and product on/in-time delivery ($\bar{n} = 5.04$), that these met their requests ($\bar{n} = 5.12$), and reconfirmation ($\bar{n} = 5.09$), indicating that Taipei offers high-quality reservations standards for logistics service performance.

In order efficiency, order discrepancy and flexibility, the results ranged between $\bar{n} = 4.69$ and $\bar{n} = 4.81$. The results indicated that tourists are not as satisfied with changing orders, the flexibility of last-minute changes or the modification of changes in Taipei as they are with other measures of logistics service performance mentioned above such as OA and OQ. However, overall the results indicate that Taipei's logistics service performance is satisfactory.

4.4.3 Perceived Service Value (PSV)

Perceived service value has been discussed in many marketing studies as one of the key determinants of customer satisfaction and loyalty. Lin (2007, p. 115) summarises that 'the perceived service value is the result of the customer's overall evaluation of the benefits gained by the customer (from a product or service) and the costs (i.e. money, time, efforts energy) that he paid'. In this dimension, tourists were asked about their opinions of receiving good service value or obtaining a worthwhile purchase within Taipei tourism. The questions represent an overall experience of perceived tourism services in Taipei.

Descriptive results of means ranged between $\bar{n} = 4.86$ and $\bar{n} = 4.88$ respectively. The results reveal that tourists felt that they had received a good experience and service quality from all tourism suppliers.

4.4.4 Overall Tourist Satisfaction (OTS)

Overall tourist satisfaction is a much broader concept based on a holistic evaluation after purchase (Gallarza & Saura, 2006). Oliver (1997) indicates that overall satisfaction is not just the sum of the individual assessment of each

satisfactory attribute. He suggests that overall satisfaction and attribute satisfaction are distinct, though related, constructs. Many tourism studies support his view and use overall satisfaction as a major attribute distinct from the individual satisfaction attribute (Lee, 2005).

Under this dimension, the results ranged between $\bar{n} = 4.92$ and $\bar{n} = 5.06$. Rather than an overall feeling of good service ($\bar{n} = 4.88$), or personnel service ($\bar{n} = 4.92$), or performance in taking order ($\bar{n} = 4.92$), or worth the money ($\bar{n} = 4.92$), experience of the destination ($\bar{n} = 5.06$) made tourists the most satisfied when travelling in Taipei.

4.4.5 Tourist Loyalty (TL)

In the tourism field, researchers generally consider tourist loyalty to be dependent on an experience of travel (Lee, 2001), on tourist participation in travel activities (Hu, 2003), on the degree of interest in the tourism product and on the affective response associated with it (Manfredo, 1989). Tourist loyalty is not only a manifestation of a psychological behaviour (that is, a commitment or emergence of ego towards the behavioural object), but also is a consequence of an involvement in recreation/leisure behaviours (Lee, 2005).

In this dimension, the survey asked respondents about their travel loyalty to Taipei in relation to: saying positive things about Taipei ($\bar{n} = 5.11$), visiting Taipei again ($\bar{n} = 5.07$), recommending Taipei to friends ($\bar{n} = 5.09$), and considering Taipei as first choice for a holiday ($\bar{n} = 4.68$). The results indicated that tourists had quite a strong willingness to promote Taipei's tourism and strong intentions to revisit. In light of this, the Taiwan Tourism Bureau should consider how to better promote travel to Taipei, and keep Taipei as a preferred destination for both loyal and future tourists.

The overall result of descriptive analysis of the survey questions are reported in Table 4.6.

Table 4.6 Descriptive Analysis of Overall Questions in this Study

Attributes	Mean (N= 425)	Std Deviation
1. Taipei has		
PSQ1 Professional customer personnel who make an effort to understand my situation	4.78	1.235
PSQ2 Professional customer personnel who can resolve my problem	4.81	1.177
PSQ3 Professional customer personnel who know my request and needs well	4.84	1.155
PSQ4 Professional customer personnel who are willing to help me	5.01	1.197
PSQ5 Professional customer personnel who listen to my suggestions	4.81	1.254
PSQ6 Professional customer personnel who make a continuous improvement in the way they provide service	4.82	1.175
PSQ7 Professional customer personnel who can be responsive to problems that arise suddenly	4.92	1.193
ISQ1 Tourism product information (such as airlines, hotels, restaurants, shopping centres, and seasonal festivals and activities) is available online	5.10	1.130
ISQ2 Online reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are available	5.10	1.177
ISQ3 Online reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are easy to use	5.07	1.177
PA1 A variety of tourism attractions (such as historic or cultural sites, scenery, seasonal festivals, and international events)	5.12	1.117
PA2 A wide selection of tourism facilities and services (such as airlines, buses, parks, zoo, and golfcourses)	5.13	1.140
PA3 Variety of amenity services (such as hotels, restaurants, entertainment and shopping options)	5.26	1.045
PA4 Convenient local transport services (such as Taiwan high-speed rail, Taipei mass rapid transit system, train, buses and taxis)	5.30	1.091
2. Compared to other travel destinations, Taipei tourism suppliers:		
OA1 Seldom make mistakes in travel date or time in booking airline tickets	5.04	1.013
OA2 Seldom make mistakes in booking hotel rooms	5.12	1.133
OA3	5.09	1.131

Seldom make mistakes in booking restaurant seats		
OA4 Seldom make mistakes in pick-up time in booking taxi services	5.15	1.146
OQ1 Provide on-time luggage transfers	5.01	1.089
OQ2 Provide on-time travel transports	5.00	1.071
OQ3 Supply tourism products (such as rooms, food and beverage, and travel arrangements) that meet my order request	5.08	1.096
OQ4 Seldom fail to confirm my order	4.95	1.076
OE1 Make it easy for me to find a substitute reservation when a full booking of tourism product occurs	4.77	1.077
OE2 Respond to changes in customer order satisfactorily	4.78	1.068
OE3 Rectify mistakes they make in customer orders quickly	4.81	1.088
OD1 Make it easy for me to make last-minute change to airline or hotel reservations before arrival	4.69	1.113
OF1 Modify customer orders readily in terms of arrival date and quantity upon request	4.74	1.096
3. I feel that Taipei's tourism suppliers		
PSV1 Render good service value in comparison to the price I paid	4.86	.983
PSV2 Provide me with a good deal	4.88	1.010
4. After I visited Taipei, I feel that in Taipei		
OTS1 I was fully provided with a good service quality to satisfy me	4.98	.981
OTS2 Personnel service made me happy	4.92	1.063
OTS3 The performance of taking my order is satisfactory	4.92	.996
OTS4 Overall service is worth the money	4.92	.986
OTS5 The experience of this destination made me happy	5.06	1.027
5. After I visited Taipei, I might		
TL1 Say positive things about Taipei to other people	5.11	1.102
TL2 Visit Taipei again	5.07	1.097
TL3 Recommend Taipei to my friends to visit	5.09	1.108
TL4 Consider Taipei as my first choice to visit in the future	4.68	1.234
Note: A 7-point Likert scale is used in this survey. Scale: 1 = Strongly Disagree; 7 = Strongly Agree		.

Note: For the full questions of each attribute, please see Table 3.1 to Table 3.5

4.5 Reliability

Reliability is defined as the internal consistency of observations or measures (Nunnally, 1978; Nunnally & Bernstein, 1994). Reliability implies that an index of an instrument is stable and it is determined by Cronbach's Alpha coefficient, which is based on the internal consistency of the scale (Hair et al. 2006). The higher the value of Cronbach's Alpha coefficient, the higher the internal consistency of the item measurement of each construct, indicating the instrument's high reliability (La, 2005).

Scholars (Nunnally, 1978; Hair et al. 2006) claim that a Cronbach's Alpha coefficient value of at least 0.60 is acceptable for internal consistency across items. Also, if the measure indicators have low item-to-total correlations (<0.40) and p-values (<0.05) using an ANOVA with Friedman's test and Tukey's test for nonadditivity, the indicators are considered insignificant in the dimension and should be removed (Lin, 2007). Table 4.7 shows the Cronbach Alpha coefficients for each of the constructs in this study.

Table 4.7 Reliability Test of Indicators and Constructs

Dimension	Cronbach's Alpha	ANOVA Tuckey's Test & Hotelling's T-Square Test	Indicators	Number of total items	Deleted items (if item-to-total correlation <0.40)
(1) Tourism Suppliers' Service Quality (TSSQ)	0.936	Chi-Square= 244.932 (Sig. 0.000) F= 6.927 (Sig. 0.000)	Personnel Service Quality (PSQ)	7	nil
			Information Service Quality (ISQ)	3	nil
			Product Availability (PA)	4	nil
			Total 3 Indicators	14	nil
(2) Logistics Service Performance (LSP)	0.938	Chi-Square= 232.979 (Sig. 0.000) F= 6.075 (Sig. 0.000)	Order Accuracy (OA)	4	nil
			Order Quality (OQ)	4	nil
			Order Efficiency (OE)	3	nil
			Order Discrepancy (OD)	1	nil
			Order Flexibility (OF)	1	nil
			Total 4 Indicators	13	nil
(3) Perceived Service Quality (PSQ)	0.874	N.A.	Total 1 Indicators	2	nil

(4) Overall Tourist Satisfaction (OTS)	0.934	Chi-Square= 23.837 (Sig. 0.000) F= 6.124 (Sig. 0.000)	Total 1 Indicators	5	3 (OTS1,2, and 4)
(5) Tourist Loyalty (TL)	0.904	Chi-Square= 120.703 (Sig. 0.000) F= 24.904 (Sig. 0.000)	Total 1 Indicators	4	2 (TL1 and 2)

The results show that reliability scores (Cronbach's Alpha coefficients) range from 0.874 to 0.938 in each dimension. All variables within each construct presented a high internal consistency higher than 0.60, therefore the results demonstrate generally good reliability. All measurement items remained in this stage, and continued to during further testing.

4.6 Exploratory Factor Analysis (EFA)

In order to verify the two dimensions (tourism suppliers' service quality and logistics service performance) with 27 indicators after the pilot test, an Exploratory Factor Analysis with Varimax Rotation was employed to reduce the number of dimensions in order to provide a more thorough explanation (Hair et al. 2006). EFA was undertaken in order to then ascertain the efficiency and effectiveness of further confirmatory factor analysis.

To determine whether the collected data was appropriate for the EFA result, there were several requirements that needed to be met (see Chapter 3, section 2.3.5). After an EFA has been performed, factors with loadings greater than 0.3 are included for further interpretation of the data. These factors are verified by Confirmatory Factor Analysis (CFA), and then become the latent variables (exogenous variables) in a SEM measurement model. Details of the EFA test of each dimension are described below in Table 4.8.

4.6.1 Underlying Dimensions of Tourism Suppliers' Service Quality

A sample of 425 observations was tested in order to identify the underlying dimensions of logistics service quality. As Table 4.8 indicates the Barlett test was significant at .001 level (Bartlett's test of sphericity = 4657.446, $p < 0.001$), and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO-MSA) overall value was above 0.80, indicating that the collected data is suitable for factor analysis. This dimension's measure of sampling adequacy (MSA) value was 0.934, well exceeding the requirement of the MSA to be over 0.6 (Hair et al. 2006). Thus, factors within the dimension of tourism suppliers' service quality could be further examined to derive factors and to assess the overall fit test by adopting the EFA.

Table 4.8 KMO and Bartlett's Test for Tourism Suppliers' Service Quality

KMO-MSA	0.934
Bartlett's Test of Sphericity	
Approx. Chi-Square	4657.446
df	91
Sig.	0.000

As Table 4.9 presents, there were only two factors (personnel service quality combined into one factor and information service quality and product availability combined into another factor) which were extracted from 14 indicators. The scree plot test (Figure 4.1) for this dimension also suggests a two-factor solution. Both factors have eigenvalues greater than 1, and together explain 70.4% of the variance. The communalities vary from 0.697 to 0.869, suggesting that variance in each original indicator is reasonably explained by two common factors taken together. The Cronbach's Alpha coefficient for the two factors is robust in this study, ranging from 0.697 to 0.869, well above the generally agreed upon lower limit of 0.30 for the EFA stage (Hair et al. 2006), indicating high internal consistency among variables within each factor. As Hair et al. (2006) suggest, indicators (ISQ1 and ISPQ3) have a high cross-loading on two or more factors (0.373 and 0.697, and 0.711 and 0.404) and should either be deleted or re-justified conceptually. Table 4.9 shows the revised dataset considered to be appropriate for CFA.

The underlying dimensions of tourism suppliers' service quality retained:

- Personnel service quality with seven items; and
- Product service quality and availability with five items.

Table 4.9 Underlying Dimensions of Tourism Suppliers' Service Quality

Factor	Indicator	Communalities	Factor loadings	Eigen Value & Variance Explained (%)	Cronbach's Alpha after deleting items
Personnel Service Quality (PSQ)	PSQ1	0.791	0.858	7.679	0.945 (Chi-Square p < 0.05)
	PSQ2	0.804	0.869	54.85%	
	PSQ3	0.784	0.857		
	PSQ4	0.713	0.779		
	PSQ5	0.760	0.839		
	PSQ6	0.751	0.829		
	PSQ7	0.672	0.787		
Information Service Quality and Product Availability (ISQPA)	ISQ1(*)	0.625	0.697	2.189	0.880 (Chi-Square p < 0.05)
	ISQ2	0.710	0.791	15.634%	
	ISQ3(*)	0.669	0.772		
	PA1	0.611	0.733		
	PA2	0.665	0.776		
	PA3	0.675	0.806		
	PA4	0.640	0.794		

(*) Cross-loading indicator, deleted in Confirmatory Factor Analysis (CFA)

Principal Component Analysis with Varimax Rotation (listwise deletion n = 425)

Rotation converged in 3 iterations

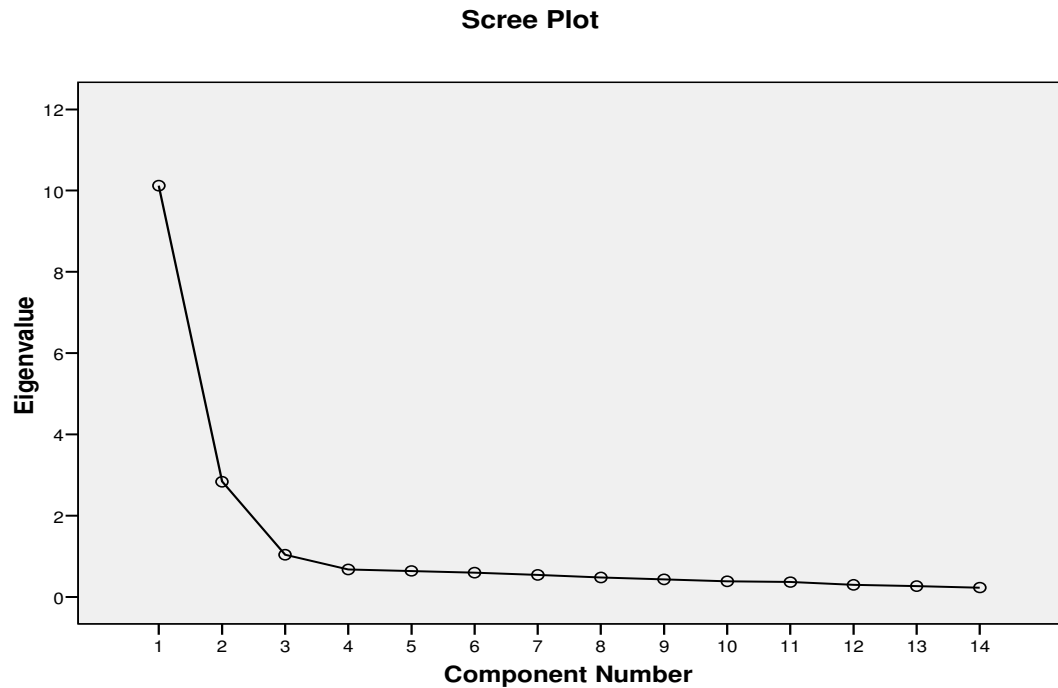


Figure 4.1 The scree plot test for dimension Tourism Suppliers' Service Quality

Ultimately, two factors that included twelve items were identified (see Table 4.9). The new factors, which included 'personnel service quality' (PSQ) and 'information service quality and product availability' (ISQPA), explained 70.48% of the total variance. The reliability of the two factors ranged from 0.880 to 0.945, which was considered acceptable for exploratory research (Nunnally & Bernstein, 1994).

4.6.2 Underlying Dimensions of Logistics Service Performance

As Table 4.10 shows, the Barlett test is significant at .001 level (Bartlett's test of sphericity = 4318.788, $p < 0.001$), and the KMO-MSA overall value was above 0.80, indicating that data was suitable for factor analysis. The MSA value was 0.929, which was appropriate as the value exceeds the required MSA of over 0.6 (Hair et al. 2006). Thus, the factors within the dimension of logistics service quality could be further examined in deriving the factors and assessing the overall fit test by using the EFA.

Table 4.10 KMO and Bartlett's Test for Logistics Service Performance

KMO-MSA		0.929
Bartlett's Test of Sphericity		
	Approx. Chi-Square	4318.788
	df	78
	Sig.	0.000

As Table 4.11 presents, there were two factors – order accuracy and order quality combined into one factor; and order efficiency, order discrepancy and order flexibility combined into a second factor – that have been extracted from thirteen indicators. This result was confirmed by a scree plot (Figure 4.2) test which suggested a two-factor solution. Both factors had eigenvalues greater than 1, and together explain 70.9% of the variance. The communalities varied from 0.697 to 0.869, suggesting that variance in each original indicator is reasonably explained by the two common factors taken together. The Cronbach's Alpha coefficient for each of the two factors was robust, ranging from 0.639 to 0.800, and were considered well above the generally agreed upon lower limit of 0.30 for the EFA stage (Hair et al. 2006), indicating high internal consistency among variables within each factor. As Hair et al. (2006) suggest, indicators having a high cross-loading (0.30) on two or more factors should be eliminated or re-justified conceptually.

In this dimension set, three items were deleted because of high cross-loadings. These items were OA4 (0.752 and 0.457), OQ1 (0.451 and 0.688), OQ2 (0.389 and 0.727), OQ4 (0.409 and 0.641), OE1 (0.549 and 0.636), and OE2 (0.722 and 0.414). Table 4.11 shows the revised dimension of logistics service performance with 0.859 and 0.896 for the Cronbach's Alpha coefficient. The result indicates a good reliability of dimensions of logistics service performance.

Thus, the underlying dimensions of logistics service performance retained were:

- Order accuracy and quality with four items; and
- Order efficiency, discrepancy and flexibility with three items.

Table 4.11 Underlying Dimensions of Logistics Service Performance

Factor	Indicator	Communalities	Factor loadings	Eigenvalue & Variance Explained (%)	Cronbach's Alpha after deleting items
Order Accuracy & Quality (OAQ)	OA1	0.723	0.820	7.489	0.896 (Chi-Square p < 0.05)
	OA2	0.784	0.863	57.611 %	
	OA3	0.782	0.875		
	OA4(*)	0.800	0.863		
	OQ1(*)	0.681	0.697		
	OQ2(*)	0.639	0.662		
	OQ3	0.655	0.714		
	OQ4(*)	0.654	0.576		
Order Efficiency, Discrepancy & Flexibility (OEDF)	OE1(*)	0.645	0.721	1.732	0.859 (Chi-Square p < 0.05)
	OE2 (*)	0.723	0.798	13.324%	
	OE3	0.741	0.814		
	OD1	0.702	0.823		
	OF1	0.693	0.817		

(*) Cross-loading indicator, deleted in Confirmatory Factory Analysis (CFA)

Principal Component Analysis with Varimax Rotation (listwise deletion n = 425)

Rotation converged in 3 iterations

Scree Plot

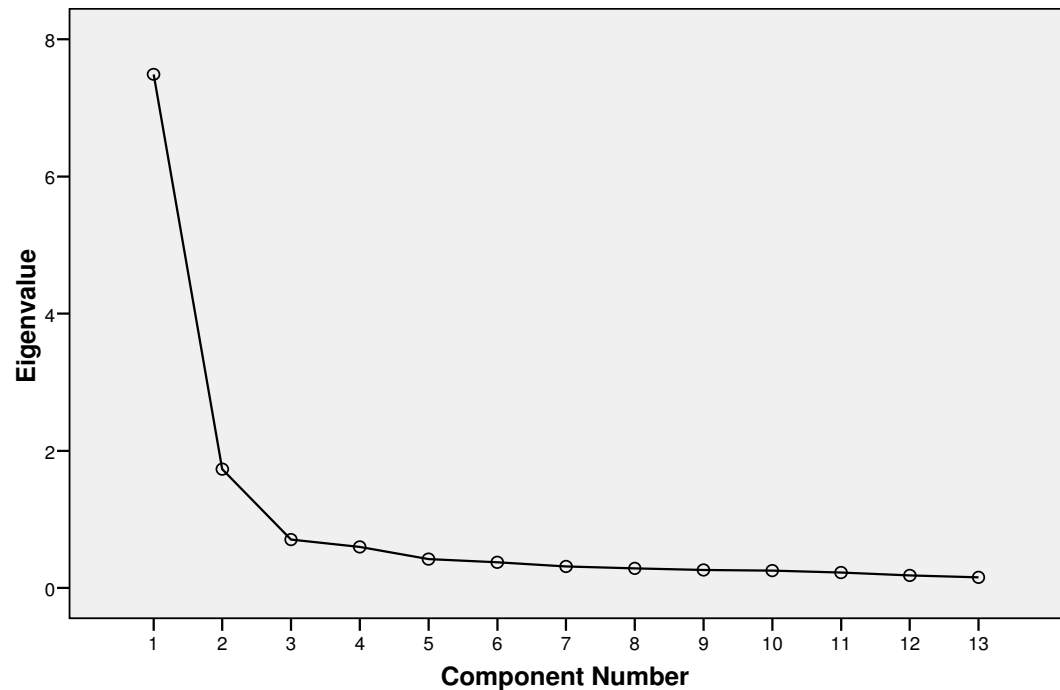


Figure 4.2 The Scree Plot Test for Dimension Logistics Service Performance

Two factors including seven items were identified (Table 4.11). The factors were ‘order accuracy and quality’ (OAQ), and ‘order efficiency, discrepancy and flexibility’ (OEDF), which explained 70.9% of the total variance. The reliability coefficient of the two factors ranged from 0.859 to 0.896, which was considered acceptable for the next step of the CFA test.

The EFA of four dimensions was tested in the first construct validity stage. Cross-loading factors were removed because of the construct consistency for the next test in the Confirmatory Factor Analysis (CFA). EFA was used in order to identify whether indicators fit within the constructs. The next step was to test factors within a hypothesised construct. CFA examined whether data were consistent with highly constrained structures to meet the conditions of model identification (Byrne, 2001).

4.7 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) plays a confirmatory role in testing model structures and theory in building dimensional structure (Lo, 2007). Other than EFA, CFA can provide statistical analysis in terms of goodness-of-fit in the dimensional structure. Also, CFA allows for the estimation of standard errors and the calculation of significance tests for the factor loadings and other model parameters (Hair et al. 2006). Thus, this study initially had four dimensions tested in EFA. Then, two dimensions (TSSQ and LSP) were further tested in CFA in order to make sure their construct accuracy within latent constructs and reflective indicators was appropriate. As stated earlier in Chapter 3, section 2.3.6, the fit indices of CFA were requirements of latent constructs. Those indicators within the construct which do not meet the requirements should be deleted in CFA in order to further test using SEM.

4.7.1 Confirmatory Factor Model for Tourism Suppliers' Service Quality

The hypothesised model of tourism suppliers' service quality contains two factors or latent constructs: personnel service quality (PSQ); and information service quality and product availability combined (ISQPA). Each set of variables was an indicator of the separate constructs. Each of twelve observed variables was directly affected by a unique unobserved error. Each error was uncorrelated with other errors, and all errors were uncorrelated with unobserved factors. However, this study had already tested TSSQ in EFA, identifying two factors belonging to the TSSQ construct and correlating these with each other (see Figure 4.3).

