

**THIRD PARTY LOGISTICS SERVICE  
QUALITY AND THE MODERATING ROLE  
OF SWITCHING COSTS BETWEEN  
CUSTOMER SATISFACTION AND  
BEHAVIOURAL LOYALTY**

**by**

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**KUALITI PERKHIDMATAN LOGISTIK PARTI KETIGA DAN KOS  
MENUKAR SEBAGAI MODERATOR ANTARA HUBUNGAN KEPUASAN  
PELANGGAN DENGAN KESETIAAN KELAKUAN**

**ABSTRAK**

Pelbagai syarikat telah mengenal pasti bahawa keperluan untuk mewujudkan asas pelanggan setia dan pengekalan pelanggan sedia ada, di samping memperluaskan perniagaan dengan pelanggan sedemikian adalah lebih murah berbanding daripada mendapatkan pelanggan baru. Justeru, tesis ini menerangkan pembangunan model konseptual, bagi mengetahui faktor-faktor yang mempengaruhi sikap kesetiaan pelanggan seperti kualiti perkhidmatan logistik (LSQ), kepuasan pelanggan dan kos-kos perubahan terhadap penyedia logistik pihak ketiga (3PL). Untuk itu, sebanyak 174 set soal selidik dikumpul daripada para pelanggan 3PL daripada sektor pembuatan di kawasan industri seluruh Malaysia. Dengan menggunakan kaedah analisis data *Partial Least Squares - Structural Equation Modeling (PLS-SEM)*, kajian ini mendapati bahawa, empat daripada sembilan dimensi LSQ berhubung secara positif dengan aspek kepuasan pelanggan. *Second order factor*, iaitu kualiti fungsional dan kualiti teknikal mempunyai hubungan positif dengan aspek kepuasan pelanggan. Manakala, LSQ yang bertindak sebagai *third order factor*, berhubung secara positif dengan aspek kepuasan pelanggan dan sikap kesetiaan. Dalam konteks ini, aspek kepuasan pelanggan bertindak sebagai mediator separa antara LSQ dengan sikap kesetiaan. Walau bagaimanapun, hanya prosedur kos perubahan bertindak sebagai perantara dalam hubungan antara aspek kepuasan pelanggan dengan sikap kesetiaan. Dengan demikian, kajian mendapati bahawa, sikap kesetiaan palsu wujud dalam hubungan di antara kepuasan pelanggan dengan sikap kesetiaan dengan adanya prosedur kos perubahan. Dapatan kajian diharap mampu membantu mengukuhkan hubungan di antara pengamal industri, terutama, para penyedia 3PL

dengan para pelanggan. Paling utama, maklumat kajian, adalah bermanfaat kepada para pengurus industri bagi mengukuhkan LSQ sebagai alternatif untuk meningkatkan kesetiaan pelanggan terhadap perkhidmatan yang disediakan oleh penyedia 3PL. Teori Pertukaran Sosial dan Teori kognitif-afektif-konatif dikukuhkan lagi dalam kajian ini. Manakala, teori faedah-kos membantu dalam menerangkan sikap kesetiaan palsu.

# **THIRD PARTY LOGISTICS SERVICE QUALITY AND THE MODERATING ROLE OF SWITCHING COSTS BETWEEN CUSTOMER SATISFACTION AND BEHAVIOURAL LOYALTY**

## **ABSTRACT**

A multitude of companies has already identified the need to create a loyal customer base and acknowledged maintaining existing customers and extending businesses with them are significantly less expensive than acquiring new customers. Therefore this thesis describes the development of a conceptual model to investigate the factors affecting customer behavioural loyalty towards third party logistics (3PL) provider involving factors such as logistics service quality (LSQ), customer satisfaction and switching costs. One hundred and seventy four sets of completed questionnaire were collected from 3PL customers in the manufacturing sector from industrial hubs throughout Malaysia. Using Partial Least Squares - Structural Equation Modeling (PLS-SEM) analysis approach, the findings revealed four out of the nine dimensions of LSQ have positive relationships with customer satisfaction. The second order factor, functional quality and technical quality have positive relationships with customer satisfaction. LSQ as the third order factor has positive relationship towards customer satisfaction and behavioural loyalty. Customer satisfaction is a partial mediator in the relationship between LSQ and behavioural loyalty. Only procedural switching cost is a moderator towards the relationship between customer satisfaction and behavioural loyalty. Therefore, spurious loyalty is revealed in the relationship between customer satisfaction and behavioural loyalty when procedural switching cost exists. The findings of this study will help practitioners such as 3PL providers maintain close relationships with customers. More importantly, the findings provide information to managers for improving LSQ to maintain loyal customers. The Social



Exchange Theory and cognitive-affective-conative theory are further validated in this study. The cost benefit theory helps to explain spurious loyalty.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This research was undertaken to assess logistics service quality (LSQ) of third party logistics (3PL) providers and its impact upon customer satisfaction and consequently customer loyalty. Customer loyalty is behavioural loyalty. While the possible existence of spurious loyalty can continue to bring financial benefits it would not be sustainable if the switching costs are bearable by consumers. In order to test for spurious loyalty, switching costs will be used as a moderator. Hence this study was undertaken to identify the significant LSQ that will affect customer satisfaction and impact loyalty, and detect the presence of spurious loyalty.