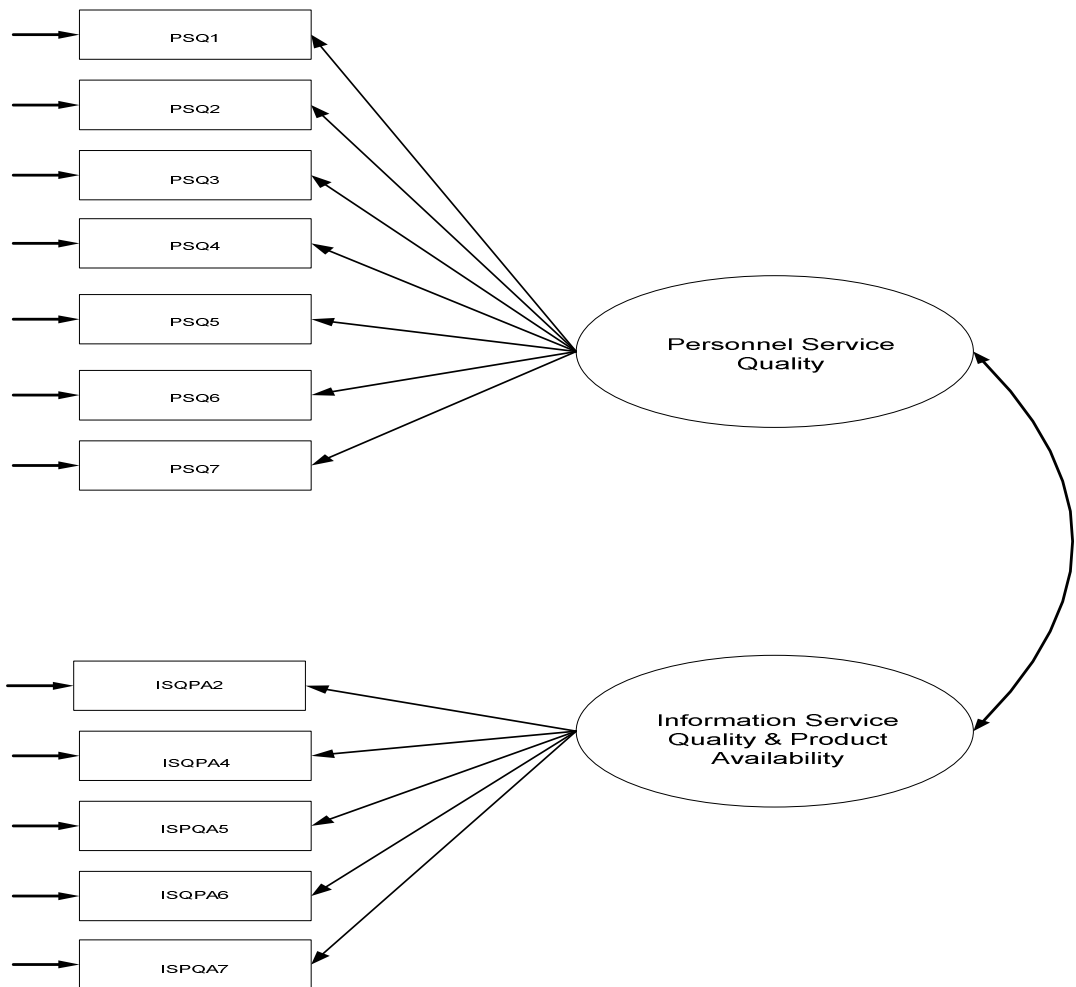


Figure 4.3 Confirmatory Factor Model for Tourism Suppliers' Service Quality

Initial outputs (Table 4.12) indicated that the model fit ($\chi^2/df = 3.25$ with a statistical significance level of 0.000, below the minimum level of 0.05, GFI= 0.94, SRMR = 0.045, NFI = 0.98 and CFI = 0.99) was adequate except for the critical N value (CN>200) and root mean square error of approximation (<0.05). Although CN values did not confirm the model fit, it is agreed by Arbuckle (1996), Hair et al. (2006) and Kline (2004) that the CN value might be affected by sample size thus influencing chi-square. With a larger sample (>200, in this study = 425), chi-square values always become significant. Thus, a larger sample might affect the critical N value as well (Chiou, 2006). RMSEA also might be affected by chi-square (Browne & Cudeck, 1993). Therefore, in the CFA stage, this study did not try to adjust these two indices before assessing the fit in SEM.

Table 4.12 Overall Model Fit of Tourism Suppliers' Service Quality

Chi-square with degree of freedom	172.54 with 53 df (p = .000)
Normed chi-square (χ^2/df)	3.25
Goodness-of-fit (GFI)	0.94
Root mean square error of approximation (RMSEA)	0.073
Standardised root mean square residual (SRMR)	0.045
Normed fit index (NFI)	0.98
Non-normed Fit Index (NNFI)	0.98
Hoelter's critical N (CN)	199.61
Comparative fit index (CFI)	0.99

Many other fit indices help to assess the overall model fit, rather than to test the null hypotheses as in the case of chi-square values. The goodness-of-fit index (GFI = 0.94) represents the overall degree of fit (Hair et al. 2006). Chiou (2006) suggests that the RMSEA value of 0.074 can be considered a reasonable approximate overall fit (RMSEA < 0.08). The SRMR was 0.049, which is deemed acceptable according to Chiou (2006), who recommends that a SRMR value of less than 0.1 is a good fit in the model. The NFI was 0.96, which is supported by Hair et al. (2006) and Chiou (2006) who recommend that a NFI of greater than 0.9 would be a best fit index in the model. Also, the CFI was 0.97 in the initial output, better than 0.9, which is recommended by some SEM studies (Kline, 1998, 2004, Chiou, 2006, Lo, 2007).

Hair et al. (2006) and Chiou (2006) suggest that for measurement of construct validity, the convergent validity (see Note, p. 114) test requires that CR values (>0.7) and the average variance extracted (AVE) values (>0.5) should be closely looked at by examining the statistical significance of indicator loadings in assessing the overall model fit as well. There are two requirements for measuring the construct validity: (1) each variable's *t*-value associated with each of the loadings is significant at the 0.01 level; and (2) estimates of CR values and AVE for each construct that is necessary to check that the indicators are sufficient in their constructs. The results of standard loadings, CR, and AVE are shown in Table 4.13. For each variable, the *t*-value associated with each of the loadings is significant at 0.01. The results indicate

that all variables are significantly related to their individual constructs, verifying the posited relationships among indicators and constructs. Also, the construct reliability (CR) indicates that the values of PSQ and ISQPA were 0.94 and 0.88 respectively. CR results exceed the minimum cut-off of 0.7. AVE measures of the amount of variance for PSQ and ISQPA were 0.71 and 0.53, both exceeding the minimum cut-off of 0.50. This suggested that the two constructs explained a significant amount of variance in their respective indicators taken together. The results supported the convergent validity of the scale.

Table 4.13 CR and AVE for Tourism Suppliers' Service Quality

	Std Loading	CR	AVE
Personnel Service Quality		0.94	0.71
PSQ1	0.88		
PSQ2	0.89		
PSQ3	0.87		
PSQ4	0.81		
PSQ5	0.84		
PSQ6	0.84		
PSQ7	0.78		
Information Service Quality & Product Availability		0.88	0.53
ISQPA2	0.72		
ISQPA4	0.77		
ISQPA5	0.82		
ISQPA6	0.81		
ISQPA7	0.74		

The covariance matrix was used as the input matrix to estimate the model (see Table 4.14). The results of discriminate validity indicated that none of the correlations

between the latent constructs are particularly large, ranging from 0.272 to 0.823. None of them approached 1.00 which provides good support for discriminate validity (Anderson & Gerbing, 1988) (Table 4.14). Table 4.14 offers further evidence of discriminate validity. All squared correlations from Table 4.14 were less than the AVE values for the corresponding latent variables (Fornell & Larcker, 1981).

*Note:

Convergent validity

$$\text{Construct reliability (CR)} = \frac{(\sum\lambda)^2}{[(\sum\lambda)^2 + \sum(1-\lambda_j^2)]}$$

$$\text{Average Variance Extracted (AVE)} = \frac{\sum\lambda^2}{[\sum\lambda^2 + \sum(1-\lambda_j^2)]}$$

where λ = standardised loadings, $1 - \lambda_j$ = indicator measurement error

Table 4.14 Final Correlation Matrix for Tourism Suppliers' Service Quality

	PSQ 1	PSQ2	PSQ 3	PSQ4	PSQ5	PSQ 6	PSQ7	PSQA2	PSQ 4	PSQ5	PSQ6	PSQ7
PSQ 1	1											
PSQ2	0.823**	1										
PSQ 3	0.769**	0.780**	1									
PSQ4	0.674**	0.720**	0.709**	1								
PSQ5	0.710**	0.730**	0.734**	0.741**	1							
PSQ 6	0.725**	0.704**	0.735**	0.665**	0.719**	1						
PSQ7	0.696**	0.673**	0.629**	0.615**	0.660**	0.723**	1					
ISQPA2	0.424**	0.406**	0.425**	0.454**	0.425**	0.438**	0.397**	1				
ISQPA4	0.384**	0.366**	0.393**	0.457**	0.411**	0.444**	0.393**	0.540**	1			
ISQPA5	0.403**	0.399**	0.369**	0.422**	0.412**	0.411**	0.391**	0.600**	0.627**	1		
ISQPA6	0.373**	0.331**	0.314**	0.397**	0.319**	0.344**	0.310**	0.550**	0.625**	0.669**	1	
ISQPA7	0.285**	0.294**	0.272**	0.336**	0.269**	0.293**	0.267**	0.547**	0.560**	0.592**	0.646**	1

** $p < 0.01$

4.7.2 Confirmatory Factor Model for Logistics Service Performance

The hypothesised model of logistics service performance contains two factors or latent constructs: order accuracy and quality (OAQ) and order efficiency, discrepancy and flexibility (OEDF). Each set of variables was an indicator of the separate constructs. Each of the seven observed variables was directly affected by a unique unobserved error. Each error was uncorrelated with other errors, and all errors were uncorrelated with unobserved factors. However, this study had already tested LSP in EFA, identifying two factors belonging to the LSP construct and correlating these with each other (see Figure 4.4).

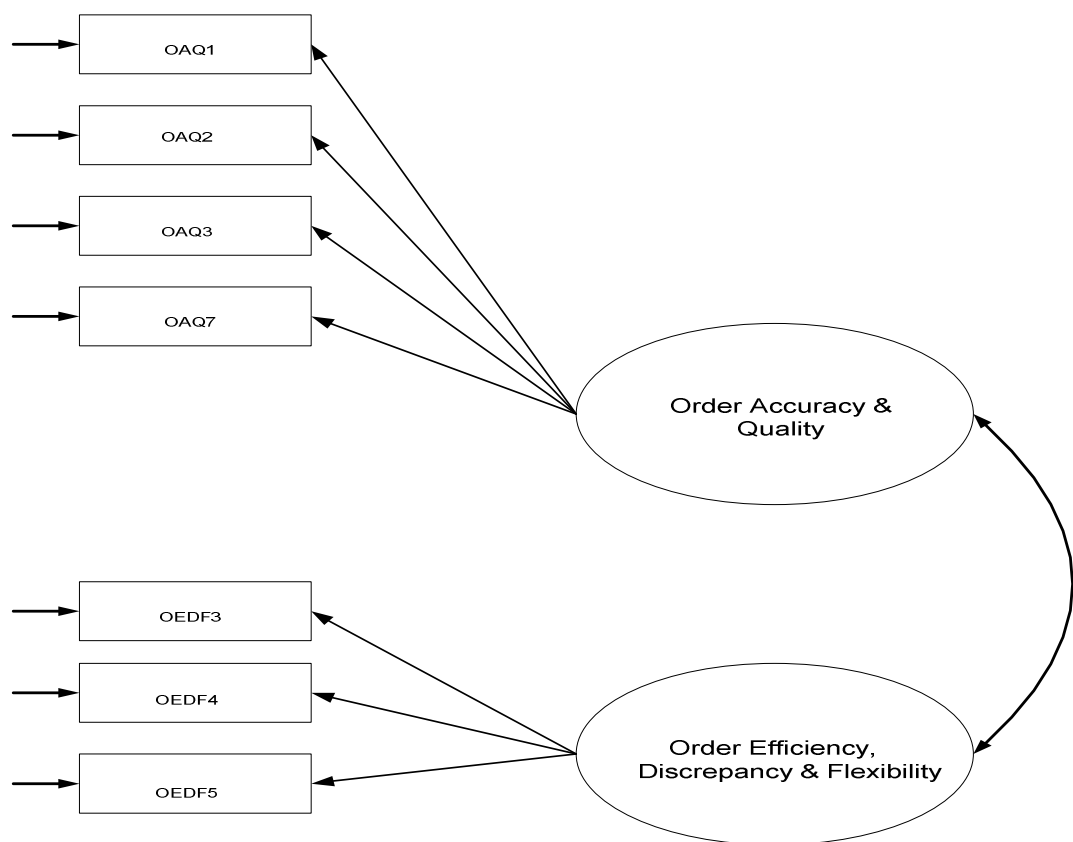


Figure 4.4 Confirmatory Factor Model for Logistics Service Performance

Table 4.15 shows that initial fit statistics did not fit perfectly ($\chi^2/df = 5.10$ with a statistical significance level of 0.000, below the minimum level of 0.05, RMSEA = 0.098 and CN = 170.42). Therefore, this study adopted a modification index to delete two indicators (OAQ2 and OAQ7) because they were not sufficiently stable to be reflective indicators for this latent variable. Thus, this study deleted them until the

model fit improved to an acceptable level. A better fit result is shown in Table 4.16. Both the RMSEA (0.071) and the CN value (456.12) improved.

Table 4.15 Overall Model Fit of Logistics Service Performance

Chi-square with degree of freedom	61.27 with 12 df (p = .000)
Normed chi-square (χ^2 /df)	5.10
Goodness-of-fit (GFI)	0.96
Root mean square error of approximation (RMSEA)	0.098
Standardised root mean square residual (SRMR)	0.056
Normed fit index (NFI)	0.97
Non-normed fit index (NNFI)	0.97
Hoelter's critical N (CN)	170.42
Comparative fit index (CFI)	0.98

Table 4.16 Modified Overall Model Fit of Logistics Service Performance

Chi-square with degree of freedom	12.63 with 4 df (p = .000)
Normed chi-square (χ^2 /df)	3.15
Goodness-of-fit (GFI)	0.99
Root mean square error of approximation (RMSEA)	0.071
Standardised root mean square residual (SRMR)	0.027
Normed fit index (NFI)	0.99
Non-normed fit index (NNFI)	0.98
Hoelter's critical N (CN)	456.12
Comparative fit index (CFI)	0.99

Also, as shown in Table 4.17, without OAQ2 and OAQ7, the construct reliability and average variance extracted scores are generally well above average indicating a good fit of the modified construct in logistics service performance.

In convergent validity of the scale, both CR and AVE for OAQ and OEDF were 0.84 and 0.85, and 0.72 and 0.66 respectively. All exceeded the cut-off 0.7 (CR) and 0.5 (AVE). The results of convergent validity indicated that the two factors explained a good amount of variance in their respective measurement items taken together.

Table 4.17 CR and AVE for Logistics Service Performance

	Std Loading	CR	AVE
Order Accuracy & Quality		0.84	0.72
OAQ1	0.93		
OAQ3	0.77		
Order Efficiency, Discrepancy & Flexibility		0.85	0.66
OEDF3	0.81		
OEDF4	0.83		
OEDF5	0.82		

Table 4.18 shows the correlation matrix for this dimension. The correlations between the constructs are within a reasonable range (between 0.284 and 0.717), which did not approach 1.00. Test results supported the discriminate validity of the scale. The overall construct reliability was good and explained that the two constructs had a good level of reliability in logistics service performance. Table 4.18 offers the further evidence of discriminate validity. All squared correlations from Table 4.18 were less than the AVE values for the corresponding latent variables indicating a good result of discriminate validity (Fornell & Larcker, 1981).

Table 4.18 Final Correlation Matrix for Logistics Service Performance

	Order Accuracy & Quality 1	Order Accuracy & Quality 3	Order Efficiency, Discrepancy & Flexibility 3	Order Efficiency, Discrepancy & Flexibility 4	Order Efficiency, Discrepancy & Flexibility 5
Order Accuracy & Quality 1	1				
Order Accuracy & Quality 3	0.717**	1			
Order Efficiency, Discrepancy & Flexibility 3	0.448**	0.363**	1		
Order Efficiency, Discrepancy & Flexibility 4	0.369**	0.310**	0.662**	1	
Order Efficiency, Discrepancy & Flexibility 5	0.337**	0.284**	0.657**	0.691**	1

** $p < 0.01$

Two dimensions, TSSQ and LSP, were tested in CFA. All nineteen variables were tested on the four constructs respectively, and seventeen had significant loadings on the four constructs. After the CFA, the data was ready for the next test-structural equation modelling — to test the six hypothesised relationships. A full structural equation model was employed because of the high sample size (425 surveys).

4.8 Structural Equation Modelling (SEM)

The entire model confirmed that the dimensions were all relevant constructs. As a result, SEM analysis (LISREL SIMPLIS syntax 8.80) with the maximum likelihood estimation method was employed to assess the relationship among all constructs proposed in the hypothesised research model (six main hypotheses and twelve sub-hypotheses) (Figure 4.5). CFA helped to reduce the low loading scores of variables under each construct or correlated variables which would increase error variance as well. This study adopted the results of the CFA, and built a reasonable structural model as shown in Figure 4.5.

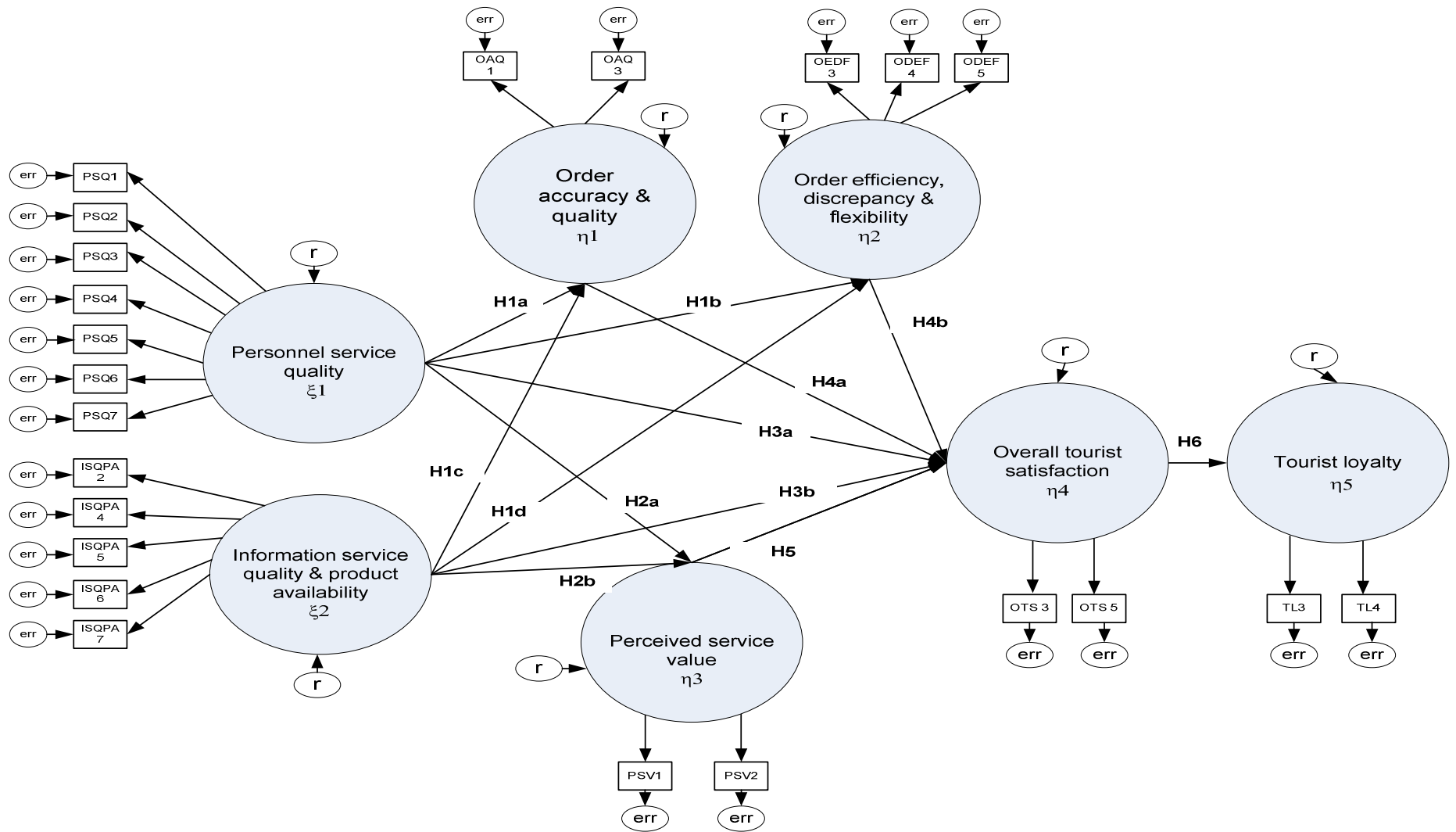


Figure 4.5 Initial Structural Model

The initial results indicated support for all of the hypotheses. The statistical outputs showed a good overall model fit ($\chi^2 (217) = 711.60$, $p = 0.000$, below the minimum level of 0.05, $GFI = 0.87$, $RMSEA = 0.073$, $SRMR = 0.064$, $NFI = 0.97$ and $NNFI = 0.98$), excepting the critical N number (162.73) which was less than 200, indicating a less-than-good fit (see Table 4.19).

Table 4.19 Initial Model

Chi-square with degree of freedom	711.60 with 217 df ($p = .000$)
Normed chi-square (χ^2/df)	3.27
Goodness-of-fit (GFI)	0.87
Root mean square error of approximation (RMSEA)	0.073
Standardised root mean square residual (SRMR)	0.064
Normed fit index (NFI)	0.97
Non-normed fit index (NNFI)	0.98
Hoelter's critical N (CN)	162.73
Comparative fit index (CFI)	0.98

Therefore, the initial model needed further modification until the overall fit indices reached a good fit. In this study, the covariance matrix (see Table 4.20) was used because it is appropriate for testing data in relation to a series of casual relationships in LISREL.

Table 4.20 The Covariance Matrix of the Initial Model

	PSQ1	PSQ2	PSQ3	PSQ4	PSQ5	PSQ6	PSQ7	ISQPA2	ISQPA4	ISQPA5	ISQPA6	ISQPA7	OAQ1	OAQ3	OEDF3	OEDF4	OEDF5	PSV1	PSV2	OTS3	OTS5	TL3	TL4	
PSQ1	1.525																							
PSQ2	1.196	1.386																						
PSQ3	1.096	1.061	1.334																					
PSQ4	0.996	1.014	0.981	1.434																				
PSQ5	1.100	1.077	1.064	1.114	1.573																			
PSQ6	1.052	0.974	0.998	0.937	1.060	1.381																		
PSQ7	1.025	0.945	0.867	0.878	0.987	1.014	1.423																	
ISQPA2	0.617	0.562	0.578	0.640	0.628	0.606	0.558	1.385																
ISQPA4	0.530	0.482	0.507	0.612	0.576	0.583	0.523	0.710	1.248															
ISQPA5	0.567	0.535	0.486	0.576	0.589	0.550	0.532	0.805	0.798	1.299														
ISQPA6	0.481	0.407	0.379	0.496	0.419	0.422	0.386	0.676	0.730	0.796	1.092													
ISQPA7	0.384	0.378	0.343	0.439	0.368	0.376	0.347	0.702	0.682	0.736	0.737	1.191												
OAQ1	0.611	0.595	0.528	0.575	0.607	0.553	0.558	0.616	0.497	0.485	0.477	0.400	1.027											
OAQ3	0.615	0.582	0.560	0.638	0.598	0.536	0.574	0.681	0.541	0.568	0.563	0.481	0.821	1.279										
OEDF3	0.577	0.528	0.439	0.529	0.604	0.525	0.572	0.425	0.425	0.404	0.430	0.346	0.494	0.447	1.185									
OEDF4	0.523	0.466	0.416	0.295	0.483	0.459	0.482	0.344	0.362	0.334	0.305	0.313	0.417	0.390	0.803	1.239								
OEDF5	0.547	0.491	0.472	0.440	0.510	0.516	0.550	0.390	0.358	0.291	0.258	0.311	0.374	0.352	0.784	0.843	1.202							
PSV1	0.638	0.587	0.508	0.575	0.507	0.522	0.555	0.462	0.400	0.377	0.375	0.364	0.442	0.466	0.611	0.556	0.627	0.967						
PSV2	0.620	0.583	0.525	0.530	0.522	0.542	0.554	0.444	0.408	0.405	0.321	0.343	0.439	0.445	0.591	0.578	0.636	0.771	1.021					
OTS3	0.639	0.590	0.517	0.541	0.550	0.579	0.625	0.539	0.456	0.473	0.418	0.415	0.482	0.482	0.680	0.646	0.662	0.656	0.667	0.993				
OTS5	0.522	0.499	0.427	0.601	0.473	0.527	0.507	0.503	0.519	0.414	0.438	0.468	0.406	0.445	0.619	0.551	0.617	0.640	0.632	0.724	1.055			
TL3	0.535	0.549	0.452	0.553	0.525	0.496	0.517	0.507	0.480	0.478	0.426	0.510	0.520	0.522	0.598	0.624	0.572	0.602	0.643	0.704	0.810	1.227		
TL4	0.636	0.593	0.585	0.460	0.665	0.635	0.668	0.457	0.541	0.440	0.298	0.373	0.417	0.433	0.587	0.672	0.593	0.518	0.599	0.669	0.662	0.876	1.523	

Model modification was used to ‘identify observed variables that had low factor loadings, significant cross-loadings, and large residuals using standardized factor loadings, modification index (MI) in factor loading and in covariance between two variables, and expected change statistic (EC)’ (Lo, 2007, p. 64). These indexes are major guide models in model modification. Kline (2004) suggests that when the MI value exceeds five, and a standardised factor loading is less than 0.50, the error covariance in the measurement model is first needed to be set freed first until the model has improved to a good fit. If the model still does not improve, those problem parameters which hold then need to be deleted (Kline, 2004). The exogenous latent construct (TSSQ), and the endogenous constructs (LSP, PSV, OTS and TL) had correlating measurement errors, and therefore should be improved by setting them free first. Furthermore, if the negative EC value of indicators was smaller than the other indicators within constructs, those indicators should be set freed, and then deleted if no improvement results (Chiou, 2006).

Table 4.21 represents the parameters that were selected to be estimated because of their large MI or negative EC values. The error terms for the indicators within the constructs such as tourism suppliers’ service quality (theta delta) and logistics service performance (theta epsilon), were set to be correlated. In this regard, ‘correlated were the error terms for some indicators across the two latent constructs, because they were considered similar and the correlations were probably due to method variance’ (Chi, 2005, p. 172). For example, personnel service quality (PSQ4) for tourism suppliers (theta delta) and overall tourist satisfaction 5 (OTS5) for overall tourist satisfaction (theta epsilon) were correlated. PSQ4 relates to the question about ‘professional customer personnel who are willing to help me’ and OTS5 is the question about ‘the experience of this destination made me happy’. Hartline et al. (2000) explain that satisfaction is an outcome of satisfactory personnel service to customers. Based on this rationale, it is reasonable to modify the model with the error covariance between these two items.

Byrne (2001) and Weinfurt (1995) further indicate that error correlation between items might be due to redundancy in item content which might have an indirect effect on the latent measures through the covariance. For instance, PSQ1 (‘make an effort to understand my situation’) and PSQ2 (‘resolve my problem’) both measured personnel service quality under the dimension of tourism suppliers’ service quality,

and may therefore have similar responses from tourists. As such, this study put an error covariance between them.

Table 4.21 Correlated Parameters that need to be Modified

Theta Delta (Tourism suppliers' service quality)	MI	EC
PSQ1 <-> PSQ2	26.98	0.11
PSQ1 <-> PSQ4	13.25	-0.09
PSQ1 <-> PSQ5	8.63	-0.07
PSQ2 <-> PSQ6	13.98	-0.08
PSQ3 <-> PSQ7	12.73	-0.09
PSQ4 <-> PSQ5	21.02	0.12
PSQ6 <-> PSQ7	22.10	0.12
ISQPA2 <-> ISQPA6	9.34	-0.10
ISQPA6 <-> ISQPA7	9.29	0.09
The Epsilon (Overall tourist satisfaction <-> Tourist loyalty)	MI	EC
OTS3 <-> TL3	8.89	0.07
OTS5 <-> TL3	30.31	0.13
Theta Delta <-> The Epsilon (Tourism suppliers' service quality <-> Logistics service performance)	MI	EC
PSQ3 <-> OAQ1	10.87	-0.07
PSQ4 <-> OEDF3	8.20	0.07
PSQ4 <-> OEDF4	36.14	-0.16
ISPA6 <-> OEDF3	11.45	0.08
ISPA6 <-> OEDF5	8.61	-0.07
Theta Delta <-> The Epsilon (Tourism suppliers' service quality <-> Overall tourist satisfaction)	MI	EC
PSQ4 <-> OTS5	30.76	0.13
ISQPA5 <-> OTS5	9.49	-0.07
Theta Delta <-> The Epsilon (Tourism suppliers' service quality <-> Tourist loyalty)	MI	EC
PSQ4 <-> TL3	8.01	0.07
PSQ4 <-> TL4	23.98	-0.16
ISQPA6 <-> TL4	11.18	-0.10
ISQPA7 <-> TL3	8.99	0.08

The following table shows the modifications between different factors or dimensions (see Table 4.21) in Table 4.22. The modification indices suggested the error

correlation between items. This thesis sought to follow some suggestions to add these error correlations between items according to the existing literature. These modifications could then sustain conceptual meaning through the respecification of the structural model. Table 4.22 presents modified correlated parameters including existing supportive literature.

Table 4.22 Modified Correlated Parameters with Literature Support

Error Covariance between Different Factors	Description of Relationship	Reference
OTS3 <-> TL3 OTS5 <-> TL3	Overall tourist satisfaction positively influences tourist loyalty	Yüksel and Yüksel (2007)
PSQ3 <-> OAQ1	Personnel service quality positively affects order accuracy and quality	Zheng et al. (2006)
PSQ4 <-> OEDF3 PSQ4 <-> OEDF4	Personnel service quality positively affects order efficiency, discrepancy and flexibility	Mentzer & Williams (2001) Kelly and Hoffman (1997)
ISPA6 <-> OEDF3 ISPA6 <-> OEDF5	Information service quality and product availability positively influence order efficiency, discrepancy and flexibility	Yang, Humphreys & McIvor (2006)
PSQ4 <-> OTS5	Personnel service quality positively affects overall tourist satisfaction	Chen, Hwang & Lee (2006)
ISQPA5 <-> OTS5	Information service quality and product availability positively affect overall tourist satisfaction	Chathoth (2007)
PSQ4 <-> TL3 PSQ4 <-> TL4	Personnel service quality positively affects tourist loyalty	Castro, Armario & Ruiz (2007)
ISQPA6 <-> TL4 ISQPA7 <-> TL3	Information service quality and product availability positively influence tourist loyalty	Ho and Lee (2007)

After being modified, the model improved and presented a better result (see Table 4.23). The revised model indicates some parameters that were correlated because of the large MI. After being modified, the result for this new model improved the GFI (0.92) and CN (238.47), and decreased the normaed chi-square 2.14. The model shows a good model fit (Table 4.23).

Table 4.23 Modified Overall Model Fit

Chi-square with degree of freedom	416.03 with 194 df (p =.000)
Normed chi-square (χ^2/df)	2.14
Goodness-of-fit (GFI)	0.92
Root mean square error of approximation (RMSEA)	0.052
Standardised root mean square residual (SRMR)	0.06
Normed fit index (NFI)	0.98
Non-normed fit index (NNFI)	0.99
Hoelter's critical N (CN)	238.47
Comparative fit index (CFI)	0.99

In convergent validity, the values of CR and AVE were computed for the latent constructs which were considered reliable from 0.77 to 0.99 and from 0.59 to 0.77, respectively (see Table 4.24). Therefore, together with the results of CR and AVE, it can be concluded that the indicators for all five constructs are sufficient.

To further test convergent validity, the 'Squared Multiple Correlations (SMCs) of the exogenous and endogenous variables indicate how well the y and x variables measure the latent constructs, and the extent to which the individual variables are free from measurement error' (Lo, 2007, p. 130). 'The correlations represent the reliability of the measures, or the extent to which a measured variable's variance is explained by the latent factor' (Lo, 2007, p. 130). The SMCs value is better if the value is close to one indicating that the factor or the latent-to-latent construct has a better reliability. As Table 4.24 shows, the SMCs range from 0.58 to 0.77 for exogenous variables and from 0.52 to 0.78 for the endogenous variables, which indicates high reliability.

Table 4.24 SMCs, CR and AVE for Final SEM Model

Exogenous variables: Tourism suppliers' service quality	Std. Loadings	SMC (R²)	CR	AVE
PSQ			0.99	0.71
PSQ1	0.88	0.77		
PSQ2	0.88	0.77		
PSQ3	0.87	0.77		
PSQ4	0.82	0.67		
PSQ5	0.84	0.70		
PSQ6	0.83	0.69		
PSQ7	0.78	0.62		
ISQPA			0.87	0.59
ISQPA2	0.76	0.58		
ISQPA4	0.76	0.58		
ISQPA5	0.80	0.65		
ISQPA6	0.80	0.64		
ISQPA7	0.72	0.62		
Endogenous variables: Logistics service performance	Std. Loadings	SMC (R²)	CR	AVE
OAQ			0.83	0.71
OAQ1	0.86	0.74		
OAQ3	0.83	0.69		
OEDF			0.85	0.66
OEDF3	0.82	0.67		
OEDF4	0.81	0.66		
OEDF5	0.81	0.66		
Endogenous variables: Perceived service value	Std. Loadings	SMC (R²)	CR	AVE
PSV1	0.89	0.78	0.87	0.77
PSV2	0.88	0.77		
Endogenous variables: Overall tourist satisfaction	Std. Loadings	SMC (R²)	CR	AVE
OTS3	0.87	0.76	0.83	0.71
OTS5	0.79	0.63		
Endogenous variables: Tourist loyalty	Std. Loadings	SMC (R²)	CR	AVE
TL2	0.87	0.75	0.77	0.63
TL3	0.72	0.52		

In order to examine the discriminate validity of the measurement model, the correlations among latent constructs results which had high values (correlation

exceeding 0.9 near 1.0 (Anderson & Gerbing, 1988; Hair et al. 2006) or correlation exceeding 0.85 (Kline, 1998, 2004) should be noted as an indication of a problematic level of intercorrelated constructs. In this study, the correlations (Table 4.25) among and between exogenous and endogenous constructs ranged from 0.85 to 0.41, indicating an appropriate level of intercorrelation. Together the results of CR, AVE, and SMC all show good validity among the constructs in the final model. In the next section, the test of the hypotheses is reported with the results of the internal relationships among five constructs in the SEM test.

Table 4.25 Correlation Matrix of Exogenous and Endogenous Constructs after Model Modified

	Order Accuracy & Quality	Order Efficiency, Discrepancy & Flexibility	Perceived Service Value	Overall Tourist Satisfaction	Tourist Loyalty	Personnel Service Quality	Information Service Quality & Product Availability
Order Accuracy & Quality	1.00						
Order Efficiency, Discrepancy & Flexibility	0.44	1.00					
Perceived Service Value	0.49	0.41	1.00				
Overall Tourist Satisfaction	0.58	0.73	0.78	1.00			
Tourist Loyalty	0.49	0.62	0.66	0.85	1.00		
Personnel Service Quality	0.64	0.57	0.64	0.67	0.57	1.00	
Information Service Quality & Product Availability	0.69	0.49	0.54	0.67	0.56	0.57	1.00

$p < .01$

4.9 Test of Hypotheses

After the model was modified, the next step was to test the hypotheses developed in Chapter 2. The hypotheses were tested by evaluating the relationships between exogenous and endogenous variables. Table 4.26 presents the standardised path coefficient and *t*-values (that is, coefficients with *t*-values between +1.96 and -1.96 are considered to be significant) of all the hypothesised relationships in the model. The SEM results support almost six hypotheses, which are:

- H1: Tourism suppliers' service quality positively influences logistics service performance.
- H2: Tourism suppliers' service quality positively influences perceived service value.
- H3: Tourism suppliers' service quality positively influences overall tourist satisfaction.
- H4: Logistics service performance positively influences overall tourist satisfaction.
- H5: Perceived service value positively affects overall tourist satisfaction.
- H6: Overall tourist satisfaction positively affects tourist loyalty.

The six hypotheses with their sub-hypotheses, which explained and supported the main six hypotheses, were identified in Chapter 2, section 7. The results of SEM analysis indicated statistically significant paths. Table 4.27 and 4.28 contain the analysis with observed variables, PA-OV and path analysis with latent variables, PA-LV.

Table 4.26 LISREL Results for The Final SEM Model

Hypothesis	Path	PA-OV PA-LV	Std Coeff.	t-value	Result
H1	Tourism suppliers' service quality positively affects logistics service performance				
H1a	Personnel service quality -> Order accuracy and quality	γ_{11}	0.37	6.77*	Supported
H1b	Personnel service quality -> Order efficiency, discrepancy and flexibility	γ_{21}	0.44	7.19*	Supported
H1c	Information service quality and product availability -> Order accuracy and quality	γ_{12}	0.48	8.42*	Supported
H1d	Information service quality and product availability -> Order efficiency, discrepancy and flexibility	γ_{22}	0.24	3.92*	Supported
H2	Tourism suppliers' service quality positively affects perceived service value				
H2a	Personnel service quality -> Perceived service value	γ_{31}	0.49	8.65*	Supported
H2b	Information service quality and product availability -> Perceived service value	γ_{32}	0.25	4.50*	Supported
H3	Tourism suppliers' service quality positively affects overall tourist satisfaction				
H3a	Personnel service quality -> Overall tourist satisfaction	γ_{41}	-0.02	-0.35	Rejected
H3b	Information service quality and product availability -> Overall tourist satisfaction	γ_{42}	0.17	7.71*	Supported
H4	Logistics service performance positively affects overall tourist satisfaction				
H4a	Order accuracy and quality -> Overall tourist satisfaction	β_{41}	0.04	0.69	Rejected
H4b	Order efficiency, discrepancy and flexibility -> Overall tourist satisfaction	β_{42}	0.43	9.07*	Supported
H5	Perceived service value -> Overall tourist satisfaction	β_{43}	0.50	9.72*	Supported
H6	Overall tourist satisfaction -> Tourist loyalty	β_{54}	0.85	16.40*	Supported

* $p < .001$

H1: Tourism suppliers' service quality has a positive effect on logistics service performance

This hypothesis had two dimensions of tourism suppliers' service quality which affect two dimensions of logistics service performance. Thus, there were four sub-hypotheses (H1a to H1d, Table 4.26) that reflected the relationship between each factor of tourism suppliers' service quality and logistics service performance. Table 4.26 presents the results of H1a to H1d, with $\gamma_{11} = 0.37$ ($t = 6.77$), $\gamma_{21} = 0.44$ ($t = 7.19$), $\gamma_{12} = 0.48$ ($t = 8.42$), and $\gamma_{22} = 0.24$ ($t = 3.92$), respectively. Hence, H1a, H1b, H1c, and H1d were all supported. Therefore, H1 was fully supported.

H2: Tourism suppliers' service quality has a positive effect on perceived service value

This hypothesis had two dimensions of tourism suppliers' service quality which affect perceived service value. Thus, there were two sub-hypotheses (H2a and H2b, see Table 4.26) that reflected the relationship between each factor of tourism suppliers' service quality and perceived service value. Table 4.26 presents the results of H2a and H2b, with $\gamma_{31} = 0.49$ ($t = 8.65$), $\gamma_{32} = 0.25$ ($t = 4.50$), respectively. Hence, H2a and H2b were both supported. As such, H2 was fully supported.

H3: Tourism suppliers' service quality has a positive effect on overall tourist satisfaction

This hypothesis had two dimensions of tourism suppliers' service quality which affected overall tourist satisfaction. Thus, there were two sub-hypotheses (H3a and H3b, Table 4.26) that reflected the relationship between each factor of tourism service quality and perceived service value. Table 4.26 presents the results of H3a and H3b, with $\gamma_{41} = -0.02$ ($t = -0.35$), and $\gamma_{42} = 0.17$ ($t = 7.71$), respectively. Hence, H3a was rejected, but H3b was supported. H3 was therefore only partially supported.

H4: Logistics service performance has a positive effect on overall tourist satisfaction

This hypothesis had two dimensions of logistics service performance which affect overall tourist satisfaction. Thus, there were two sub-hypotheses (H4a and H4b) that reflected the relationship between each factor of tourism suppliers' service quality and perceived service value. Table 4.26 presents the results of H4a and H4b, with

$\beta_{41} = 0.04$ ($t = 0.69$), and $\beta_{42} = 0.43$ ($t = 9.07$), respectively. Hence, H4a was rejected, but H4b were supported. Therefore, H4 was partially supported.

H5: Perceived service value has a positive effect on overall tourist satisfaction

There was only one hypothesis (H5) that reflected the relationship between each indicator of perceived service value and overall tourist satisfaction. Table 4.26 presents the results of H5, with $\beta_{43} = 0.50$ ($t = 9.72$). Hence, H5 was supported.

H6: Overall tourist satisfaction has a positive effect on tourist loyalty

There was one hypothesis (H6) that reflected the relationship between each indicator of overall tourists' satisfaction and tourist loyalty. Table 4.26 presents the results of H6, with $\beta_{54} = 0.85$ ($t = 16.40$). As such, H6 was supported.

In addition, the square multiple correlations (R^2) for the structural equations, which represented the amount of variance in each endogenous latent variable and were accounted for by the independent latent variables, were evaluated. The R^2 for the four endogenous variables ranged from 0.35 to 0.82 (Figure 4.6). PSQ, ISQPA, OAQ, OEDF, and PSV together explained 82% of the variance in OTS. Overall tourist satisfaction has the highest level of explanatory power for tourist satisfaction ($\beta_{54} = 0.85$) and explained 74% of the variance in TL. The R^2 for the final model also explained that TSSQ, LSP, and PSV with the mediating role of OTS together explained 74% of the variance in TL. This result indicated that these exogenous variables and endogenous variables had a very large collective effect on TL. The results of R^2 represented the reliability of exogenous variables to endogenous variables. Based on the results of R^2 in this final model, it was concluded that the final model had a high reliability within the constructs.

Finally, SEM results indicated that the final model (see Figure 4.6), with the correction of error variances among indicators, might present the best available model until future research is conducted for investigating the influence of logistics service performance' within tourism and its theoretical interrelationships with other variable, or indeed other measurements that are developed for the remaining constructs.

In the next section, the effect analysis is presented to estimate structural relations among latent variables. The effect analysis can further explain the direct and indirect effects among variables simultaneously, because in a path diagram, only direct effects can be shown as path coefficients (Huang, 2007). Therefore, the effect analysis can provide a holistic view of the whole model.

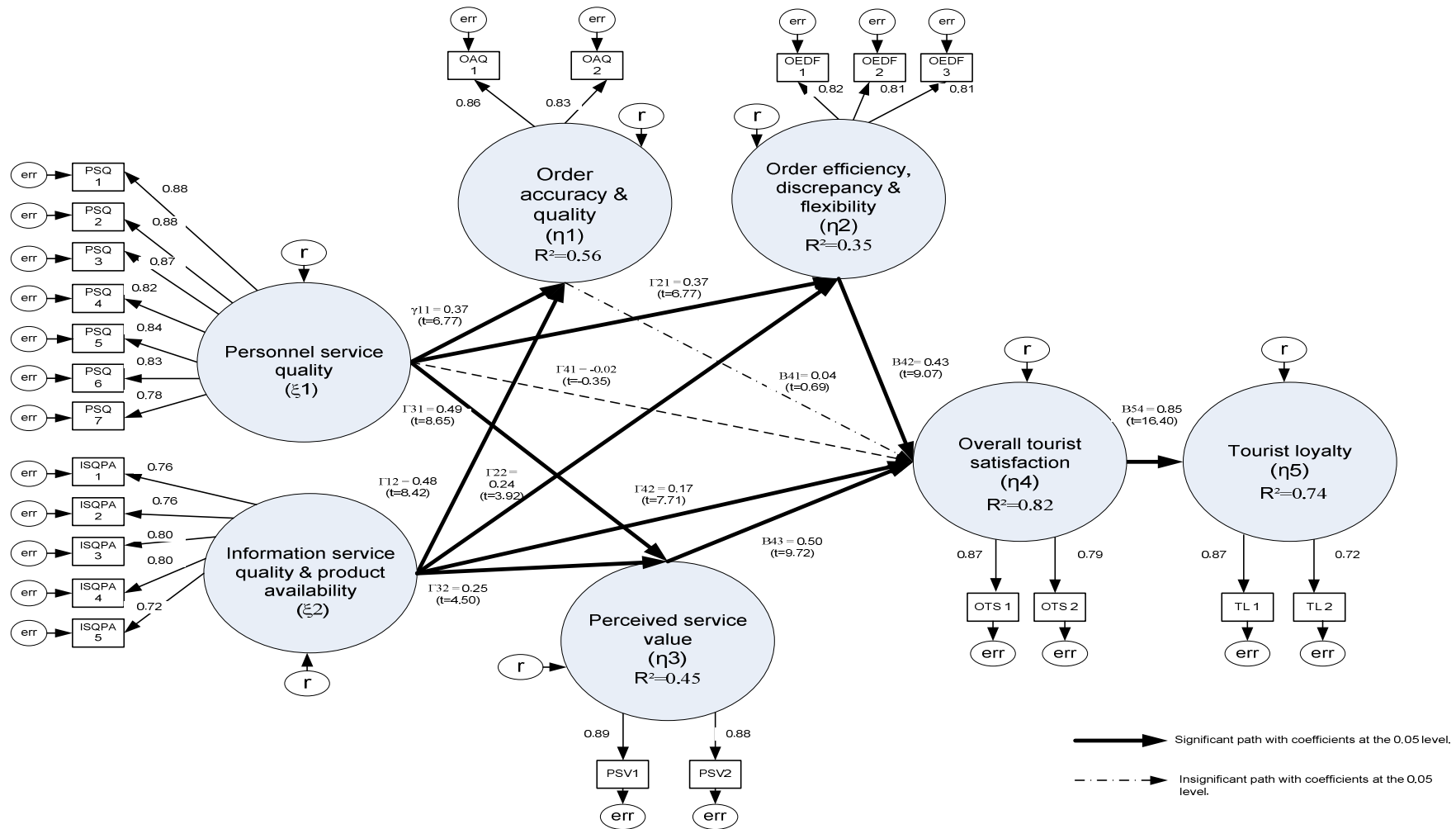


Figure 4.6 Final Structural Equation Model

4.10 Effect Analysis

LISREL Path Analysis with Observed Variables (PA-OV) offered a solution to report the direct and indirect effects, plus *t*-values associated with those effects between exogenous variables and endogenous variables. This was an overall report to observe whether there were mediated variables within ex/endogenous variables' direct relationships. Beyond traditional regression approaches, the SEM approach could simultaneously estimate all parameters and control errors in order to find out the best fit model. In Tables 4.27 and 4.28, this study conveyed the same report as in Table 4.26. Again, as indicated in Table 4.26, the results indicated that tourism suppliers' service quality had a positive and direct influence on logistics service performance and perceived service value. The details of the direct and indirect effects of all model variables, at $p < 0.01$, are discussed below.

H1: Tourism suppliers' service quality positively affects logistics service performance

In Table 4.27, the PA-OV analysis reported that personnel service quality had a less direct effect (0.37) than information service quality and product availability (0.48) on order accuracy and quality. However, personnel service quality (0.44) had a more important direct effect than information service quality and product availability (0.24) on order efficiency, discrepancy and flexibility. Overall, both factors under the construct of tourism suppliers' service quality had positive direct effects on the construct of logistics service performance.

H2: Tourism suppliers' service quality positively affects perceived service value

The PA-OV analysis stated that personnel service quality (0.49) had a more direct effect than product availability and quality (0.25) on perceived service value. In general, both factors under tourism suppliers' service quality had positive direct effects on perceived service value.

H3: Tourism suppliers' service quality positively affects overall tourist satisfaction

H4: Logistics service performance positively affects overall tourist satisfaction

In Table 4.27, personnel service quality under the construct of tourism suppliers' service quality had no direct or significant effect on overall tourist satisfaction. Thus, H3a was rejected. Also, order accuracy and order quality were less significant on overall tourist satisfaction. Thus, H4a was also rejected. The other sub-hypotheses were all supported by PA-OV analysis because of a significant *t*-value. Therefore, in H3, only information service quality and product availability can positively affect overall tourist satisfaction. In H4, only order efficiency, discrepancy and flexibility with 0.43 of direct effect-the strongest factor of all the other factors-can positively affect overall tourist satisfaction.