This chapter gives an introduction to this study and consists of eight sections. The first three sections describe the background of the study, the interest group and the problem statement. The rest of the following sections describe the research objectives and questions, significance of study, definitions of key terms, and finally the organization of this thesis.

### 1.2 Background of Study

The 1997 Asian financial crisis had leaders spending their time protecting their company assets are once again thinking about growth (Hasan, 2002) having recovered from the crisis. World trade volumes took a dive of 10.6 percent growth in 2009 compared to a year before, clawed back to 12.4 percent in 2010, fell to 6.6 percent in 2011, crept back to 5.1 percent for 2012 and forecasted 5.6 percent for 2013 (Zurairi, 2013). These economic turbulences would definitely see gains and

losses of customers. Against a fluctuating customer base, Stone, Woodcock, and Wilson (1996) claimed companies should recognise the need to create a loyal customer base and acknowledged maintaining existing customers and extending business with them would be significantly less expensive than acquiring new customers. That claim is subsequently supported by Li & Green (2010) that it costs more than five times as much to get new customers than to hold on to old ones. In addition, Reichheld and Sasser (1990) and Lee and Cunningham (2001) highlighted a five percent decrease in customer attrition will lead to 25 to 85 percent increase in profit. Besides, Reichheld and Schefter (2000) also pointed out a five percent increase in customer loyalty would lead to 30 percent increase in profit.

Interestingly, loyal customers are willing to pay higher prices and less likely to change providers (Reichheld & Sasser, 1990; Reichheld & Teal, 1996; Chow & Holden, 1997; Anderson & Swaminathan, 2011) and would therefore justify continual efforts to retain customers. Loyal customers also tend to promote and introduce their providers to others (Santouridis & Trivellas, 2010). Without a loyal customer base, the best design and methods of business would likely falter (Anderson & Swaminathan, 2011). Therefore most companies would do their best to satisfy their customers to win customers' loyalty and to develop long-run profitable relationships with them (Santouridis & Trivellas, 2010; Anderson & Swaminathan, 2011; Bayraktar, Tatoglu, Turkyilmaz, Delen & Zaim, 2012). Consequently, customer loyalty apparently plays an important role in sustaining competitive advantage for companies and is a key to survival and growth in business-to-business (B2B) environment of which 3PL is one of them (Bharadwaj et. al., 1993; Lee et al., 2001).

As countries become more developed, the trend of economic activity will change from agricultural and manufacturing to services (Lovelock, Patterson & Walker, 2004; Kueh & Voon, 2007). The service sector has become most important in industry economics. According to Olorunniwo, Hsu and Udo (2006), job losses continued in the USA manufacturing sector for the 40 consecutive months preceding the fourth quarter of 2003. However the service sector made a net gain at the same time. The service sector made contributions of about 63.6 percent of the gross domestic product (GDP) of the global output in 2012 (<http://www.indexmundi.com>).

The service sector can be categorized in different ways. The most frequent way is to divide the service sector into four categories which are distribution services, business services, social services and personal services (Breitenfellner & Hildebrandt, 2006). Distribution services are mainly made up of the following activities: sales, maintenance and repair of motor vehicles and motorcycles, retail sale of automotive fuels, wholesale trade and commission trade, retail trade, repair of personal and household goods, inland, water and air transport, supporting and auxiliary transport activities except the activities of travel agencies and communications (Breitenfellner & Hildebrandt, 2006). Business services would include financial intermediation, insurance and pension funding, activities auxiliary to financial intermediation, real estate activities, renting of machinery and equipment, computer and related activities, research and development (R&D), legal, technical, advertising and other business activities (Breitenfellner & Hildebrandt, 2006). Social services comprise activities in the areas of public administration, defense, compulsory social security, education, health and social work (Breitenfellner & Hildebrandt, 2006). Personal services are divided into segments of hotels and catering and private households with employed persons (Breitenfellner & Hildebrandt, 2006). The business service sector is the most

important service sector out of the four service sectors. Business-to-business services like maintenance services, supply chain management, IT outsourcing, consulting or customer help desks are important drivers of the business services sector (Gebauer, Paiola & Edvardsson, 2010).