Table 4.27 LISREL PA-OV Analysis for The Final SEM Model

Endogenous Variables ETA	Exogenous Variables KSI		Exogenous Variables KSI	
	PSQ		ISQPA	
	Standardized Total Effects KSI on ETA	t-value	Standardized Total Effects KSI on ETA	t-value
OAQ				
Direct effects	0.37	6.77*	0.48	8.42*
Indirect Effects	-	-	-	-
Total effects	0.37	6.77*	0.48	8.42*
OEDF				
Direct effects	0.44	7.19*	0.24	3.92*
Indirect effects	-	-	-	-
Total effects	0.44	7.19*	0.24	3.92*
PSV				
Direct effects	0.49	8.65*	0.25	4.50*
Indirect effects	-	-	-	-
Total effects	0.49	8.65*	0.25	4.50*
OTS				
Direct effects	-0.01	-	0.17	-
Indirect effects	0.45	7.85*	0.25	4.88*
Total effects	0.44	8.20*	0.42	7.71*
TL				
Direct effects	-	-	-	-
Indirect effects	0.37	7.78*	0.35	7.36*
Total effects	0.37	7.78*	0.35	7.36*

* $p < .001$

H5: Perceived service value positively affects overall tourist satisfaction

The data analysis in Table 4.28 shows that perceived service value had the strongest impact on overall tourist satisfaction with a standardised coefficient of 0.50 compared to 0.17 for information service quality and product availability and 0.43 for order efficiency, discrepancy and flexibility on overall tourist satisfaction. However, in H2, both personnel service quality and information service quality and product availability under the construct of tourism suppliers' service quality had direct impacts on perceived service value. Considering H1, H2, and H5, personnel service quality was the most important factor contributing to perceived service value which made perceived service value the most important factor underlying overall tourist satisfaction.

H6: Overall tourist satisfaction positively affects tourist loyalty

As with many previous tourism studies (Lee, 2003; Chi, 2005; Lo, 2007), only overall tourist satisfaction had a direct effect on tourist loyalty. Other factors had indirect effects on tourist loyalty (Table 4.28). Therefore, overall tourist satisfaction was a mediating factor among tourism suppliers' service quality, logistics service performance and perceived value in their affect on tourist loyalty. Table 4.28 shows that overall tourist satisfaction had a standardised coefficient of 0.85 which was the strongest factor among others on tourist loyalty.

Table 4.28 LISREL PA-OV Analysis 2 for The Final SEM Model

Endogenous Variables ETA	Endogenous Variables ETA OAQ	Endogenous Variables ETA OEDF	Endogenous Variables ETA PSV	Endogenous Variables ETA OTS	Endogenous Variables ETA TL
OAQ	-	-	-	-	-
OEDF	-	-	-	-	-
PSV	-	-	-	-	-
OTS Direct effects	0.04 (0.69)	0.43 (9.07*)	0.50 (9.72*)	-	-
Indirect effects	-	-	-	-	-
Total effects	0.04 (0.69)	0.43 (9.07*)	0.50 (9.72*)	-	-
TL Direct effects	-	-	-	0.85 (16.40*)	-
Indirect effects	0.03 (0.69)	0.37 (8.51*)	0.42 (9.04*)	-	-
Total effects	0.03(0.69)	0.37 (8.51*)	0.42 (9.04*)	0.85 (16.40*)	-

* $p < .001$

The results revealed that personnel service quality on the other hand, and order efficiency, discrepancy and flexibility on the other were important in directly or indirectly affecting overall tourist satisfaction which leads to tourist loyalty. Chapter 5 explores the qualitative research, and how it can provide more information about the relationships between the variables, and discusses the support, or lack there of, for each hypothesis.

4.11 Conclusion

In summary, this quantitative study found that Hypotheses 1, 2, 5 and 6 were fully supported, and Hypotheses 3 and 4 were partially supported. Most of the hypotheses were sustained because they were developed on the basis of the existing literature review. Results of the SEM data analysis statistically significantly supported the hypothesised model. In the aggregate of past literature, little was known about the impacts of logistics service performance on the tourism. The results of the data analysis indicated the positive

interrelationships among tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty. The most important finding has been that order efficiency, discrepancy and flexibility had a more significant impact on overall tourist satisfaction than service quality. A message based on this evidence would be that tourism suppliers need to focus on logistics service performance measurements more than they have done previously. Also, personnel service quality contributed significantly to perceived service value which was the most important construct to positively increase overall tourist satisfaction. Finally, tourist satisfaction was the only direct factor to increase tourist loyalty. The major theoretical and practical contributions from this survey will be presented in Chapter 6.

However, this hypothesised model was partly supported by SEM analysis. In order to further investigate the unsupported sub-hypotheses, H3a and H4a, Chapter 5 uses of interviews and seeks further answers concerning the relationship among these constructs.

Chapter Five – Taipei Tourism – A Qualitative Study

5.1 Introduction

The previous chapter reported the statistical findings of the structural equation modelling based on the conceptual framework depicting the relationship between tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty. In this chapter, relationships between these constructs will be examined using the tourist industry of Taipei as an illustrative qualitative study.

The results of the quantitative analysis reported in the previous chapter partially support the following six hypotheses proposed in Chapter 2, section 7 and Chapter 4, section 9:

- H1: Tourism suppliers' service quality positively influences logistics service performance.
- H2: Tourism suppliers' service quality positively influences perceived service value.
- H3: Tourism suppliers' service quality positively influences overall tourist satisfaction.
- H4: Logistics service performance positively influences overall tourist satisfaction.
- H5: Perceived service value positively affects overall tourist satisfaction.
- H6: Overall tourist satisfaction positively affects tourist loyalty.

The results confirmed that tourism suppliers' service quality and logistics performance impact directly or indirectly on tourist satisfaction and tourist loyalty. The positive correlation implies that in order to increase tourist satisfaction and loyalty, tourism suppliers' service quality and performance must be improved first. In other words, tourism suppliers' service quality and logistics service performance are antecedents of tourist satisfaction and loyalty. To support the findings presented in Chapter 4, a qualitative analysis was conducted. As discussed in Chapter 3, eight one-on-one, face-to-face interviews were conducted in Taipei to further explore the impact of tourism suppliers' service quality and logistics service performance on tourist satisfaction.

In order to further investigate this area, the research question — *‘what are the interrelationships among the constructs of logistics service performance, tourism suppliers’ service quality, perceived service quality, overall tourist satisfaction and tourist loyalty’* — was further explored using a qualitative study.

This chapter presents the findings of the qualitative study of the tourism industry in Taipei. Data and information for the analysis were collected from eight practitioners and government officials in the tourism industry. The content of each participant’s interview formed the basis of a description of the phenomenon of tourism in Taipei. The phenomenon included the five constructs which were used to form the hypothesised model in this study (see Chapter 2, section 7). Eight interviewees provided rich data which included information that was both validating and updating the current literature. This chapter analyses the interview data based on the five constructs: tourism suppliers’ service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty.

5.2 Empirical Findings and Discussion

This section describes the current tourism suppliers’ service quality in Taipei, and further elaborates on logistics service performance. Perceived service value, overall tourist satisfaction and loyalty are then examined based on interviewees’ opinions. From there follows a discussion of the elements that emanated from the present findings.

5.2.1 Tourism Suppliers’ Service Quality (TSSQ)

Tourism suppliers’ service quality in Taipei has five major elements to be drawn on in the interview data: attractions, facilities and infrastructure, information service quality, public transportation system, personnel service quality and government support. These elements (discussed below) also impact positively on logistics service performance, perceived service quality, overall tourist satisfaction and tourist loyalty. According to the

eight interviewees, these five elements definitely affect tourism suppliers' service quality. Interviewees provided greater detail in explaining tourism in Taipei.

5.2.1.1 Overall tourism suppliers' issue in Taipei

By far, the most common to arise from the interviews was the challenge that Taipei tourism faces having insufficient travel products needed to develop an attractive and major travel destination. Over the past five years (2000-2004), Taipei has experienced a slow increase in tourist arrivals (1.83 to 2.16 million, +18.03%) compared to neighbouring Asian cities, such as Macau (82.42%), Hong Kong (67.02%), Shanghai (103.49%), and Tokyo (30%) (Taiwan Tourism Bureau, 2006; World Travel and Tourism Council, WTTC 2006; World Tourism Organization, WTO 2006). According to the WTTC (2006), the Taiwanese Government spent a capital investment in tourism of US\$6.7 billion, which amounted to 9.5% of total government investment. This amount of available Taiwanese Government investment capital is much less than that of other regional countries: Hong Kong spent US\$7.45 billion — 17.6% of total government investment; Singapore spent US\$8 billion — 16.6% of total government investment; Korea spent US\$23 billion — 7.6% of total government investment; and China spent US\$225 billion — 9% of total government investment) (WTTC, 2006). These facts were highlighted in the following quote from Participant E. Participants A and B also provided opinions of the quality of overall tourism suppliers. They criticised the Taipei City Government in so far as it needs to provide more tourist attractions to international tourists.

The government needs to invest and offer more funds in the different travel suppliers. Getting enough capital so that we can have money to produce more attractive products. — Participant E

Taipei is a modern and easy access travel destination. However, Taipei lacks the attractive natural travel sightseeing, and unique atmosphere of the old ancient Chinese environment. Taipei is just like any other modern Asian cities. Taipei has nothing unique in travel activities to attract tourists. — Participant A

Taipei does not have enough travel sightseeing in the city region. Usually, travel operators would bring travellers to Taipei County or to northern Yilan County. — Participant B

To the Taipei City Government, it appears difficult to capture tourist expenditure and promote a thriving tourism industry during short holidays. However, international tourists care about what they can see and experience in a destination. According to interviewee F, Taipei does not provide sufficient sightseeing for tourists. Taipei has nothing special to offer the visitor except shopping centres, and has no particular activities except enjoying gourmet food. However, as Participant F stated, Taipei is not different from other Asian cities. In the current circumstances tourists might go to other cheaper or more attractive destinations.

Taipei is just worthy of a two-day trip. There is nothing special to see, especially there is no natural sightseeing in the city. Shopping and eating are the only two activities in the town. Compared to other Asian cities, such as Hong Kong, Bangkok and Singapore, travel costs are expensive in Taipei. Also, Taipei City does not have a traditional Chinese cultural atmosphere. Travelling in Taipei is nothing different from travelling in other modern cities. — Participant F

In the quantitative phase, this study developed conceptualisations in relation to tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty. The following section uses the material derived from the interviewees to develop a richer understanding of the findings from the qualitative study.

5.2.1.2 Attraction, facilities and infrastructure

Other tourism products in Taipei, such as facilities and infrastructure and leisure activities, fulfil tourists' needs. Unlike other tourism spots, these facilities and infrastructure do complement and support Taipei's travel environment as evidenced in the following:

Taipei has more department stores than Hong Kong and other neighbouring destinations. So, shopping in Taipei is one major attraction in promoting Taipei. — Participant A

Taipei 101 is the major sightseeing destination in Taipei nowadays. Tourists come to see this tall shopping mall and do their shopping here. — Participant B

Food attraction is the major reason to attract foreign travellers. Cheap and delicious and multiple choices are the major attraction in food. — Participant B

As mentioned earlier, Japan is the major tourist market for Taiwanese tourism (TTB, 2006). To the Japanese, accommodation quality and the standard of food are the major reasons to visit Taipei. Therefore, the quality of both products should be high:

The hotel quality in Taipei is really good. Five-star hotels offer a high-quality facility and service to customers. Customers from HK and Japan are really picky with hotel facilities. They will complain to the front desk right away. Especially Japanese customers, as a major market in Taipei, poor service quality in accommodations seriously affects their revisit intention. They want to stay in good quality accommodation. — Participant B

Participant C stated that five-star hotels offer high-quality service to satisfy customers. Repeat customers are their major customers in room sales. Participant F also confirmed this. Thus, in five-star hotels, keeping repeat customers is the major task in room sales. Without repeat customers (Japanese and Mainland Chinese), they could not fully sell their products, as there would not be a new customer market in Taipei (TTB, 2006).

One anonymous five-star hotel in Taipei has well-equipped facilities to serve customers. They have a gym open 24 hours, a variety of styles of restaurants, a business centre, and a convenient location in the city. The Mass Transit Rapid transportation system is near the major hotels. Nearly 80% of their customers are return guests. Service is the main reason to win them back to this hotel again. — Participant C

Other tourism products, such as information service quality and the public transportation system, were also previously stated as major measures in the survey (see Chapter 4, section 4.1).

5.2.1.3 Information service quality

This research interviewed hoteliers and airline and transport professionals the data from which could be used to describe the information service quality for room reservations, in order to highlight Taipei's product service quality and availability.

One anonymous five-star hotel has 24-hour concierges on duty; thus, it would make their response from online system services such as reservation and replying to email, efficient and quick. The e-concierge staff won't do the front desk officers' work loadings, because they work to reply to customers' needs online. — Participant C

The website of one anonymous five-star hotel is easy to understand with plenty of Taipei travel information. Also, it has a connection through the reservation system of the head office. Thus, overseas customers can confirm their booking through the reservation system not only from this hotel. This hotel wants to make sure customers can get the fastest response and the most efficient service. — Participant C

The airline and high speed railroad reservation system is fast and confirms accurately and efficiently. — Participant H

To overseas travellers, booking their own travel reservation is easy and convenient via the Internet. Nowadays, booking and purchasing the travel packages through the Internet is the most common consumer behaviour (La, 2005). Fortunately, Taipei does have sufficient and convenient IT technology (i.e. world-wide reservation IT system) to maintain the order quality and accuracy. According to Participant B,

Taipei is most convenient and offers free wireless Internet in the major tourism sightseeing spots and public transportation stations. The Taipei City Government built a friendly

environment to help people who need to use the Internet all of a sudden. To overseas travellers, this is a friendly gesture to make them feel convenient in checking the travel information in Taipei. — Participant B

Information systems are important to the tourism industry in order to make international travellers feel comfortable and welcome in a specific travel destination. This is a major element in supplying successful tourism products. Taiwan is one of the major world manufacturing countries of IT. The use of IT in Tourism helps Taipei to maintain and compete with other surrounding cities, such as Seoul and Shenzhen, in IT technology. In 2006, the Taipei City Government won the Intelligent Community of the Year Award (ICF, 2006). ICF (2006) stated that the reason Taipei won the award was that 'Taipei is one of the world's top three cities for broadband deployment, with PCs in 88% of homes and 77% of households connected to ADSL service. Where hardware and infrastructure is concerned, Taipei is justly proud of being a global leader'. Moreover, according to Buhalis (1998; 2003), information technology as a major contributor links and improves communications in logistics service performance (i.e. efficiency and flexibility) among buyers, wholesalers and suppliers within the tourism supply chain globally. IT can also add to the value of tourism products such as 'establishing entry barriers, affecting switching costs, differentiating products/services, limiting access to distribution channels, ensuring competitive pricing, decreasing supply costs and easing supply, increasing cost efficiency, using information as a product itself, and building closer relationships with suppliers and customers' (Buhalis, 1998, p. 410). He (1998, p. 411) further indicates that timely and accurate IT is the key to maintaining the tourism wholesale system due to its key role in global reservation and distribution systems, which 'increasingly satisfy the needs of travellers for convenient access to transparent and easy to compare information'. Nowadays, the travel industry already uses a wide range of information and communication technologies to communicate directly with their prospective customers (Buhalis, 2004). Therefore, IT is a key support the tourism business to provide the assistance in cost reductions and maximise operation efficiency. In short, IT can provide the advantages in transforming the 'best' travel experience to the consumers in terms of the efficiency and professional operation and distribution in the Taipei tourism industry.

Whilst IT is a key factor supporting tourism attraction to Taiwan, there are some language problems within the tourism information services in Taipei.

Taipei City Government and Taiwan Tourism Bureau need to create more travel information in English on the travel website, not just focus on Mandarin and Japanese versions. — Participant A

We should promote more in English on the website to Western customers in order to increase the multiple destinations for travellers. As a matter of fact, the Taiwanese Tourism Bureau and Taipei City Government are only concerned about the Japanese and Hong Kong travel market. This is not enough for the entire travel market growth in Taipei. — Participant B

According to Participants A and B, the Taiwanese Government seems to be concerned only with the Japanese and Mainland Chinese markets, and therefore the information service quality is limited by language. Though airlines and hotels have a quick and efficient system for reservations, it is not adequate for international travellers. Overseas travellers need to know the information about tourism products in advance from the website. Non-English content causes reading problems for many travellers. As stated above, IT plays a key determinant in terms of communicating buyers and suppliers globally. According to the participants, Taipei tourism suppliers need to improve their Internet content in order to satisfy and provide in-time information to Non-Mandarin overseas travellers as well. IT support in the tourism should become a non-barrier in reading and providing information, which is the main differentiation from traditional tourism wholesales.

The English version of tourism introduction in the official website of Taipei City Government is poor of attractive content. — Participant A

There is an emergent need of improving the travel content in English on the Internet. To English-speaking travellers, there is nothing to attract them in Taipei. However, in Mandarin

and Japanese versions of travel websites, there are plenty of attractive tourism products in Taipei. — Participant B

In addition to information service quality, the public transportation system is the other major issue for travellers considering travel to Taipei.

5.2.1.4 Public transportation system

Public transportation is an important factor in tourism service quality. Without a convenient and easily accessible local transportation system, international tourists cannot travel easily by themselves. Taipei's main travel attractions are shopping and food. Therefore, easy and cheap local transportation will make tourist travel more convenient as indicated in the following quotes:

Convenient transportation, such as MTR and high-speed railroads, makes it easy to travel in the Taipei City. — Participant E

The Taipei travel website and magazines introduce a lot about local transportation and local tour routes. It's very easy for overseas people to travel in Taipei. — Participant A

MTR has daily tickets. It's cheap and very convenient to travel in Taipei. Tourists from Hong Kong, Singapore, Malaysia and Macau who understand Mandarin can travel by themselves. However, to non-Mandarin travellers, Taipei doesn't provide a friendly travel environment to them. The travel facilities are not written in English. — Participant B

Participant G further suggested that the bus or other local transportation could be better linked to the Mass Transit Rapid (MTR) system. Furthermore, the use of non-standardised English road and map names in Taipei can confuse non-Mandarin speaking tourists. Participants E and G remarked that Taipei's transportation is not entirely friendly to tourists. Hong Kong International Airport provides efficient immigration and customs procedures, fast flight transit, luggage transfer, and fast transport from the airport to the city. In contrast, these advantages do not exist in the Taoyun International Airport.

To international travellers, it is very complicated to transfer from the MTR to the local bus system, because the local traffic condition is busy during the peak hours. Also, there are too many bus routes in Taipei. To the first-time traveller, it is not easy to them to take MTR to a different transportation system. MTR is easier to them. — Participant E

Local bus systems are designed for Chinese travellers and local residents. To foreign travellers, non-English indication in the bus stations and buses is very unfriendly to understand how to travel in Taipei. — Participant G

Participant G also indicated that the Taiwan Tourism Bureau needs to work on offering efficient transportation to link Taoyuan International Airport to the Taipei City. One of the major reasons for the insufficient transport is the fact that Taoyuan International Airport is located in Taoyuan County which is the neighbouring city to Taipei. Taoyuan County has not significantly expanded its transport links with Taipei City and 75 km far away from the capital city. Moreover, the TTB is not concerned about this. This inconvenient city link transportation system presents a negative image to international travellers upon arrival in Taiwan (Participant G).

Taiwan Tourism Bureau did not design the convenient airlink from Taoyuan International Airport to Taipei. Private-owned buses and taxis are the only two choices of the public transportation. However, after a long flight, the international traveller is too tired to take the buses with their heavy luggage; also, it is too expensive to take taxis. This inconvenient transportation leads the instant negative impression of Taiwan to international travellers. — Participant G

Furthermore, without financial support from the government, the transportation system is not likely to be improved for the tourism industry.

5.2.1.5 *Government support*

Interviewees A, B and E indicated that Taipei does not offer enough attractive tourism products. They also complained that the Taiwanese Government does not emphasise the importance of tourist expenditure compared to other industries. Interviewees A and B opined that tourists generally regard travel costs as too expensive and as a reason not to visit Taipei.

The travel cost in Taipei is cheaper than Hong Kong and Singapore; around one-third of the total cost. However it is more expensive than Thailand. Also, Hong Kong has Disneyland. Thailand has many beautiful natural sights than Taipei. Thus, it makes Bangkok, Thailand a better travel destination than Taipei. — Participant B

Compared to Hong Kong, ASEAN cities and Seoul, the tour package and cost in Taipei is too expensive, especially for accommodation and airline tickets. Therefore, tourists would rather choose other cities to visit rather than Taipei. The Taiwanese Government should learn from Korea and Hong Kong about their support and investment in tourism suppliers. — Participant B

The travel business starts by selling travel packages in the tourists' home countries. Taiwanese Government needs to build up a promotion channel from local tourism operators and overseas tourism operators. They all work together to sell Taipei tourism. But, of course, the Taiwanese Government really needs to put lots of effort and financial investment into the suppliers, especially the operators. — Participant A

If the Taiwanese Government did enact new legislation or provide financial support to develop a tourism wholesales channel as a travel package to international tourists, suppliers would start to compete or cut travel costs in order to attract more tourists to buy their products (see Participants B and F).

Tourism suppliers are very competitive among themselves in attracting more customers. They do not think how to sell Taiwan as a full package of travel products. They offer the lower

price attracting customers, but do not offer the high level of service quality to win the image of Taiwan tourism to foreign travellers. — Participant B

TTB needs to educate those suppliers selling their products as a holistic supply channel. TTB needs to control the price and the quality of tourism products. Taiwan cannot be sold with a cheap image which cannot win a good reputation of travel destination. — Participant F

As a result, no supplier necessarily cares about Taiwan as the main selling theme in tourism; they would only care about their profit and decreasing travel costs. They would not care about the quality of services, which results in a downgrading of the image of Taiwan (Participant B).

The travel business should start by selling travel package in tourist' home countries. The government should take the leading role of the wholesaler. — Participant B

According to some tourism studies (Baker & Crompton, 2000; Castro et al. 2007; Zheng et al. 2006), personnel service quality is highly emphasised in the tourism supply chain to increase positive travel experiences for travellers. However, in the survey of Taipei (Chapter 4, section 4.4.2), personnel service quality had the lowest score (4.78) in professional skill and communication. This issue was also explored in the interviews.

5.2.1.6 Personnel service quality

Personnel service quality is another major element of the tourism product. Professional tourism personnel can communicate with customers and fully understand their needs. Some tourism studies state that personnel service has been classified as more important than other products in tourism (Castro, Armario & Ruiz, 2007; Chi, 2005; Lee, 2003). In this study, interviewees stated their views of personnel service quality in Taipei.

Tourism staff are very helpful and enthusiastic to help tourists because staff are professional and well trained and also because of the influence of traditional Chinese culture. — Participant A

All tourism staff are very professional. Especially in some major sightseeing locations, such as the Royal Palace Museum. Their staff must be very familiar with Chinese history over the last 5,000 years. That's why it makes the Royal Palace famous worldwide. It becomes the major sightseeing spot in Taipei. — Participant B

During the past ten years, the suggestion cards from customers always show the positive side of our services. — Participant D

Our main customer is from Japan. Japanese care about service quality very much. If we don't serve them well, they won't visit here again. So, I believe that we are doing quite well and are professional in our personnel services. — Participant F

Personnel service in Taipei is a major attraction in tourism. Hospitality and the warm Asian style of service help to attract customers and encourage them to revisit. However, a lack of English-speaking staff in Taipei is the main problem that affects communication between customers and staff. According to Participants A, B and E, this study found that non-English speaking in Taipei seems to be a major problem affecting non- Mandarin speaking travellers' experience as indicated below by Participant A:

Hospitality service staff in Taipei needs to improve their English conversation ability. Five-star hotel staff could communicate well with foreign customers; however, other hotel staff lack the foreign language ability. — Participant A

Some tourism staff even believe that speaking Mandarin and Japanese is sufficient to deal with the current target markets, as demonstrated in the following quotes:

I can't guarantee that all tourism operators could perform a high service quality. However, I can promise that professional tour guides who have been asked to speak both Japanese and Chinese fluently in order to serve international travellers do so with no communication difficulty. Most of them are permanent residents of foreign countries. — Participant B

Still, English is the major problem which decreases our competitive ability with other Asian countries such as Hong Kong and Singapore. The government really needs to be aware of this and get some incentives or policy to improve this problem. — Participant E

Most of the interviewees pointed out that Taipei needs to improve travel spots and provide more unique travel characteristics that represent the Chinese tradition. Specifically, non-English speaking is a major problem in attracting tourists from other parts of the world. The Taipei City Government and Taiwan Tourism Bureau should not focus on Chinese and Japanese markets only.

Service quality also needs to be made more professional in terms of hospitality training (Participant D). Basically, all eight interviewees agreed that among tourism suppliers in Taipei the overall service quality is high.

The hospitality education in Taiwan is a major determinant to decide future competitiveness with surrounding Asian cities. Taiwan Tourism Bureau needs to realise how to improve current hospitality education and bring more international tourism perspectives to Taiwan tourism are the two major issues to develop future competitive advantages in Taiwan tourism. — Participant D

However, they all consider that *insufficiently skilled in speaking English* is the major problem for tourism staff in Taipei. Therefore, despite all interviewees claiming that Taipei has friendly service, they regard it as inadequate from a professional perspective. International tourists visiting Taipei need tourism staff that can communicate well and understand their wants clearly. Overall, Taipei does not offer enough travel products, especially sightseeing, for travellers to enjoy their travel.

The interviews show that tourism suppliers' service quality is not well provided in Taipei. It is important to understand why this is so in order to determine the relationships between service quality and logistics service performance. The quantitative study (Chapter 4, section 9) supported hypothesis 1 which states that tourism suppliers' service quality positively affect logistics service performance. However, hypotheses 3 and 4,

which state that ‘tourism suppliers’ service quality positively affects overall tourist satisfaction’ and ‘logistics service performance positively affects overall tourist satisfaction’ respectively, were only partially supported. Personnel service quality and order accuracy and quality could not positively affect overall tourist satisfaction. In Chapter 4, section 10, the path analysis also showed that personnel service quality has less direct affect than information service quality and product availability on order accuracy and quality. However, personnel service quality has a more direct effect than information service quality and product availability on order efficiency, discrepancy and flexibility. It is therefore necessary to understand these relationships and the reality of logistics service performance in tourism, and then to further analyse the interrelationships between variables of TSSQ and LSP, the details of which are discussed below.

5.2.2 Logistics Service Performance (LSP)

In regards to logistics service performance, the order accuracy, quality, efficiency, discrepancy and flexibility of service of tourism suppliers is of major concern to the tourist to improve the service quality (see Chapter 2, section 5). Again, this section starts with the interview data concerning each factor first, and then a data analysis of the interrelations of logistics service performance and tourism suppliers’ service quality is presented.

5.2.2.1 Order accuracy and quality

Customers book their product overseas, and thus the quality and accuracy of their order constitute their first impression of a destination’s travel service quality. As mentioned previously, Japanese customers are the largest group visiting Taipei and they view order accuracy and quality as very important. If the supplier fails to act professionally, they will not return to that supplier. This can be seen below by the quotes from Participants A, B and E:

As to order accuracy, all Taiwanese travel operators have good connections with foreign travel agents. Also, they have a convenient online booking system for any kind of individual traveller. Thus, it is convenient and correct in making a travel order by a tourist himself or through an agent. – Participant A

All tourism suppliers such as airlines, hotels, travel operators and others, are always reconfirming with customers in/on time, almost within twelve hours about their booking. Thus, there is no problem for a foreign traveller to book himself not through a travel agent at all. He still could get a fast response to confirm the booking. – Participant B

Taiwan tourism suppliers do the business with customers not for only one time. We want to serve our customers right with our highest service quality. We want to win customers' reputation and make them continue to visit Taipei. – Participant E

According to three interviewees, accuracy and quality are the most concerning issue in reservations. Reservation accuracy is seen as an important factor to ensure customers revisit the same tourism suppliers. Therefore, tourism suppliers make sure their employees handle reservations with a professional manner (Participant E).

Overseas reservation is the first contact from travelers to suppliers. Professional quality of reservation will win the positive images of customers. – Participant E

If we failed to reserve the right product for customers, they won't trust our service, and will never come back again. – Participant C

As a hospitality service provider, how to perform right and professionally is the priority consideration to customers. Therefore, professional staff who can reserve the right and good quality of tourism products become a major factor to affect order accuracy and quality. In this regard, Participants A, B and E stated above that Taiwanese hospitality personnel do perform well rendering the high quality of order accuracy and quality. As stated earlier in section 2.1.3, information service quality is the other important factor contributing high standard reservation quality. The Taipei City does have the certain level of quality in information service and product availability to support order accuracy and

quality. The interview data supports the finding of data analysis in Chapter 4, sections 9 and 10. As a matter of fact, information service quality within the tourism suppliers' service quality contributes well in logistics service performance. As Participants A, B, D and E stated above, IT quality is the most important attraction in the Taipei City. This argument can explain why information service quality and product availability has a more direct impact on order accuracy and quality, which was analysed in the quantitative phase of this study (Chapter 4, sections 9 and 10).

5.2.2.2 Order efficiency, discrepancy and flexibility

According to Participant A, it seems that Taipei tourism suppliers provide high-quality performance in order efficiency, discrepancy and flexibility in helping customers to change their reserved products.

Order discrepancy depends on seasonal differences. If it is in peak travel season, the customers' reservation deposits might be increased because of the fixed cost of product reservations. But if it is in the off-season, you could change at any time/day you want to change. — Participant A

In the hotel, room reservations are always overbooked. Thus, it is not recommended to change the booking in peak season such as Chinese New Year in February and May to June with the international computer exhibitions in Taipei. — Participant A

Participants C, D, E and F commented that in five-star hotels, order accuracy and quality is almost 100% accurate for customers because a standard operation procedure is followed in each hotel. However, in terms of order flexibility and discrepancy, order flexibility of room reservations depends on whether or not it is the peak season for hotels. Participant A stated that suppliers do try to help customers change reservations as they desire, sometimes even to upgrade their reservations if there are some no-show bookings. This is highlighted by Participant C:

If customers are not satisfied with their reserved rooms, the front officers would change them within a reasonable price-upgraded room, which can cost the hotel between 10% to 20%. But we only do this under the rooms' availability. Also, we want to win customers back again. — Participant C

For five-star hotels, order discrepancy is not a problem and front officers are able to change rooms for customers. Even in order flexibility, Taipei five-star hotels can easily deal with these situations.

If the guest would change his order at the last minute, say one hour before the actual arrival time, we still can do the changes for him. We can easily coordinate the whole reservation (e.g. pick up in the airport) for him to change. Sometimes, it does happen frequently to business customers. Thus we handle this quite often, and we know that's why our customers love us so much, because we always can help them no matter what special requests they have for us. — Participant C

Participant A and F indicated that with hotel and airline ticket reservations, changing an order at a customer's request is not a problem. In fact, for business customers, order discrepancy and flexibility are two major components in logistic service performance. To them, being served well and provided efficient services is more important than the cost and other concerns which might affect their revisit intentions.

However, outside of five-star hotels, other hotels cannot promise to offer the same standard of logistics service performance. The non-English-speaking and professional training problems mean that '*Taipei has been complained about by tourists for its order quality and accuracy in calling a taxi from local car service*' (Participant G). Participant G said that non-professional staff sometimes act in ways that results in non-professional order flexibility and efficiency. This comment ties in with the finding from the quantitative study which confirmed that personnel service and order accuracy and quality are less important to tourist satisfaction in Taipei (see Chapter 4, section 10). In order to keep the high quality of logistic service performance, order efficiency, discrepancy and

flexibility and order accuracy and quality need to be provided by professional and English-speaking staff (Participant C).

The other issues which affect logistics service performance of other tourism suppliers include order discrepancy, efficiency and flexibility. For example, transport services in Taipei City do not perform as well as the hotels in terms of changing the reserved product flexibility and efficiency. Participant G indicated that local transportation in Taipei provides less flexibility for international tourists. As stated in above in Chapter 5, section 2.1.4, the Taipei City bus and MTR are friendlier to Mandarin-speaking travellers. Therefore, in regards to changing flexibility and efficiency for consumers, transportation suppliers do not consider offering a quick response service to non-Mandarin travellers.

If a traveller who wants to change a ticket in the Taipei railway station, he has to request before 48 hours ago. Otherwise, he cannot get back the full fare refund. — Participant G

Others, such as MTR and the Taipei City bus, customers need to go to the station in person asking for a refund or changing their booking. If they can't do that, they can't claim back their money back. — Participant G

This situation occurs because the local bus service is operated by private enterprise in Taiwan. They do not belong to the Taipei City Government. Furthermore, transport suppliers do not see foreign travellers as their main target market and as such, they do not consider providing a convenient service in terms of fast response to changing relevant reservations. Even the MTR, owned by the city government, does not provide a sufficient response in logistics service performance to foreign customers. For example, there is no Internet reservation service to purchase or refund tickets for the MTR, which is the major transport system in the Taipei city. Participant B stated that:

MTR does not provide a sufficient e-service in the reservation. Therefore, international travellers do not frequently intend riding MTR, because the tickets of MTR are only sold in every station. Also, the varieties of tokens quite confuses to the first-time travellers. Many non-Mandarin speaking tourists choose taxi than MTR. — Participant B

Support from the city government is crucial in terms of linking all these services to become a holistic tourist supply chain. Participant G even stated that if every tourism supplier does not sell Taipei as a tourism product together, the international travellers become disappointed with a certain travel service and will evaluate their entire journey as a dissatisfactory experience.

With regard to order efficiency, discrepancy and flexibility, personnel service quality is a major determinant to increase the positive logistics service performance. Chapter 4, sections 9 and 10 provided the result of data analysis in the test of hypotheses and effect analysis that the performance of order efficiency, discrepancy and flexibility had been affected by personnel service more than information system. The interviews demonstrate that, in Taipei, personnel service is not quite professional enough to support adequate levels of order accuracy and quality, thus affecting customers' views of service quality in Taipei tourism. Personnel service quality has a more direct impact on order efficiency, discrepancy and flexibility. The interview findings support the findings of the SEM analysis. All participants commented that Taipei's order efficiency, discrepancy and flexibility in the hotel and airline service performed well and revealed a high quality of personnel service based on responding customers' order changes. This supports the finding of the quantitative study with regard to hypothesis 1 which states that 'tourism suppliers' service quality positively affects overall tourist satisfaction'. Due to the unique characterisation of just-in-time in logistics service performance, the interviewees have suggested that the Taipei City Government and the tourism suppliers need to reinforce personnel service quality in order to acquire better logistics service performance, which has been described as an important factor in evaluating travel satisfaction by interviewees. In the next section, other dimensions will be discussed.

5.2.3 Tourism Suppliers' Service Quality, Perceived Service Value (PSV), and Overall Tourist Satisfaction (OTS)

Perceived service value is the result of the customer's overall evaluation of the benefits gained by the customer (from a product or service) and of the costs (money, time, effort and energy) (Lo, 2007). According to one interviewee, 'Taipei is just worth a 2-day visit' (Participant C).

Compared to ASEAN countries, our travel costs are a little bit more expensive. Tourists would rather choose Bangkok and Hong Kong to visit. Those two destinations are cheaper and offer many different varieties of travel products than Taipei. — Participant F

Therefore, in order to win the travellers' satisfaction, Participant F stated:

Thus, we should emphasise our personnel services. Our main customer is from Japan. Japanese care about service quality. If we don't serve them well, they won't visit here again. So, I believe that we are doing quite well and are professional in our personnel services.

However, Participant F further stated that the government and suppliers need to put more effort into promoting tourist attractions via the Internet.

The promotional websites are okay but there is nothing special to see and to know. The international traveller won't come to Taipei all the way just to see nothing.

Participant G had some different views about tourism products in Taipei that affect tourist satisfaction:

I think the government needs to reallocate the transportation from Taoyuan International Airport to the city, and have regular transport from the airport to the city. High-speed railroad is fast and convenient; however, it's not the major transport to the city. It connects the airport to the other counties of Taiwan. Also, it is not clear and easy for foreign travellers to identify the road map and transportation routes in Taipei, because of the different spelling between Chinese and English street names. It will make people feel confused.

On top of the inconvenience of the transportation from the airport to the city, Participant G further stated that there are insufficient air links in Taipei, and that this was the other major problem in attracting more international tourists. This is supported in the following quote:

Taiwan is not a member of the International Air Transport Association (IATA). Thus, we have fewer privileges in fighting for a new air link with Hong Kong and other neighbouring countries. Thus, one of the major reasons that we can't compete with Thailand and Hong Kong is we are not the major air flight transit route and not easily connected to other destinations. Thus, it makes the direct flight costs from other places to Taipei higher than Singapore and Hong Kong. — Participant G

Inadequate travel products and perceived service value in Taipei also elicited the following comments from interviewees.

The return rate of Japanese customers is still the most significant factor in the total market. Cheap travel cost and good food compared to their local travel makes them want to visit Taipei. — Participant A

However, Participant B indicated that:

Except food attractions and shopping, Taipei has nothing to visit. It is just worthy for a two to three day visit in Taipei. Travellers need to see something special to make their travel cost worth it. Otherwise, they would rather visit some other destinations than Taipei.

American and European tour groups have dropped in recent years. They would rather visit Pukhet Island or Thailand, because their products are more attractive and price worthy. — Participant F

To these interviewees, the Taiwanese Government only focuses on the Japanese market and does not display any intention to attract new markets. This is a major problem for suppliers. Suppliers cannot run the tourist business by themselves. Tourism products are under a holistic supply channel. Buhalis (2001b) indicates that all tourism product

suppliers who participate in the tourism supply chain is a pre-requisite. Suppliers' total involvement is essential in tourism supply chain management (Buhalis, 2001b; Kandampully, 2000; Kandampully & Promsivapallop, 2005; Yilmaz & Bititci, 2006a; 2006b). It is thus believed that the concept of holistic tourism supply involvement can improve service quality. This is because when different tourism suppliers work as a single entity in a unified channel, they can respond more quickly to the changing needs of customers, anticipate and tailor products according to demand and personalise the product provided (Eraqi, 2006). Those highly personalised 'touch of service quality' actions can increase the overall perceived service value within a travel destination and positively affect a satisfactory travel experience (Lee, 2003; Lee, 2005). If the government cannot be a leader in the tourism business, suppliers are forced to compete with one another in order to win new customers. Sometimes, they even want to reduce their prices in order to attract more customers.

However, low costs results in poor service. It is not the way to maintain a high quality service performance in tourism. — Participant B

The above comments confirm that Taipei tourism operators need to reinforce their personnel service quality in order to render professional service and highlights the overall perceived service value for tourists. To satisfy tourists, tourism service quality does play an important role in affecting perceived service value. As highlighted in Chapter 2, section 7, tourism suppliers' service quality positively affects perceived service value.

From the interviewees' comments, insufficient personnel service quality and product availability affects Japanese tourists' perceived service value of tourism in Taipei. Japanese customers care about service quality. Therefore, the interviewees noted that in order to obtain positive perceived service value, tourism suppliers should reinforce the service quality through professional personnel training and provide a greater choice of products. This argument supports the proposition that tourism suppliers' service quality positively affects perceived service value (hypothesis 2).

5.2.4 Logistics Service Performance, Overall Tourist Satisfaction, and Tourist Loyalty (TL)

The findings of the qualitative data analysis suggest that logistics service performance is needed to be valued in tourism. The interviews highlighted that order accuracy and quality have failed to affect tourist satisfaction in Taipei. The main issue raised in the interviews was that personnel are unable to communicate adequately or solve customers' requests correctly (Participants A, B, D, and F). The survey data revealed that personnel service quality has a major influence on order accuracy and quality, which was confirmed by the interviewees' opinions. Therefore, because of insufficient personnel service quality and order accuracy, tourists' needs are not being satisfied in these areas (Participants A and B), which will affect their future intentions to revisit Taipei. This argument goes some way to explain the result of the SEM analysis, H4a, which was that order quality and accuracy positively affects overall tourist satisfaction, which was rejected.

The importance of order discrepancy, efficiency, and flexibility was supported by Participants A, C, E and F. These participants agreed that Taipei provides high quality and performance in just-in-time management of changing reservations in hotels. However, as Participant G indicated, local transportation services need to change their concepts of targeting only local residents to incorporating international travelers as well. As the participants suggested:

As an IT leading city, Taipei tourism suppliers have to use this advantage to promote their products in the Internet. Using free wireless services is a benefit to tourists who can check their travel timetables, order services and change bookings easily. Taipei City Government already provides the IT services to help tourism suppliers to increase their reservation services in a real time base. — Participant G

Tourists feel satisfied while they can use the Internet in major sightseeing spots and transportation stations in Taipei. — Participant A

Taipei provides the best IT services to the tourists. Tourists feel very welcomed while travelling in the city. — Participant B

The participants suggested that in order to further satisfy travellers by providing greater order efficiency, discrepancy and flexibility services, and tourism operators need to update and upgrade their on-line services. The city government and hoteliers already provide excellent performance in logistics service performance. They also noted that other operators need to follow and emphasize the value of logistics service performance on tourist satisfaction and loyalty.

Generally speaking, how to improve the value of time and money spent for tourists in Taipei is a major task for the Taipei City Government and the Taiwan Tourism Bureau, as Participants A and B argued. Logistics service performance has been highlighted in this study to have an affect on tourist satisfaction, because, eventually, overall satisfaction positively leads to tourist loyalty (Participants B, E, and F). However, according to the results of the interview survey, tourists seem to be not that much satisfied overall with tourism products in Taipei. The government needs to be aware of the insufficient quality of personnel service as well as the negative consequences for order accuracy and quality. In the survey analysis, personnel service quality was confirmed to be the most important factor affecting perceived service value within Taipei's tourism industry. Therefore, from the interview survey, the Taipei City Government and tourism suppliers need to put more effort into training hospitality staff as Participant B and E suggested. Without satisfactory travel experience, tourists would rather visit other destinations as Participant A and B indicated. This argument confirms the survey results that support the propositions that perceived service value positively affects overall tourist satisfaction and overall tourist satisfaction positively affects tourist loyalty (Hypotheses 5 and 6).

The recommendations of the interviewees about logistics service performance, tourism suppliers' service quality, perceived service value, tourist satisfaction and loyalty in the Taipei tourism industry can be summarised as follows:

- IT has to be emphasized to tourism suppliers in order to improve logistics service performance.
- Order accuracy and quality is affected by personnel services.
- Order efficiency, discrepancy and flexibility is the key element in logistics service performance to satisfy travellers' experience in Taipei.
- More tourist attraction points such as theme parks need to be developed.
- The English language skills of service personnel need to be improved.
- Easily accessible tourist information should be available. This should include the provision of bilingual street name signs to facilitate tourism.
- Local transportation systems need to be friendlier to non-Mandarin speaking travellers.
- Seamlessly integrated tourism service is important.

5.3 Conclusion

The qualitative study method sought to uncover the realities of tourism in Taipei:

- To identify the interrelationships among the constructs of tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction, and tourist loyalty; and
- To identify the contribution of service quality and logistics service performance in enhancing tourist satisfaction and loyalty.

In Chapter 4, the survey addressed the internal relationships among the constructs. The interviews supported the conclusions from the survey that to improve the availability of tourism attractions, infrastructure and service quality it is necessary to further incorporate logistics service performance in order to attain a high level of perceived service value in turn to further satisfy tourists and win their loyalty.

Based on the findings from the qualitative study in Taipei, it can be concluded that the success of the tourism industry of a city depends on four elements in general. First, there must be adequate and high-quality tourist attraction points to attract visitors. To achieve a competitive advantage in tourism, a city must equip itself with tourist attractions. With a basis to attract tourists, a city then must improve its service quality to ensure that visiting the city is enjoyable.

Second, efficiency and quality of service personnel in terms of language capabilities, professional knowledge, courtesy and responsiveness must be high.

Third, the overall performance of the industry in terms of convenience, accuracy, flexibility, and provision of integrated services needs to be enhanced to increase the perceived value for tourists.

Finally, a city should further enhance its service performance by building upon its service quality to increase the perceived value for tourists. With wonderful tourist attractions, superb service quality and excellent service performance, a city can provide high levels of satisfaction for tourists and increase their intentions to revisit.

This chapter has investigated how suppliers' service quality and logistics service performance impact on tourist satisfaction and loyalty. The tourism industry of the city of Taipei was used as a qualitative study. Data were collected through interviews with experienced practitioners and government officials in the tourism industry in Taipei.

Taipei, in this qualitative study, serves as an example of the importance of examining the factors that influence tourism. The investigation has confirmed the findings from the quantitative analysis that in practice suppliers' service quality and logistics service performance do affect tourist satisfaction and loyalty. Taipei is not performing well in tourism because of inadequate service quality and logistics service performance. The interviewees indicated that poor travel attractions, non-professional service staff and insufficient order accuracy and quality have led to a negative impact on perceived service

value for tourists. The findings indicate that in order to enhance perceived service value, and improved service quality — which comes from seamlessly integrated tourism services organised by the government. This is vital and must be viewed as a top priority.

The following chapter concludes this thesis, by providing a summary of the research objectives, hypotheses and questions. The unique contribution of this research to both theory and practice are discussed. The limitations of this study are also presented, followed by the suggestions for future tourism research.

Chapter Six – Discussion and Conclusion

6.1 Introduction

This study examined the role of logistics service performance within tourism, which has largely been absent in the existing theory. A conceptual model with six hypotheses was developed and tested with the aim of understanding the impact of logistics service performance in the tourism industry. Together with tourism suppliers' service quality and perceived service value as formulated in previous tourism studies (Baker & Crompton, 2000; Chi, 2005; Oh, Kim & Shin, 2004; Sirakaya, Petrick & Choi, 2004) it enhances overall tourist satisfaction and tourist loyalty. Chapter 6 draws together the key aspects of the internal relationships among tourism suppliers' service quality, logistics service performance, perceived service value, overall tourist satisfaction and tourist loyalty as reported in Chapters 4 and 5.

The structural equation modelling technique was employed to analyse the data collected from a questionnaire given to international tourists visiting Taipei, Taiwan (see Chapter 4). The results of the data analysis suggested that logistics service performance was an important antecedent to tourist satisfaction and loyalty. The results of the data analysis (see Chapter 4) also confirmed that tourism suppliers' service quality and perceived service value positively affect overall tourist satisfaction and loyalty. These results were partially consistent with findings from prior research.

A qualitative study using an interview methodology was then undertaken to confirm and further investigate the strength of associations between those five variables (Chapter 5). For the purpose of answering the research question – *'What are the interrelationships among logistics service performance, tourism suppliers' service quality, perceived service value, overall tourist satisfaction, and tourist loyalty?'* – this chapter presents and addresses the results of the data analysis from the mixed methodology (Chapters 4 and 5). The next section offers a detailed description of the conceptual model of this

study in order to explain the basis of the six main hypotheses. This chapter also reviews the hypotheses and the research question from which was used to develop the conceptual model of this thesis and identifies the contributions of this study.

6.2 A Model of Tourism Products Comprises Components of Tourism Suppliers' Service Quality, Logistics Service Performance and Perceived Service Value Enhancing Overall Tourist Satisfaction and Loyalty

There is a small body of previous literature on logistics service performance that has sought to determine whether it affects tourist satisfaction and loyalty. Most tourism studies (Akbaba, 2006; Su, 2004; Albacete-Sáez, Fuentes-Fuentes & Llorens-Montes, 2007; Yasin & Yavas, 2001; Wong & Kwan, 2001) have used the SERVQUAL scale, including the reliability, responsiveness, assurance, empathy and tangibility of suppliers' service performance (see Chapter 2, sections 3 and 4), to examine the impact of such performance on tourist perceived service value and satisfaction, and consequently on loyalty. Buhalis (2000b), Chancko, Davidson & Green (2005), Kandampully and Promsivapallop (2005), and Ketikidis et al. (2008) started a trend to survey and explore whether improving service performance through greater efficiency of operations results in greater tourist satisfaction and repurchase intentions.

The researcher perceived a gap on logistics service performance in the existing tourism theory by examining logistics service performance employed in the manufacturing industry (Mentzer, Flint & Hult, 2001; Stank et al. 1999, 2003). Stank et al. (2003, p. 27) argue that 'logistics creates value by accommodating customers' delivery requirements in a cost effective manner. Logistics service performance, therefore, assesses a provider's ability to consistently deliver specified products within the requested delivery time frame at an acceptable cost'. In order to fully understand the improvements in logistics service performance and impact on overall firm performance, which posed some difficulties for research, Stank et al. (2003) developed a model that adopted logistics service performance, customer satisfaction, loyalty and market share in the manufacturing industry and tested their internal relationships using structural equation modelling.

This study borrowed this idea of logistics service performance measurement (Mentzer, Flint & Hult, 2001; Stank et al. 1999, 2003) and tried to link logistics service performance to tourism suppliers' service quality in operation. Unlike the previous interest in tangible service (e.g. attraction and product availability) and intangible service (e.g. personnel service performance) in the SERVQUAL measurement, this study has sought to pioneer research on the impact of operational performance (e.g. reservation performance) on tourist satisfaction.

Based on previous theory and the discussion in Chapter 2, this study utilised a quantitative approach and tested using the conceptual model below (Figure 6.1). The following discussion explains how the data collected and analysed demonstrates the relationships among the five constructs in the conceptual model — logistics service performance, tourism suppliers' service quality, perceived service value, overall tourist satisfaction, and tourist loyalty.

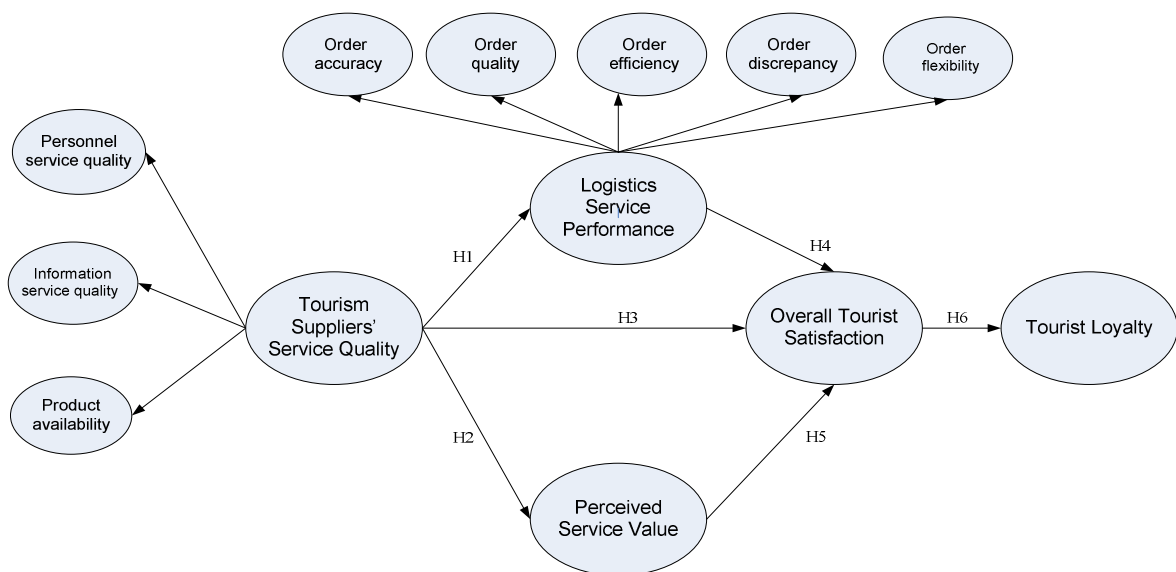


Figure 6.1 The Initial Conceptual Model and Hypotheses

6.3 The Relationship Between Logistics Service Performance and Service Quality

Logistics service performance has been defined broadly as a service orientation dimension (Daugherty, Stank & Ellinger, 1998; Stank et al. 1999, 2003; Mentzer, Flint & Hult, 2001; Davis, 2006). Stank et al. (2003) have defined logistics service performance dimensions based on the SERVQUAL measurement developed by Parasuraman, Zeithaml & Berry (1985; 1988). Some researchers (Beamon, 1999; Chow et al. 1994; Davis, 2006; Fawcett & Cooper, 1998; Rabinovich, 2007; Richey, 2003; Mentzer, Flint & Hult, 2001; Stank et al. 2003) report that it is the most important outcome of service quality to the end-customer. In recent years, logistics service performance has been used to examine how businesses can provide satisfactory service quality to customers, in contrast to the previous interest in examining the performance of physical distribution.

In Figure 6.1, tourism suppliers' service performance is portrayed as the antecedent of logistics service performance and perceived service value. This study argues that the factor '*personnel service quality*' (e.g. suppliers understanding customers' needs, employees knowing their job, and customers making recommendations for continuous improvements on an ongoing basis) positively affects logistics service performance (e.g. operational performance) (see also Daugherty, Stank & Ellinger, 1998; Davis, 2006; Stank et al. 1999, 2003). Based on the SERVQUAL measurement, such as the tangibles scale, this study then named the other two factors '*information service quality*' and '*product availability*'. Lo, Cheung and Law (2004) and Yuen (2006) suggest that information systems play an important role in connecting customers and suppliers before and after purchases. Furthermore, the availability of web content is the most efficient sales channel for contacting potential customers (Richey, 2003).

Therefore, this study included information systems as a part of the tourism suppliers' service quality dimension. Meanwhile, as mentioned in the beginning sections of Chapter 2, tourism products (e.g. facilities and infrastructure, price, and attractions) are the major focus in the tourism literature (Chi, 2005; Formica, 2000, 2002; Lee, 2003; Lo, 2004). A

customer is satisfied only when they obtain the quantity and quality of the products they desire (Oh, 2003). In short, this study adopted personnel service quality, information service quality, and product availability, replicated from the SERVQUAL measurement, as factors underlying the tourism suppliers' service quality dimension.

In Figure 6.1, logistics service performance is assumed to be positively affected by tourism suppliers' service quality. Due to the fact that there are no relevant measures in the tourism literature, this study borrowed this concept from the manufacturing literature. Mentzer, Flint and Hult (2001) developed a logistics service quality model which examined the relationships between operation efficiency and satisfaction. In their model (2001), *order accuracy*, *order quality*, *order discrepancy handling*, and *order efficiency* were the major performance scales (see details in Chapter 2, section 7.2). Due to the unique characteristics of tourism products (Eraqi, 2006), this thesis added *order flexibility* to the logistics service performance dimension (see Chapter 2, section 7.2). The concept of 'just-in-time' within logistics service performance scales as adopted in this dimension to test whether suppliers who operate accurately and effectively affect customer satisfaction. This was an attempt to link the same concepts in both the tourism and manufacturing fields. Therefore, this study hypothesised that:

H1: Tourism suppliers' service quality positively influences logistics service performance.

The data analysis showed that an adequate level of service quality elicits positive logistics service performance. The data analysis further indicated that there were two more major service quality requirements which should be provided for and considered by tourism suppliers as affecting logistics service performance. In Chapter 4, section 9 and Chapter 5, section 2.1, results of the data analysis indicated that personnel service quality and information service quality and product availability both had a significant relationship with, and impact on, logistics service performance. In Figure 6.2, the path analysis shows that personnel service quality had a major influence on order efficiency, discrepancy and flexibility, whereas information service quality and product availability

had a stronger impact on order accuracy and quality. In this regard, the results indicated that both factors had important, but different, weights of impact on logistics service performance measures.

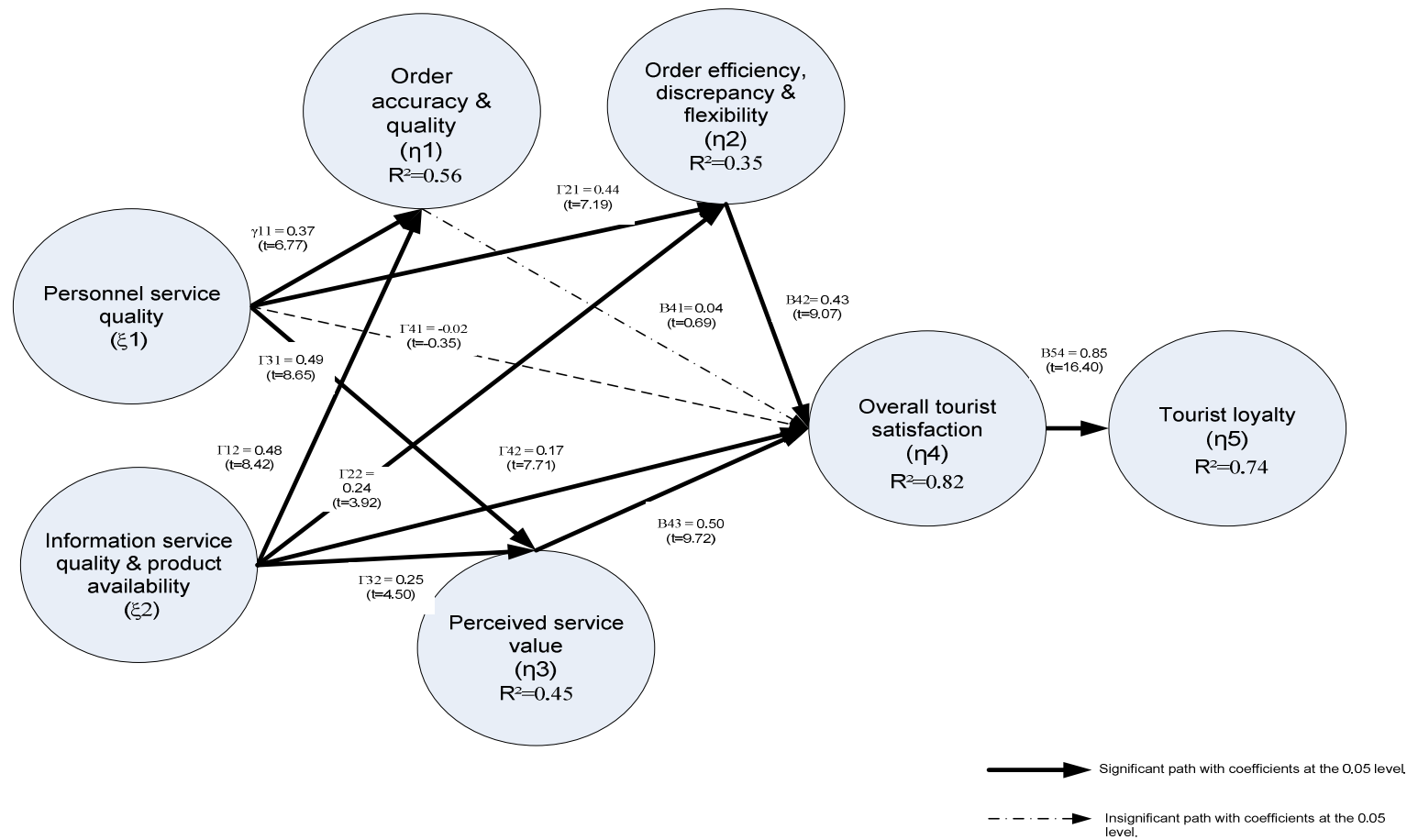


Figure 6.2 Final Hypotheses Test Results

The findings can be explained and understood by the existing literature. In modern business, personnel service quality, which largely controls the efficiency and flexibility of operations, is the major competitive advantage to increase customer satisfaction and perceived service value (Bienstock et al. 2007). Therefore, the data analysis confirmed that personnel service quality did have an important influence on order efficiency, discrepancy and flexibility.

In the manufacturing and marketing fields, the quality and availability of information systems as reflected through download speed, web content and customer service positively affects the ordering process and accuracy (Ho & Lee 2007; La 2005; Lo Cheung & Law, 2004; Richey 2003; Yuen 2006; Wang and Sarker 2006; Wu, Wei & Chen, 2008). Rabinovich (2007) and Bienstock et al. (2007) further indicate that effective logistics service, mainly referring to information technology system support, can significantly affect the operations quality of suppliers. In regard to product availability, for example, tourism facilities and infrastructure were used as the other indicators to measure the factor of product availability and its relationship with logistics service performance. The results of this study showed that information service quality and product availability positively affect logistics service performance. This result supported both previous manufacturing research (Lo et al. 2004; Yuen, 2006; Wang & Sarker 2006) and tourism studies (Chathoth, 2007; Chen, 2002; Chen, Hwang & Lee, 2006; Yang, Zhou & Zhou, 2005).

As a result, tourism suppliers' service quality in this study had a strong and positive impact on logistics service performance. With limited reference to logistics service performance in the existing tourism studies, these research findings have important implications concerning the way that tourism suppliers should approach information service provision and tourism product availability in so far as they significantly influence logistics service performance. A high quality of tourism suppliers' service quality results in professional levels of logistics service performance. This study has revealed the importance of logistics service performance in the tourism industry, and the results of the

data analysis have supported the hypothesised relationships in the research model. This section then specifically notes that:

- Personnel service quality has a major impact on order efficiency, discrepancy and flexibility; and
- Information service quality and product availability have a major impact on order accuracy and quality.

6.4 The Relationship Among Service Quality, Logistics Service Performance Perceived Service Value and Overall Tourist Satisfaction

Perceived service value has been discussed in many marketing and tourism studies as a less important factor, which is affected by service quality first, then results in the positive overall travel experience of tourists (Parasuraman & Grewal, 2000; Tam, 2000; Wu, 2005). Lee (2005) and Um, Chon and Ro (2006) highlight the impacts of perceived service value on tourist satisfaction. They indicate that perceived service value is an overall and final judgement of the travel experience. The adequate service level of tourism suppliers is only a part of perceived service value. Lin (2007) has strongly argued that perceived service value has a more positive influence on tourist satisfaction than service quality. In this regard, this study used the ideas that '*value is whatever I want for a product*' (Lee, 2005) and '*value is for the quality I get for the price I pay*' (Parasuraman & Grewal, 2000) to examine the impact of perceived service value on satisfaction, from which this study hypothesised that:

H2: Tourism suppliers' service quality positively influences perceived service value.

The relationship between service quality and perceived service value was thus another focus in this study. This study postulated in the research hypotheses that there is a positive influence of service quality on perceived service value. Perceived service value has been commonly discussed as a determinant of customer satisfaction and loyalty (Chen, 2002; Chen, 2003; Chen & Tsai, 2007; Duman & Mattlia, 2005; Lee, 2005). It is

widely known to be an overall evaluation of the benefits awarded to a customer after purchasing.

In this study, it has been found from analysis of the data in both the survey and interviews that tourism suppliers' service quality significantly affected perceived service value. Current tourism studies (Chen, 2003; Lee, 2005; Sánchez, Rodriguez & Moliner, 2006) reported similar empirical results. These studies revealed that perceived service value is largely defined by perceptions of service quality. The path analysis reported in Chapter 4, sections 9 and 10 support this finding, which showed a strong and direct impact of tourism suppliers' service quality on perceived service value, and thereby positively affected tourist satisfaction. Results of data analysis of the interviews (see Chapter 5, sections 2.1.6 and 2.3) suggest that personnel service quality is more important than product availability and information service quality in affecting perceived service value. In other words, the findings indicated that tourists care more about what they enjoy and experience from the overall personnel services (Bienstock et al. 2007; Chen, 2003; Davis, 2006). Therefore, tourism suppliers need to provide professional staff who know and understand customers' needs, and are keen to help customers. This argument is mainly consistent with previous tourism research (Cheung et al. 2006; Lee, 2005; Lin, 2007; Yang, Zhou & Zhou, 2005). It can be concluded that personnel service quality is a major determinant of perceived service value.

With regard to the relationship between service quality and overall tourist satisfaction, this thesis has found a positive relationship between them. Wu et al. (2008) argue that, in the tourism industry, determining what products affect tourist satisfaction, how to win customers' attention through services, and what level of service quality customers need are the primary questions facing suppliers in the market. These questions reveal that customers' purchase behavior and needs during a holiday must be understood and provided for by tourism suppliers. Service quality is seen as the most important determinant of the performance of tourism products overall, encouraging tourist satisfaction and loyalty (Andreatta et al. 2005; Kandampully & Promsivapallop, 2005; Obenour et al. 2006; Teh & Cabanban, 2007). Lin (2007) states that perceived service

value is even more important than service quality in influencing tourist satisfaction. Regardless of the influence of service quality or perceived service value, in this study, logistics service performance was considered to be an important element, which can also affect tourist satisfaction positively. As mentioned earlier, customers' satisfaction is an outcome of logistics service performance. Therefore, it was necessary to examine whether logistics service performance does affect tourist satisfaction. Hence, this study hypothesised that:

H3: Tourism suppliers' service quality positively influences overall tourist satisfaction.

H4: Logistics service performance positively influences overall tourist satisfaction.

H5: Perceived service value positively influences overall tourist satisfaction.

The major findings of the data analysis in regard to these three hypotheses were partially consistent with the existing literature.

Many studies support the proposition that higher standards of suppliers' service quality increases customer satisfaction. This point of view has been supported by studies of the relationship between service quality and tourist satisfaction within previous tourism literature (Baker & Crompton, 2000; Chi, 2005; Formica, 2000; Lee, 2003; Tian-Cole, Crompton & Wilson, 2002). However, in this study, one significant finding from the analysis of the data was the non-significant relationship between personnel service quality and overall tourist satisfaction. This finding was unexpected in view of past literature. It was not consistent with the findings from other empirical studies, as discussed in Chapter 2, section 7.1 (Hartline & Ferrell, 1996; Hartline, Maxham & O'McKee, 2000; Stank et al. 1999). Chapter 5, sections 2.1.6 and 2.3 explained that this result might be a result of the survey being conducted in Taipei, as Taipei tourism personnel are not able to provide a high standard of services. However, information service quality and tourism product availability were found to have an important impact on tourist satisfaction. This finding was consistent with prior research (Buhalis, 2000; Kisperska-Moron, 2005; Mentzer & Williams, 2001; Richey, 2003; Yuen, 2006). Hence, the data analysis still partially supported the research hypothesis that states that tourism suppliers' service quality has a positive impact on tourist satisfaction. This result supports

the argument that information service quality and product availability are the major determinants of overall tourist satisfaction.

6.4.1 The Importance of Logistics Service Performance to Overall Tourist Satisfaction

Another significant result of the data analysis in this study was the non-significant relationship between order accuracy and order quality in the logistics service performance measurement on the one hand, and overall tourist satisfaction on the other. This result was not consistent with the findings in prior studies in manufacturing and logistics (Mentzer & Williams, 2001; Stank et al. 2001; Davis, 2006). In Chapter 5, section 2.2, the data analysis from the interviews indicated that personnel service in Taipei is not quite professional enough to support order accuracy and quality that positively affects customers' views of service quality. This study assumes that this partly non-significant result might be affected by the survey location, which suggests that the Taipei City Government should take heed of the important influence of hospitality staff on the overall judgement of tourists when considering a visit to a travel destination.

Previous manufacturing studies (Daugherty, Stank & Ellinger, 1988; Stank et al. 2003) have suggested an indirect relationship between logistics service performance and customer satisfaction. In contrast to the existing theory, this study found a stronger and more direct influence of order efficiency, order discrepancy and flexibility within logistics service performance on overall tourist satisfaction when compared to other factors in the hypothesised model (see Chapter 4, sections 9 and 10). Hence, logistics service performance still has a positive relationship with overall tourist satisfaction in this study. In light of this data analysis, logistics service performance can be seen to play a critical role in affecting tourist satisfaction. Stank et al. (1999; 2003) indicate that logistics service performance offers a competitive advantage in solving customers' problems immediately due to its focus on the requirement of timely and efficient operations. In a supply chain of consumer products, logistics service performance is the major determinant of levels of service quality. Ketikidis et al. (2008) further indicates

that improving efficiency in information processing, such as material sourcing, production scheduling and physical distribution systems, can positively impact on service quality and operation, thereby providing customer satisfaction. Indeed, this study has added to closing the theoretical gap in understanding the positive relationship between order accuracy and order quality of logistics service performance and overall tourist satisfaction: order accuracy and order quality can thus be seen as important to overall tourist satisfaction.

Reviewing the analyses of the data represented in from Chapters 4 and 5 , an argument can be suggested that tourism suppliers not only need to reinforce product and service quality, but they also need to reinforce personnel service quality in order to provide professional order accuracy and quality to tourists. In this regard, this study has implications for existing tourism theory, namely that personnel service quality does have a strong impact on logistics service performance and perceived service value. This finding has demonstrated that hospitality personnel are important assets in service quality, and that this is a major factor affecting logistics service performance and perceived service value, and thereby tourist satisfaction.

The data analysis results support a postulation that perceived service value positively affects overall tourist satisfaction. Scholars have become more interested in perceived service value as one of the determinant factors of tourist satisfaction in current tourism studies (Lee, 2005; Lin, 2007). As a result of this current research trend within the tourism literature, this study has sought to understand why some current tourism studies (Chi, 2005; Lee, 2005; Lin, 2007) indicate that perceived service value is more important than service quality in affecting tourist satisfaction (see Chapter 2, sections 6.1 and 7.3). From the data analysis, perceived service value was found in this study to have the most important influence on tourist satisfaction, which confirmed current tourism theory. Traditionally, perceived service value has been seen to be the most 'silent', less important factor influencing satisfaction (Lee, 2005) because it is a customer's overall evaluation, after the services have been provided, which is normally considered. Lin (2007) indicates that perceived service value is not an individual factor, such as availability of product or

service quality, which affects customer satisfaction before or immediately after purchasing. This study has found that perceived service value had the strongest and most direct effect on satisfaction, and in so doing has confirmed the findings of Lee (2005) and Lin (2007), which also indicates that tourism service providers should look after customers' overall perceived feelings during their travels. In other words, tourism suppliers need to be consistent with the overall service quality of the total tourism 'product' supplied. Otherwise, if one supplier fails in this regard, the overall perceived service value would be diminished, thus affecting tourist satisfaction. Therefore, perceived service value is critical to tourism suppliers. The interview data revealed that the total service performance of tourism suppliers influences the overall judgement of tourists and their experience of travel. Due to insufficient research into logistics service performance in tourism theory, this study has not included a path from logistics service performance to perceived service value. The above findings have indicated that logistics service performance does indeed play an important role in winning tourist satisfaction. However, it is necessary that future research try to link logistics service performance to perceived service value in order to test whether logistics service performance is a critical determinant in the overall provision of tourism products, which in turn can increase service accuracy, quality and efficiency in operation, and thus increase perceived service value. Therefore, this study supports arguments that:

- Perceived service value is an important antecedent of overall tourist satisfaction; and
- Logistics service performance requires further investigation into its relationship with perceived service value in the tourism industry.

6.5 The Relationship between Overall Tourist Satisfaction and Tourist

Loyalty

This study used overall tourist satisfaction instead of individual tourist satisfaction to test its inter-relationship with the other four constructs, which were tourism suppliers' service quality, logistics service performance, perceived service value, and tourist loyalty. Fornell (1992) indicates that overall satisfaction is a much broader concept than

individual satisfaction, in so far as it is based on a holistic evaluation of the product (Chi, 2005; Kandampully & Suhartanto, 2003; Lee, 2005). These studies use tourist loyalty as an outcome that is affected by service quality, perceived service value through the mediate factor, which is overall tourist satisfaction (Chi, 2005; Kandampully & Suhartanto, 2003; Lee, 2005).

In the tourism literature, tourist loyalty usually is used as a final dependent variable in testing the outcome of tourist satisfaction. This study has adopted such factors as priority choice of the same destination, revisit intention, and recommendations to friends or positive word-of-mouth advertisements from other tourism studies (Markwick, 2000; Lee, 2005; Lee & Sparks, 2007) as measurements of loyalty. Hence, this study hypothesised that:

H6: Overall tourist satisfaction positively influences tourist loyalty.

The finding of the data analysis for this hypothesis set fully supported the arguments.

This study has attempted to determine the role of tourist satisfaction in relation to loyalty. Tourist satisfaction was confirmed in this study as constituting the most direct and important determinant of tourist loyalty. This finding is consistent with previous tourism studies which have highlighted the mediating role of satisfaction amongst different factors, such as perceived service value and service quality, resulting in tourist loyalty (Chi, 2005; Chi & Qu, 2008; Hu, 2003; Lee, 2001; Lee, 2005). Due to the limited theory on logistics service performance within tourism research, this study did not include a path from logistics service performance to tourist loyalty. However, in the information technology literature, Gunnarsson and Jonsson (2003) have used logistics service performance measurements, such as operation process, operation quality and efficiency, to examine their relationships with customer loyalty. The results of this study (2003) showed that professional and quality operations can elicit customer loyalty. Future tourism research needs to examine the impacts of these measurements on loyalty in order to fully understand whether logistics service performance has an important affect on

satisfaction. Future tourism studies need to adopt this idea based on the conceptual model of this study to determine more interesting and practical measurements of logistics service performance within tourism. This study has shown that:

- Overall tourist satisfaction is the most important factor of tourist loyalty; and
- Logistics service performance should be further investigated in terms of its relationship with tourist loyalty in the tourism industry.

6.6 Summary of Data Analysis

The six hypotheses (Figure 6.1) were tested in a structural equation model and evaluated in a qualitative study (see Chapter 4 and 5). Results of the full model analysis (SEM) were provided in Chapter 4, sections 9 and 10. Figure 6.2 shows the results of the data analysis. This study has undertaken academic research on tourism to explore the determinants of tourist satisfaction and loyalty. Most of the previous tourism research has focused on service quality, which is seen to be the major determinant to tourist satisfaction. This study has highlighted the importance of logistics service performance and perceived service value on satisfaction. Results of the data analysis support most of the hypotheses. Two sub-hypotheses (H3a and H4a) that were not supported have been fully explored and discussed in the context of current literature (Chapter 4, sections 9 and 10, Chapter 5, and Chapter 6, section 2). The six key findings of the data analysis are:

- Tourism suppliers' service quality has a positive impact on logistics service performance.
- Tourism suppliers' service quality has a positive impact on perceived service value.
- Tourism suppliers' service quality has a positive impact on overall tourist satisfaction (partially supported).
- Logistics service performance has a positive impact on overall tourist satisfaction (partially supported).
- Perceived service value has a positive impact on overall tourist satisfaction.

- Overall tourist satisfaction has a positive impact on tourist loyalty.

This study has contributed a conceptual model that adopts the idea of logistics service performance within tourism studies. The next section will further discuss the conceptual model and contribution and limitations of this study for future research.

6.7 Contributions to Tourism Theory and Practice

The research findings indicate that the antecedents of tourist loyalty are service quality, logistics service performance, perceived service value and, primarily, overall tourist satisfaction. The research findings suggest that the influence that each of these factors has on satisfaction and loyalty differs among them. Some factors that were traditionally considered to be more influential on satisfaction, such as personnel service quality and order accuracy and quality, have been demonstrated to be less important in this study. The next section discusses the theoretical contribution of this study to the existing literature.

6.7.1. Theoretical and managerial contributions

The first contribution of this study has been to introduce the concept of logistics service performance into tourism literature. As outlined in section 2, this study is the first to use logistics service performance measurements to examine their relationship with service quality and overall tourist satisfaction. This differs to previous tourism research (Akbaba, 2006; Baker & Crompton, 2000; Su, 2004; Yasin & Yavas, 2001), which has tended to use the SERVQUAL scale to measure its impact on perceived service value, tourist satisfaction and loyalty. In contrast, this study has borrowed the idea of the logistics service performance measurement from manufacturing theory (Mentzer & Ruzic, 1999; Mentzer, Myers & Cheung, 2004; Stank et al. 2001; Davis, 2006). Logistics service performance measurements have been extensively employed within manufacturing studies for the past two decades. The main objective of using this measurement is to

examine the efficiency, timeliness, flexibility, accuracy and quality of operations, before and after the production process, which positively affect customer satisfaction. This study used five reservation factors within logistics service performance (order accuracy, order quality, order efficiency, order flexibility and order discrepancy) to test its interrelationship with tourism suppliers' service quality, perceived service value, overall tourist satisfaction and loyalty. The findings have revealed the significant effects of these components in determining tourist satisfaction and loyalty. Moreover, this study has made it clear that logistics service performance plays an essential role in achieving overall tourist satisfaction.

To some extent the results have confirmed the important relationships amongst service quality, perceived service value, overall tourist satisfaction and loyalty. However, the logistics service performance theory (Mentzer & Ruzic, 1999; Mentzer, Myers & Cheung, 2004; Stank et al. 1999, 2003; Davis, 2006) adopted in this study has been previously used mainly in manufacturing and logistics studies. In contrast to previous tourism studies which have largely used SERVQUAL measurements to test tourist satisfaction and loyalty, this study has filled a gap with logistics service performance measurement in the existing tourism literature. The results of the quantitative survey were strongly supportive in explaining the hypothesised relationships (Chapter 2, section 7). In addition, the qualitative data (Chapter 5) also demonstrated supportive findings from interviews with tourism experts that strengthen the quantitative findings. The results of this study have indicated that timeliness and professional levels of reservation service performance are of significant concern to tourists. Tourists not only need tourism products of a high standard, but also need faster and more efficient logistics service performance during their travels.

Moreover, many tourism studies emphasise the importance of service quality on tourist satisfaction (Cronin & Taylor, 1992; Jayanti & Ghosh, 1996; Petrick, 2004; Zeithaml, 1998). However, this study has found that perceived service value is a more important factor underpinning overall tourist satisfaction than tourism suppliers' service quality. The SEM path analysis (Chapter 4, section 10) showed a standardised coefficient of 0.50

of perceived service value compared to 0.17 for information service quality and product availability under the dimension of tourism suppliers' service quality on overall tourist satisfaction. However, tourism suppliers' service quality has an important impact on perceived service value (Chapter 4, section 10). Therefore, together with these results, this study suggests that tourism suppliers' service quality could result in a strong positive influence on satisfaction through perceived service value, whereby a good quality of service can result in positive perceived service value. In this regard, perceived service value can be seen as the most important factor influencing tourist satisfaction, and this is confirmed by current tourism theory (Lee, 2003; Chi, 2005; Lin, 2007). This study has suggested that tourism suppliers need to appreciate perceived service value more than they have previously. Once a tourist receives satisfactory service quality from tourism suppliers, their perception of service value will increase, which is the most important reason for tourists to remember a destination and wish to return (Lee, 2005; Oh, 1999; Petrick, 2004). Some marketing studies (Headley & Miler, 1993; Keller & Hodges, 2003) have concluded that if consumers perceive positive service value and quality, the more they are like to repurchase. Marketing studies confirm that perceived service value positively and significantly affects customer satisfaction and loyalty.

In summary, both service quality and perceived service value are important factors behind tourist satisfaction, as reported in the tourism literature (Bienstock et al. 2007; Chi, 2005; Chi & Qu, 2008; Hu, 2003; Kandampully & Suhartanto, 2003; Lee, 2001; Lee, 2005; Lin, 2007). Therefore, this study has confirmed the previous tourism studies and has also added a new dimension in borrowing the concept of logistics service performance from manufacturing theory to examine the interrelationships amongst the variable.

6.7.2 Methodological contributions

This study used a mixed method approach to examine the hypothesised model in order to satisfy the research objectives and answer the research question. The quantitative method fulfilled the investigation of the internal relationships amongst the constructs. The

qualitative approach confirmed the findings of the quantitative method and provided further details of the realities in the tourism industry from the interviews. Results of the data analysis indicated that professional staff can result in a good quality of logistics service performance and perceived service value. It was confirmed in both methods that the latter two constructs positively and significantly affect tourist satisfaction. Logistics service performance was a new concept borrowed from manufacturing theory. Therefore, this study suggests future possibilities to further explore why, how and at what level logistics service performance affect the various elements of tourism and the tourist experience.

This study presented and used a mixed method approach in triangulating the results from the hypothesised model and has made a contribution to the field of tourism that enhances understanding of the key elements contained within the hypothesised dimensions. This study has suggested that such an approach might increasingly inform future tourism research, in so far as a higher quality of findings can result from this combination.

In summary, there are seven major implications of this study:

- A model of overall tourist satisfaction and loyalty comprises the specific element of logistics service performance;
- An intangible service such as personnel service quality has a critical influence on tourism suppliers' service quality in logistics service performance;
- Order efficiency, order discrepancy and order flexibility are major determinants of logistics service performance affecting satisfaction;
- Perceived service value has more direct and important impact on tourist satisfaction than service quality;
- Service quality, logistics service performance and perceived service value are the main factors that result in positive overall tourist satisfaction;
- Overall tourist satisfaction is the only factor that has a direct and positive impact on tourist loyalty; and

- Qualitative methods are supportive approaches that can provide more detailed information to complement quantitative methods.

6.8 Limitations of the Study

The application of this study is limited by several factors. First, due to the gap between tourism and manufacturing research, this study used logistics service performance measurements primarily from manufacturing theory as a major construct that was then modified to represent tourism operations. Although the results of the quantitative study fit in the final SEM model, two constructs (order quality and accuracy on the one hand, and order efficiency, discrepancy and flexibility on the other) could not be completely represented by logistics service performance in tourism. The reason that logistics service performance can be successfully applied in manufacturing research is that logistics activities actually exist in each supplier through the whole production supply chain. In contrast, several tangible categories are absent within tourism, such as warehousing and production, which hindered examination in this study in the context of the tourism supply chain. The main product of tourism is service, and studies have shown that service quality is the most important category in measuring tourist satisfaction (Akan, 1995; Baker & Crompton, 2000; Sirakaya & Woodside, 2005). Therefore, this study only focused on logistics service performance measurements (i.e. efficiency and flexibility) in reservation processes before and after travel to identify that logistics service performance does play a role in the tourism industry. This study did not present all elements of logistics service performance within tourism operations for the reasons outlined above.

Secondly, this study was only conducted in Taipei. Therefore, results of the data analysis in this study were only influenced by the state of tourism in Taipei. Circumstances permitting, other countries with a successful tourism industry could be studied to provide more comprehensive comparisons. Logistics service performance in the tourism industry should be explored more widely and extensively in other destinations, especially in famous travel destinations such as Hong Kong or Singapore. Due to their convenient travel services and facilities, convenient transit flight services, city transportations and

varieties of travel sightseeing, these cities may present different stories to that of Taipei. The conceptual model of this study therefore should be retested in other destinations to examine whether it has the same or different outcomes.

Thirdly, due to a limitation in resources, this study only performed eight interviews. The interviews were carried out between May and July of 2007. Despite an original plan to conduct fifteen interviews, only eight were carried out because of the unavailability of participants, as May to July is the peak season for tourism in Taipei. Thus, some interviewees declined or did not complete the whole interview due to heavy business commitments. Consequently, this study only had eight complete interviews in the qualitative study.

Finally, logistics service performance within tourism studies is relatively new. Therefore, interviewees only provided limited and general opinions, since these tourism experts have a limited understanding of measurements in logistics service performance. The investigation of this study was concerned with a general idea of efficient and effective service during reservations operations offered by tourism suppliers to overseas tourists.

6.9 Recommendations for Future Research

Tourism is a business based on human perspective (Voase, 1995). This study has put forward the argument that tourism suppliers should primarily focus on how to increase tourist satisfaction through their services. Previously, many studies (Chi, 2005; Lee, 2003; Lee, 2005) have mainly focused on the impacts of service quality and perceived service value on tourist satisfaction and loyalty. Service quality and perceived service value have been widely understood as two major determinants of customer satisfaction.

This study presents out logistics service performance as a new determinant of customers' travel experience and satisfaction, enhancing their revisit intentions. In doing so, this thesis has produced some new findings within tourism theory, and therefore has provided

theoretical and practical implications for future research in the tourism literature, which are outlined below:

- This study highlights the importance of logistics service performance as a factor that can enhance tourist satisfaction. This statement has not been made in the existing tourism literature, and in this regard this study borrowed the idea from manufacturing studies (Menzer et al. 1999, 2001; Stank et al. 2003; Davis, 2006). To further the knowledge of logistics service performance within tourism studies, future tourism research might undertake further investigations into manufacturing studies theory in order to increase understanding of logistics service performance. Future tourism studies can thereby try to explore alternative measurements from other studies, to fill the theoretical gaps in conceptualising tourism suppliers' operation by adopting a holistic notion of the tourism supply chain.
- This study partially failed to demonstrate a positive relationship between order accuracy and order quality under the logistics service performance dimension on the one hand and overall tourist satisfaction on the other. This was not consistent with the existing manufacturing literature (Kelly & Hoffman, 1997; Ho & Lee, 2007; Mentzer & Ruzic, 1999; Mentzer, Myers & Cheung, 2004; Yang, Zhou & Zhou, 2005). Future research should investigate other destinations to find out whether these two factors are non - significant in other travel destinations.
- Future researchers who are willing to extend the findings of this study will need to employ a deep qualitative research method to gather more extensive and detailed information. Future qualitative approaches could be employed in other travel destinations, such as Hong Kong, Singapore and Bangkok-leading travel destinations in the world. The depth and extent of detailed information on logistics service performance in this study is limited to the Taipei tourism

industry. Therefore, future researchers will need to employ more in-depth qualitative approaches in tourism-orientated cities.

- This study adopted the SERVQUAL measurements and instruments (Parasurman et al. 1985, 1988) in examining tourism suppliers' service quality. However, the results partially failed to support the relationship between personnel service quality under tourism suppliers' service quality dimension and overall tourist satisfaction. This result was not consistent with existing tourism theory (Hartline & Ferrell, 1996; Hartline, Maxham & O'McKee, 2000). Therefore, future research could seek to improve on this SERVQUAL measurement of tourism supplies' service quality. In order to gather a clearer and fuller understanding of service quality, the existing instruments and measures need to be modified.
- This study was based on a holistic supply chain framework. Therefore, this study adopted all tourism products in its measurements. Future tourism research might thus also adopted conceptual frameworks from other relevant areas of study, such as IT and manufacturing, into its measurements. Such research could explore the macrocosm of the tourism supply chain, mentioned in Chapter 2, sections 4.2 and 5.1. This idea is gaining increasing interest in the tourism literature. However, there are still some difficulties and limitations in both theory and practice, as there remains a gap in the existing literature with regards to the study of the tourism supply chain.

6.10 Conclusion

This study has focused on the influence of logistics service performance on tourist satisfaction and loyalty. This study used a mixed methodology to test the hypothesised constructs (Chapter 2, section 7). The results indicated that logistics service performance has an important effect on tourist satisfaction. Findings of the data analysis indicated that information service quality and product availability on the one hand, and order efficiency,

discrepancy and flexibility on the other, are two major factors affecting tourist satisfaction. Moreover, order efficiency, discrepancy and flexibility have the strongest impact on satisfaction. This is a major and new finding of this research, and a result of adopting logistics service performance within the tourism research. The results were successful and encouraging for further research into the effects of logistics service performance measurements within tourism.

This study used a mixed methodology to undertake the data analysis. In addition to the success of the quantitative analysis that supported the hypothesised conceptual model, the qualitative study provided further in-depth understanding of this area. There are seven major contributions of this study (Chapter 6, section 7). These contributions can be viewed as offering both theoretical and practical insight to the existing tourism literature. Furthermore, this study has introduced a new idea of logistics service performance into tourism theory. Future tourism research can follow this example and utilise more extensively the theory of logistics service performance, which will assist in the emerging interest in tourism supply chain within tourism studies. In this regard, the macrocosm of the tourism supply chain could become a major interest in tourism theory. This study can thus be seen as a pioneer in its exploration of this new focus in the literature. Future research, such as that mentioned in Chapter 6, section 9, will therefore be able to solve some of the current difficulties within the research, and lead tourism theory from a microeconomic into a more macroeconomic oriented theory within social science research.

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Appendix A – Survey Questionnaire

RMIT University Business Portfolio

School of Business Information Technology

Level 17, 239 Bourke Street, Melbourne

Victoria 3000, Australia

Plain Language Statement for Questionnaire Survey

Dear Madam/Sir,

My name is Nicole Liang. I am a Ph.D. student at RMIT University in Melbourne, Australia. My thesis topic is 'Impact of Logistics Service Performance on Tourist Satisfaction and Loyalty'. In my research, I am investigating how the quality of logistics services, which includes accuracy and flexibility of reservation (i.e., difficulty in changing hotel reservation or airline tickets), luggage transfer reliability, and responsible and helpful hospitality staffs in the tourism sector, among others, affects tourist satisfaction and loyalty. The information sheet describes the project in straightforward language 'plain English'. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate.

I sincerely invite you to participate in the study by filling out the attached questionnaire, which seeks your agreement (or disagreement) to a number of attitudinal questions. All of the information provided will be treated with strict CONFIDENCE and be used for the sole purpose of academic research.

Your participation should only take about 10 minutes but would make a major contribution to the outcome of my research. The information you provided will be essential in determining if logistics service performance, among other things, affects tourist satisfaction and loyalty.

My research supervisor is Professor Brian Corbitt who can be contacted at Telephone (61 3) 9925 5808 or e-mail: brian.corbitt@rmit.edu.au for any enquiries related to the project or its adherence to the formal privacy and ethical policies of RMIT University.

Participation in this research is entirely voluntary. You may withdraw from the study at any stage and at anytime, without prejudice. Also, you may request any unprocessed data to be withdrawn and destroyed. If you have any questions about the research, you can contact me or my supervisor Professor Brian Corbitt. If you have any questions about the ethics of this research, please contact the Chair of the RMIT Business Human Research Ethics Sub-committee (Email: rd@rmit.edu.au , phone (61 3) 9925 5594). Your cooperation in the completion of the survey is highly appreciated.

Yours Sincerely,

Nicole, Hui-chung Liang

Ph.D. Student, School of Business Information Technology, RMIT University

Telephone: + 61 3 9925 1679

Facsimile: + 61 3 9925 5850

E-mail: Hui-chung.Liang@rmit.edu.au

INDICATIVE SURVEY QUESTIONS

Part A – Main Survey

Below is a list of tourism suppliers' features and activities that could affect loyalty of tourists to Taipei as a travel destination. Please circle only ONE appropriate number that best represents your agreement with the statements on a scale of 1-7.

1. Strongly disagree	2. Disagree	3. Moderately disagree	4. Neutral
5. Moderately agree	6. Agree	7. Strongly agree	

ATTRIBUTES	AGREE						
	<i>1. Strongly disagree <-----> 7. Strongly agree</i>						
1. Taipei has							
Professional customer personnel who make an effort to understand my situation	1	2	3	4	5	6	7
Professional customer personnel who can resolve my problem	1	2	3	4	5	6	7
Professional customer personnel who know my request and needs well	1	2	3	4	5	6	7
Professional customer personnel who are willing to help me	1	2	3	4	5	6	7
Professional customer personnel who listen to my suggestions	1	2	3	4	5	6	7
Professional customer personnel who make a continuous improvement in the way they provide service	1	2	3	4	5	6	7
Professional customer personnel who can be responsive to problems that arise suddenly	1	2	3	4	5	6	7
Tourism product information (such as airlines, hotels, restaurants, shopping centers, and seasonal festivals and activities) is available on-line	1	2	3	4	5	6	7
On-line reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are available	1	2	3	4	5	6	7
On-line reservation systems (such as booking of airline seats, hotel rooms, restaurant seats, and seasonal festivals' and activities' tickets) are easy to use	1	2	3	4	5	6	7
A variety of tourism attractions (such as historic or cultural sites, sceneries, seasonal festivals, and international	1	2	3	4	5	6	7

events)							
A wide selection of tourism facilities and services (such as airlines, buses, parks, zoo, and golf-courses)	1	2	3	4	5	6	7
Variety of amenity services (such as hotels, restaurants, entertainments, and shopping options)	1	2	3	4	5	6	7
Convenient local transport services (such as Taiwan high speed rail, Taipei mass rapid transit system, train, buses, and taxis)	1	2	3	4	5	6	7
2. Compared to other travel destinations, Taipei tourism suppliers:							
Seldom make mistakes in travel date or time in booking airline tickets	1	2	3	4	5	6	7
Seldom make mistakes in booking hotel rooms	1	2	3	4	5	6	7
Seldom make mistakes in booking restaurant seats	1	2	3	4	5	6	7
Seldom make mistakes in pick-up time in booking taxi services	1	2	3	4	5	6	7
Provide on-time luggage transfers	1	2	3	4	5	6	7
Provide on-time travel transports	1	2	3	4	5	6	7
Supply tourism products (such as rooms, food and beverage, and travel arrangements) that meet my order request	1	2	3	4	5	6	7
Seldom fail to confirm my order	1	2	3	4	5	6	7
Make it easy for me to find another substitute reservation when a full booking of tourism product occurs	1	2	3	4	5	6	7
Respond to changes in customer order satisfactorily	1	2	3	4	5	6	7
Rectify mistakes they made in customer orders quickly	1	2	3	4	5	6	7
Make it easy for me to make last-minute change to airline or hotel reservations before arrival	1	2	3	4	5	6	7
Modify customer orders readily in terms of arrival date and quantity upon request	1	2	3	4	5	6	7
3. I feel that Taipei's tourism suppliers							
Render good service value in comparison to the price I paid	1	2	3	4	5	6	7
Provide me with a good deal	1	2	3	4	5	6	7
4. After I visited Taipei, I feel that in Taipei...							
I was fully provided a good service quality to satisfy me	1	2	3	4	5	6	7
Personnel service made me happy	1	2	3	4	5	6	7
The performance of taking my order is satisfactory	1	2	3	4	5	6	7
Overall service is worth the money	1	2	3	4	5	6	7
The experience of this destination made me happy	1	2	3	4	5	6	7

5. After I visited Taipei, I might...							
Say positive things about Taipei to other people	1	2	3	4	5	6	7
Visit Taipei again	1	2	3	4	5	6	7
Recommend Taipei to my friends to visit	1	2	3	4	5	6	7
Consider Taipei as my first choice to visit in the future	1	2	3	4	5	6	7

Part B – Supplementary Survey

To facilitate statistical analysis, please kindly provide the following information (select **ONE** only):

6. Your gender:
- Male
 - Female
7. Your age:
- 18- 25
 - 26- 35
 - 36- 45
 - 45- 55
 - 56- 65
 - 66 or above
8. Your region of residency:
- Asia, Australia, and N.Z.
 - Europe
 - Middle East
 - North or South America
 - Russia
9. Your highest level of education:
- Elementary
 - High school or Vocational school
 - 2 year college
 - 4 year college
 - Master's degree
 - Doctorate degree
10. Your current occupation:
- 1 Administrative support
 - 2 Management
 - 3 Government or Military
 - 4 Professional and related
 - 5 Farming or Fishing or Forestry

- 6 Installation or Maintenance or Repair
 - 7 Transportation and related
 - 8 Sales and related
 - 9 Construction
 - 10 Production
 - 11 Service
 - 12 Student
 - 13 Self-employed
 - 14 Housewife
 - 15 Retired or Not in the workforce
 - 16 Others (please specify)
-

11. How many times have you visited Taipei, including this one?

- First time
- 2- 3 times
- 4- 5 times
- More than 5 times

12. Duration of your stay:

- Less than one day
- 1- 2 day
- 3- 5 day
- A week
- More than a week

13. You are traveling:

- By yourself
- With your spouse
- With your family and children
- With friends and Relatives
- With your business associates
- With a tour group

14. What is your primary purpose of your trip to Taipei?

- Vacation or Pleasure
- Business or professional visit
- En route to somewhere
- Leisure
- Attend special events
(such as wedding, family gatherings,
sports, concerts, etc.)

15. Where did you know about Taipei and then choose to

- Previous trip(s)

visit?

- Internet
 - Brochure or Travel guidebooks
 - Travel agent
 - Word of mouth
 - Advertisements
 - Others (please specify)
-

Thank you for your help and cooperation in completing the above questionnaire! If you have any further comments on Taipei tourism facility and services, please provide your valuable comments and suggestions, if any, in the space below, thank you very much.

親愛的遊客 您好!

學生為澳洲國立墨爾本理工大學商業資訊科技研究所博士班研究生，目前正在研究‘物流服務成效’對於觀光遊客對於旅遊地點之滿意度及忠誠度之影響。‘物流服務成效’是一種旅遊業者串連及提供完整的旅遊必須使用的產品及服務的表現成果，例如：正確、方便及彈性的觀光飯店訂房服務、行李轉機運送的可靠性及負責、專業及熱心幫助旅客的餐旅觀光服務工作人員...等影響因素。本研究認為這些物流服務成效因素會影響旅客對觀光地點提供的旅遊服務有不同之滿意度及忠誠度。請您作答之前詳閱各題號前之作答說明，以期您的答案是充份了解題目之後的正確回答。

希望藉由您的寶貴意見，協助本研究之進行。您所提供的資料絕對保密，僅供學術參考，絕不對外供佈，請安心作答。您大約需要十分鐘的時間回答本問卷; 您的寶貴意見對於學生的論文研究及台北市觀光建設及物流服務有莫大的幫助及影響。若您對本問卷有任何建議，請不吝告知 敝人，或 敝人指導教授 **Professor Brian Corbitt** (電話: 61 3 9925 5808), 或電郵 (brian.corbitt@rmit.edu.au), 若您有任何其他人權倫理考量或隱私保障的問題，請詢問澳洲國立墨爾本理工大學商學院人權委員協會(電話:61 3 9925 5594, 電郵: rdu@rmit.edu.au)，再次謝謝您的參與。

澳洲國立墨爾本理工大學商業資訊科技研究所

博士候選人 梁慧中 敬上

電話: 61 3 9925 1679 (澳洲, 墨爾本)

886 3 5593142 *3751 (台灣, 新竹)

電子信箱: Hui-chung.Liang@rmit.edu.au

問卷編號:_____ 訪問日期:_____

第一部份 旅遊服務調查

在您觀光台北市之後，請問您是否同意台北市目前所提供之各項旅遊服務達到您對服務的預期？
請圈選一個答案於適當的選項中。

同意度: 1. 非常不同意 2. 不同意 3. 普通不同意 4. 普通 5. 普通同意 6. 同意 7. 非常同意

旅遊服務項目	同意度						
	1. 非常不同意 <----> 7. 非常同意						
1. 台北市有:							
專業的旅遊從業人員能盡力的了解我目前的情況	1	2	3	4	5	6	7
專業的旅遊從業人員能幫助我解決我的問題	1	2	3	4	5	6	7
專業的旅遊從業人員非常了解我的需求	1	2	3	4	5	6	7
專業的旅遊從業人員非常願意幫助我	1	2	3	4	5	6	7
專業的旅遊從業人員願意傾聽我的建議	1	2	3	4	5	6	7
專業的旅遊從業人員不斷地改進服務方式以臻完善	1	2	3	4	5	6	7
專業的旅遊從業人員能反應靈活地解決突然發生的問題	1	2	3	4	5	6	7
旅遊產品的資訊(例如: 飛機、旅館、餐廳、購物中心、及季節慶典和活動)可以在網際網路上查詢	1	2	3	4	5	6	7
提供網路訂購系統(例如: 訂購飛機票、旅館房間、餐廳座位、及季節慶典和活動的預售票)	1	2	3	4	5	6	7
方便使用的網路訂購系統(例如: 訂購飛機票、旅館房間、餐廳座位、及季節慶典和活動的預售票)	1	2	3	4	5	6	7
多樣化的旅遊吸引力(例如: 歷史文化景觀、風景名勝、季節慶典、及國際會議及活動)	1	2	3	4	5	6	7
有多樣選擇性的旅遊設備及公共設施服務(例如: 飛機、公車、公園、動物園、及高爾夫球場)	1	2	3	4	5	6	7

有多樣選擇性的休閒設施服務(例如: 觀光飯店、餐飲、休閒娛樂活動、及購物消費商店)	1	2	3	4	5	6	7
便利搭乘的市區交通設施(例如: 台灣高速鐵路、台北市捷運、火車、公車、及計程車)	1	2	3	4	5	6	7
2. 與其他旅遊地區比較, 台北市的旅遊供應商:							
很少在訂飛機票時犯錯(例如: 訂錯搭機日期或班次)	1	2	3	4	5	6	7
很少在訂旅館房間時犯錯	1	2	3	4	5	6	7
很少在訂餐廳座位時犯錯	1	2	3	4	5	6	7
很少在預訂時弄錯計程車載客時間	1	2	3	4	5	6	7
提供準點的行李轉機運送服務	1	2	3	4	5	6	7
提供準點的旅遊運送服務	1	2	3	4	5	6	7
提供旅遊產品(例如: 旅館客房、餐飲、及旅遊行程安排)方面, 達成我的訂購期望	1	2	3	4	5	6	7
很少不跟我作訂購旅遊產品的確認	1	2	3	4	5	6	7
若我需要的旅遊產品訂滿時, 很容易幫我另行預訂到替代產品	1	2	3	4	5	6	7
負責換到我滿意的產品為止	1	2	3	4	5	6	7
迅速改正預訂的錯誤	1	2	3	4	5	6	7
若我在最後確認預訂時效前想要改變住房或機票的時間也很容易	1	2	3	4	5	6	7
隨時準備好幫助顧客修正預訂住房或機票的到達時間和所需數量	1	2	3	4	5	6	7
3. 我覺得台北市的旅遊供應商:							
給我良好的服務價值讓我覺得物超所值, 價格合理	1	2	3	4	5	6	7
提供給我一次美好的旅遊服務	1	2	3	4	5	6	7
4 當我觀光完台北市之後, 我覺得台北市:							
我覺得我有充份的被提供美好的旅遊服務並獲得滿足	1	2	3	4	5	6	7
旅遊從業人員的服務令我感到快樂	1	2	3	4	5	6	7

預訂服務的表現令我感到滿足	1	2	3	4	5	6	7
整體旅遊服務的表現物超所值,價格合理	1	2	3	4	5	6	7
本次旅行經驗令我感到快樂	1	2	3	4	5	6	7
5 當我觀光完台北市之後,我可能會:							
說台北市正面印象的事給別人聽	1	2	3	4	5	6	7
再次觀光台北市	1	2	3	4	5	6	7
推薦我的朋友來台北市觀光	1	2	3	4	5	6	7
考慮台北市為下次旅行的首選	1	2	3	4	5	6	7

第二部份 旅客基本資料調查

請協助本研究統計目的需求，圈選下列您的基本資料(請只選一個答案):

6. 請問您的性別:
- 男性
 女性
7. 請問您的年齡:
- 18- 25 歲
 26- 35 歲
 36- 45 歲
 45- 55 歲
 56- 65 歲
 66 歲以上
8. 請問您的居住地區是:
- 亞洲、大洋洲
 歐洲
 中東地區
 北美洲、南美洲
 俄羅斯
9. 請問您的教育程度是:
- 國小
 國中/高中
 二技

- 大學
 碩士
 博士
10. 請問您的職業為何:
- 行政人員
 管理人員
 軍/公/教人員
 專業相關工作
 農/林/漁/牧
 水電裝修相關維護工程人員
 交通運輸行業
 業務人員
 結構工程類
 製造業
 服務業
 學生
 自營業
 家管
 無業或退休人員
 其他 (請敘述)
-
11. 請問這是您第幾次來台北市觀光(包含這一次)?
- 第一次
 第二到三次
 第四到五次
 超過五次以上
12. 請問您在台北市旅遊了幾天:
- 當日來回
 一到二天
 三到五天
 一星期
 一星期以上
13. 請問您同行伴旅是:
- 自己一人
 跟伴偶出遊

- 全家大小出遊
- 跟親戚、朋友出遊
- 跟同事出差商務旅遊
- 參加旅行團

14. 本次旅遊主要目的為何?

- 渡假
- 出差/商務旅行
- 中途轉機
- 休閒活動
- 特殊目地 (參加婚禮、家庭聚會、運動賽事、會議...等等)

15. 您如何得知台北市並選為旅遊的目的地?

- 上次旅遊經驗
 - 網路資訊
 - 台北市觀光局的觀光渡假指南
 - 旅行社
 - 朋友推薦
 - 廣告文宣
 - 其他 (請敘述)
-

謝謝您的參與，填寫完畢後，請將您的問卷交還於 敝人，若您對於台北市旅遊建設或服務有其他更多的建議，請您填寫於下列欄位中，謝謝。

観光客の皆さん、こんにちは！

私はオーストラリア国立メルボルン理工大学商業情報科学技術大学院博士課程に在籍する学生です。現在、「観光客が観光地に満足したか、また再び訪れたり、人に勧めたりしたいと思うか」という点に対する「ロジスティクス・サービス効果」の影響について研究しています。「ロジスティクス・サービス効果」とは、観光関連業者の「観光に際して利用が必要な商品およびサービスを完全に提供した」という一連の達成効果のことで、例えば「正確、便利で弾力的な観光ホテル予約サービス」「乗継時の荷物輸送の信頼性、責任負担」「観光客を熱心にサポートする専門的能力を備えた観光接待業従事者」などの要素です。当研究においては、これらのロジスティクス・サービスの達成度によって、「観光地が提供する観光関連サービスに対して観光客がどれだけ満足したか、また再び訪れたり、人に勧めたりしたいと思うか」の度合いが異なってくると考えています。各項目の質問にじっくりと目を通し、十分に内容を理解された後にご回答くださるようお願いいたします。

皆さんがご提供いただいた情報は学術目的にのみ使用し、決して外部に公開しませんので、安心してご回答ください。ご回答には約 10 分ほどかかります。皆さんの貴重なご意見は私の研究論文、そして台北市の観光の発展、ロジスティクス・サービスに大いに役立てられることになるでしょう。当アンケートに関して何らかのご提案がおありでしたら、どうかお教えを賜りますようお願いいたします。その場合は私か、もしくは私の指導教授であるブライアン・コービット（Brian Corbitt、電話：61 3 9925 5808/E メール：brian.corbitt@rmit.edu.au）までご連絡ください。その他、人権面またはプライバシーの保証に関しては、オーストラリア国立メルボルン理工大学商科大学院人権委員協会（電話：61 3 9925 5594/E メール：rdu@rmit.edu.au）までどうぞ。最後に、改めて皆さんのご協力にお礼を申し上げます。

オーストラリア国立メルボルン理工大学商業情報科学技術大学院
博士号候補生 梁慧中
電話： 61 3 9925 1679 (オーストラリア/メルボルン)
886 3 5593142 *3751 (台湾/新竹)
E メール：Hui-chung.Liang@rmit.edu.au

アンケート用紙番号：_____ 調査日：_____

1・観光関連サービス調査

台北市を観光された後、同市が現在提供している各種観光関連サービスは皆様のご期待に沿うものだったとお考えになりましたか？該当するものを一つだけ丸で囲んでください。

同意の度合い： 1. まったくそう思わない 2. そう思わない 3. あまりそう思わない

4. どちらともいえない 5. ややそう思う 6. そう思う 7. 非常にそう思う

観光関連サービス個別項目	同意の度合い						
	1. 思わない <----> 7. 思う						
1. 台北市において、							
専門的能力を備えた観光産業従事者が、力を尽くして観光客が現在置かれている状況を理解しようとしている	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、観光客の問題の解決に協力してくれる	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、観光客が何を求めているか非常に理解している	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、非常に快く観光客をサポートしてくれる	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、観光客の提案に快く耳を傾けてくれる	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、最善を目指してサービス形態を絶えず改善している	1	2	3	4	5	6	7
専門的能力を備えた観光産業従事者が、観光客に突然発生した問題に素早く対応してくれる	1	2	3	4	5	6	7
観光関連商品情報（飛行機、ホテル、レストラン、ショッピングセンター、季節ものの式典・催し物など）がインターネット上で調べられる	1	2	3	4	5	6	7
インターネット予約（航空券、宿泊先、レストラン、季節ものの式典・催し物の前売り券など）システムを提供している	1	2	3	4	5	6	7

インターネット予約（航空券、宿泊先、レストラン、季節ものの式典・催し物の前売り券など）システムが利用しやすい	1	2	3	4	5	6	7
観光客を引きつける多様な魅力（歴史的文化スポット、名勝、季節ものの式典、国際的な会議・催し物など）を備えている	1	2	3	4	5	6	7
観光関連設備や公共サービス（飛行機、バス、公園、動物園、ゴルフ場など）の選択肢が多様だ	1	2	3	4	5	6	7
レジャー関連施設（観光ホテル、飲食店、レジャーイベント、ショッピングストア）の選択肢が多様だ	1	2	3	4	5	6	7
市街地の交通機関（台湾高速鉄道、台北市 MRT、汽車、バス、タクシーなど）が利用しやすい	1	2	3	4	5	6	7
2. 台北市の観光関連サービス提供業者は他の観光地と比べて、							
航空券予約時の間違い（搭乗日・便の予約ミスなど）が少ない	1	2	3	4	5	6	7
宿泊先予約時の間違いが少ない	1	2	3	4	5	6	7
レストラン予約時の間違いが少ない	1	2	3	4	5	6	7
タクシー予約時の送迎時間の間違いが少ない	1	2	3	4	5	6	7
乗継時の荷物運送サービスの時間が正確だ	1	2	3	4	5	6	7
観光交通サービスの時間が正確だ	1	2	3	4	5	6	7
予約する側の期待に沿う観光関連商品（宿泊先、飲食店、スケジュール手配など）を提供している	1	2	3	4	5	6	7
観光関連商品の予約の確認をしないことが少ない	1	2	3	4	5	6	7
観光関連商品の予約満了時に代替りの商品を提供し、予約してくれる	1	2	3	4	5	6	7
責任を持って、顧客が満足できるまでさまざまな商品を勧めてくれる	1	2	3	4	5	6	7

予約の間違いを素早く正してくれる	1	2	3	4	5	6	7
最終的な予約確認期限内であれば宿泊先や航空券の時間を変えることが容易だ	1	2	3	4	5	6	7
いつでも顧客の宿泊先、航空券の到着時間および必要な数量を変更する準備ができています	1	2	3	4	5	6	7
3. 台北市の観光関連サービス提供者は、							
「価格以上」「手ごろな価格」と思える優良なサービスを提供している	1	2	3	4	5	6	7
すばらしい観光関連サービスを提供している	1	2	3	4	5	6	7
4 台北市の観光を終えて、台北市について、							
すばらしい観光関連サービスが十分に提供され、満足できたと感じている	1	2	3	4	5	6	7
観光産業従事者に、心地よく過ごすことのできるサービスを提供されたと感じている	1	2	3	4	5	6	7
予約サービスが満足のできるものだったと感じている	1	2	3	4	5	6	7
全体的に「価格以上」「手ごろな価格」と思える優良なサービスを提供されたと感じている	1	2	3	4	5	6	7
今回の旅行を心地よく体験することができたと感じている	1	2	3	4	5	6	7
5 台北市の観光を終えて、今後、							
台北市のプラスイメージを人に話すことがあると思う	1	2	3	4	5	6	7
また台北市に観光に来ることがあると思う	1	2	3	4	5	6	7
友人に台北市に観光に来よう勧めることがあると思う	1	2	3	4	5	6	7
台北市を次回の旅行先の第一候補として考えることがあると思う	1	2	3	4	5	6	7

2・観光客に関する基本データ

本研究の統計データとして利用しますので、以下の各項目にチェックしてください。(それぞれ一つずつ)

6. 性別について
- 男性
 - 女性
7. 年齢について
- 18- 25 歳
 - 26- 35 歳
 - 36- 45 歳
 - 45- 55 歳
 - 56- 65 歳
 - 66 歳以上
8. 現在お住まいの地域について
- アジア、太平洋地区
 - ヨーロッパ
 - 中東アジア
 - 北米、南米
 - ロシア
9. 最高学歴について
- 小学校
 - 中学校・高校
 - 専門学校・短期大学
 - 大学
 - 修士
 - 博士

10. 職業について

- 事務職
 - 管理職
 - 軍事/公務員/教職
 - 専門的な職業
 - 農林畜水産業
 - 水道電気関連のエンジニア
 - 交通及び運搬業
 - セールス担当者
 - 建築設計関連業
 - 製造業
 - サービス業
 - 学生
 - 自営業
 - 主婦
 - 無職又は退職
 - その他（記述してください）
-

11. 台北市の観光は今回で何回目ですか。
（今回を含める）

- 初めて
- 2～3回目
- 4～5回目
- 6回目以上

12. 今回、台北市での観光は何日間ですか。

- 日帰り
- 1～2日間
- 3～5日間
- 1週間
- 1週間以上

13. 今回、旅のお連れはどなたですか。

- 自分一人
- 伴侶と
- 家族全体
- 親戚又は友達と
- 同僚と出張又はビジネス旅行
- ツアーに参加

14. 今回の旅行の主な目的は何ですか。

- 休暇
- 出張、ビジネス旅行
- 飛行機の乗継
- レジャー
- その他(冠婚葬祭、家族と再会、
スポーツイベント、会議、など)

15. なぜ台北市を今回の旅行地として選ばれましたか。

- 前回の旅行した経験から
 - インターネットで調べて
 - 台北市観光局の観光レジャー案内で
 - 旅行社
 - 友達の推薦
 - 広告で
 - その他(記述してください)
-

ご記入誠にありがとうございました。当アンケート用紙をお返してください。
台北市観光に関してご意見・ご感想があれば、以下にご記入ください。

Appendix B – Ethic Approval



Ref: Ethics Appl. 618

Thursday, December 14 2006

Ms (Nicole) Hui-Chung Liang
2/12 Chanak St
Malvern East
Vic 3145

RESEARCH DEVELOPMENT UNIT
RMIT BUSINESS

Level 3
255 Bourke Street
Melbourne 3000
Victoria Australia

GPO Box 2476V
Melbourne 3000
Victoria Australia

Tel + 61 3 9925 5888
Fax + 61 3 9925 1313

Dear Nicole

I am pleased to advise that your application for ethics approval for your Research Project has been approved by the Chair of the Business Portfolio Human Research Ethics Sub-Committee. Approval has been granted for the period from 14 December 2006 to 10 August 2010.

The RMIT Human Research Ethics Committee (HREC) requires the submission of Annual and Final reports. These reports should be forwarded to the Business Portfolio Human Research Ethics Sub-Committee Secretary. The report is available from http://www.rmit.edu.au/rd/hrec_apply under "After Approval" HREC Form 3. This form incorporates a request for extension of approval, if required. Annual Reports are due in December for applications submitted prior to September in the year concerned.

Please find enclosed a copy of the approval form. Also enclosed is a copy of the Annual/ Final report form for your convenience.

Best wishes for your research.

Yours sincerely

Prue Lamont
Secretary
Business Portfolio Human Research Ethics Sub-Committee
Encl.

PHRSC Register
Number: 618
Date Application
Recd: 05-Dec-06

RMIT
PORTFOLIO HUMAN RESEARCH ETHICS SUB-COMMITTEE
Application for Approval of Research Project
(Note: This form is available on computer disk)

SUMMARY & APPROVAL

Project Title: "The Effect of Logistics Service Performance on Tourist Satisfaction and Loyalty"

Name of Researcher: (Nicole) Hui-Chung Liang

Name of Senior Supervisor: Associate Professor Booi Kam

Category of Research Project: 2

Degree for which research is undertaken as part of a degree (if applicable): PhD

School Name: Management

Contact Telephone Number: 9925 1679

Email Address: E63356@rmit.edu.au

BUSINESS HUMAN RESEARCH ETHICS SUB COMMITTEE USE ONLY:

Date Application Received: 5 December 2006

Portfolio Human Research Ethics Sub Committee Register No: 618

Period of Approval: 14 December 2006 to 10 August 2008

Comments / Provisos: Applicant to provide final version of Questionnaire to the PHRESC

The Business Human Research Ethics Sub Committee assessed the Project as Category 2

Signature: 
Associate Professor Carlene Boucher PHRESC Chair

Date: 14-Dec-06

Appendix C – Consent Form

RMIT HUMAN RESEARCH ETHICS COMMITTEE

Prescribed Consent Form for Persons Participating In Research Projects Involving Interviews, Questionnaires, Focus Groups or Disclosure of Personal Information

PORTFOLIO OF	Business		
SCHOOL/CENTRE OF	Business Information Technology		
Name of Participant:	_____		
Project Title:	Impact of Logistics Service Performance on Tourist Satisfaction and Loyalty		
Name(s) of Investigators:	(1) Hui-chung Liang	Phone:	99251679
	(2) Professor Brian Corbitt	Phone:	99255808

1. I have received a statement explaining the interview/questionnaire involved in this project.
2. I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.
4. Yes No I give my permission to be audio taped:
5. I give my permission for my name or identity to be used: Yes No
6. I acknowledge that:
 - (a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.
 - (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.
 - (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.
 - (d) The privacy of the information I provide will be safeguarded. However should information of a private nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.
If I participate in a focus group I understand that whilst all participants will be asked to keep the conversation confidential, the researcher cannot guarantee that other participants will do this.
 - (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to _____(researcher to specify). Any information which may be used to identify me will not be used unless I have given my permission (see point 5).

Participant's Consent

Name: _____ Date: _____
(Participant)

Name: _____ Date: _____
(Witness to signature)

Appendix D – Interview Guide

Plain Language Statement for Structured Interview

Dear Madam/Sir,

My name is Nicole Liang. I am a Ph.D. student at RMIT University in Melbourne, Australia. My thesis topic is “Impact of Logistics Service Performance on Tourist Satisfaction and Loyalty”. In my research, I am investigating how the quality of logistics services, which includes accuracy and flexibility of reservation (i.e., difficulty in changing hotel reservation or airline tickets), luggage transfer reliability, and responsible and helpful hospitality staffs in the tourism sector, among others, affects tourist satisfaction and loyalty. The information sheet describes the project in straightforward language “Chinese”, or “plain English”. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate.

I sincerely invite you to participate in my study by attending an interview, which seeks your comments and evaluations on the quality of the tourism logistic services in your areas of operation. All of the information provided will be treated with strict CONFIDENCE and be used for the sole purpose of academic research.

Your participation should only take about an hour but would make a major contribution to the outcome of my research. The information you provided will be essential in determining if logistics service performance affects tourist satisfaction and loyalty. It may also help develop a framework for utilizing logistics performance to enhance tourism growth of the city.

My research supervisor is Professor Brian Corbitt who can be contacted at Telephone (61 3) 9925 5808 or e-mail: brian.corbitt@rmit.edu.au for any enquiries related to the project or its adherence to the formal privacy and ethical policies of RMIT University.

Participation in this research is entirely voluntary. With your agreement, this interview will be tape-recorded or audio-recorded and will be stored securely at School of Business Information Technology, RMIT University for 5 years and will not be available to anyone except the investigator. You have the right to request that recording cease at any time and may withdraw from the study at any stage and at anytime during the interview.

You may withdraw from the study at any stage and at anytime, without prejudice. Also, you may request any unprocessed data to be withdrawn and destroyed. If you have any questions about the research, you can contact me or my supervisor Professor Brian Corbitt. If you have any questions about the ethics of this research, please contact the Chair of the RMIT Business Human Research Ethics Sub-committee (Email: rdu@rmit.edu.au, phone (61 3) 9925 5594). Your cooperation in completing the interview is highly appreciated.

Yours Sincerely,

Nicole hui-chung Liang

Ph.D. Student,

School of Business Information Technology, RMIT University

Telephone: + 61 3 9925 1679

Facsimile: + 61 3 9925 5850

Indicative Interview Questions to be administered to tourism professionals, operators, and transport managers in Taipei

The following questions relate to the adequacy and quality of logistics services in the tourism sector in your region of operation. Please provide your opinions on the facilities and services available.

1. Based on your knowledge of Taipei, could you identify the range of tourism facilities and services available (such as airline, hotel and restaurant ...) to a visitor to this city?
2. Can you provide detailed comments on the provisions of these services and facilities in terms of their adequacy in meeting the needs of tourists? Please elaborate on the reasons for your observations.
3. Can you comment on the quality of these services and facilities with respect to their:
 - a) Personnel service
 - b) Information service quality
 - c) Product availability
 - d) Order accuracy
 - e) Order quality
 - f) Order efficiency
 - g) Order discrepancy
 - h) Order flexibility
4. Do you think that the way in which these facilities and services are organized has helped enhance the experience of tourists to the city and its attractions?
5. Do you feel that tourists, in general, are concerned (or not concerned) about the quality of these facilities and services? What types of tourists, in your view, would be most concerned, and what types would be least (or not) concerned with the quality of these services and facilities?
6. From your observation, do you think that the quality of the tourist facilities and services available in Taipei play a role in attracting tourists to visit the city and its attractions? If so, in what way and how significant has the effect been? If not, please indicate the areas of deficiency.
7. Can you provide some anecdotal evidences relating to the effects of these services and facilities on the experience of tourists in recent times?
8. Are you able to offer any other comments on the adequacy and quality of logistics services in the tourism sector in your region of operation?

THANK YOU FOR YOUR PARTICIPATION AND COOPERATION.

Appendix E – Author’s Publications

PUBLICATIONS

Refereed Conference Proceedings

1. **Liang, H. C.**, Corbitt, B. J., and Peszynski, K. J. (2008). Impacts of Logistics Service Performance through IT on Overall Tourist Satisfaction and Loyalty. *Proceedings of the 16th European Conference on Information Systems (ECIS)*, Galway, Ireland, June 9-11 2008.
2. **Liang, H. C.** (2006). Market Strategy Development for Resort Tourism: A Cross-Cultural Comparison of American and Japanese Customer Behaviour, Satisfaction and Expectation in Taiwan, *Proceedings of the 12th Asia Pacific Tourism Association and 4th APacCHRIE Joint Conference*, pp.75-85, Hualien, Taiwan, June 26-29 2006. (This paper has been awarded by National Science Council of Taiwan for financial support)
3. Liu, T. C. and **Liang, H. C.** (2001), The Use of Hotel Co-Branded Card for Customer, *Proceedings of 1st Taiwan and Japan Finance Association*, pp. 21-38, Hsinchu, Taiwan, May 20-22, 2001.

Journal

1. Teng, C. C. and **Liang, H. C.** (2005), A State of the Art Review on Leadership Research in the Hospitality Industry- Research Paradigm and Gender Perspectives (in Chinese), *Journal of Hospitality and Home Economics*, vol. 2, no. 3, pp. 42-54.

Research Project

1. Yan, P. L., **Liang, H. C.**, Teng, C. C., Hsiao, S. H., Liao, Y. Y., Yang, S. H, Lai, K. M., Tsai, P. M. and Chen, L. C. (2002), Bed and Breakfast Market Analysis of Nan-Chung Area in Hsinchu, Taiwan (in Chinese), *Taiwanese Government Transportation & Tourism Department*, Taipei, Taiwan.

Appendix F – Supporting Publication