In the 1980s, the business service sector was 10-20 percent of the gross domestic product in OECD (Organisation for Economic Co-operation and Development) countries. However, the service sector has grown to 20-30 percent in 2008 (Neely, 2008; Wirtz & Ehret, 2009; Gebauer et al., 2010). While the service sector continues to grow, it also plays an increasingly important role in modern economies (Olorunniwo, Hsu & Udo, 2006).

Researchers found while the service sector continues to grow in importance, there are increasing irritation, frustration, and dissatisfaction of customers towards service providers (Koepp, 1987; Bitner, 1990). Therefore, researchers and service providers look for ways to understand how customers perceive the quality of service and how perceptions of service quality translate into customer satisfaction and customer loyalty (Olorunniwo et al., 2006). Parasuraman, Zeithaml and Berry (1988), Parasuraman et al. (1991), Zeithaml et al. (1996), and Hu, Kandampully and Juwaheer (2009) claimed service quality, customer perceived value and customer satisfaction are key success factors winning customer loyalty. Service quality is also the conformance of customer requirements during service delivery (Chakrabarty, Whitten & Green, 2007). Service quality can be defined as a customer's overall impression of a service provider and the comparison between a customer's expectation with actual perception of the service provider (Parasuraman et al., 1988; Bitner 1990). Researchers pointed out service quality will bring many benefits like increased company profit, cost savings and increased market share (Parasuraman et

al., 1985; Chakrabarty et al., 2007). Service quality will also lead to customer satisfaction, customer loyalty, repurchase intention and improvement of profitability (Gronroos, 1990; Zeithaml et al., 1990; Fornell, 1992; Shonk, Carr, & Michele, 2010).

Customer satisfaction is also an important key point for customer-oriented business practices across a large number of companies in different industries. Companies always use customer satisfaction as a guide to analyze product or service performance (Bolton & Drew, 1991). The achievement of customer satisfaction would lead to company loyalty and product repurchase (Deng, Lu & Zhang, 2010). Several researchers pointed out high customer satisfaction rating as the best indicator of future profits of firms (Anderson & Sullivan, 1993). A competitive market would make customer satisfaction a differentiator and therefore an important constituent in strategy design (Gitman & Madaniel, 2005). However, the relationship between customer satisfaction and loyalty is also influenced by other components like trust, commitment and switching cost with switching costs having significant effects on customer retention (Jones, Mothersbaugh & Beatty, 2000; Matos, Henrique & Rosa, 2009).

Several researchers also claimed switching costs is another key component for customer retention (Cronin & Taylor, 1992; Jones et al., 2000; Matos et al., 2009). Switching costs is the costs incurred when customer change a supplier to another (Heide & Weiss, 1995; Lam, Shankar, Erramilli & Murthy, 2004). Suppliers encourage customers to make transaction-specific investment with them like software systems or machinery to develop and maintain a stable and long term relationship (Heide & Weiss, 1995). Such high transaction costs and investment would reduce customer's motivation to search for new alternatives (Burnham, Frels

& Mahajan, 2003; Yen, Wong & Horng, 2011). Customers are not willing to switch suppliers when they perceive switching would incur costs such as search costs, learning costs, emotional costs and cognitive effort (Fornell, 1992; Yen et al., 2011). A perceived high switching costs will increase customers' intention to stay with the existing suppliers and increase future interactions and commitment (Liu, 2006). With the high economic value services from suppliers, a customer will less likely switch to a new alternative (Liu, 2006). Suppliers use switching costs as a business strategy to increase customer loyalty and maintain their long term relationships (Lam et al., 2004).

Global expansion even for logistics has become increasingly complex as new markets open up and developing countries mature. Many companies explore strategies to reduce risks, manufacturing lead times, total costs, and to increase market responsiveness (Fisher, Hammond, Obermeyer & Raman, 1997; Langley & Capgemini, 2009). One strategy is outsourcing. According to Langley and Capgemini (2009), more than 80 percent of the companies have outsourced logistics services activities. These companies providing such services are called third party logistics (3PL) companies. A 3PL provider is a supplier of customized and scalable services to meet all or parts of another firm's logistics requirements such as warehousing and transportation for their products and materials (Kotzab, Skjoett-Larsen, Schary & Mikkola, 2007). These services have acquired a strategic nature instead of a mere transactional role. The strategic nature of 3PL is acquired during globalization and proliferation of information technology use (Song & Regan, 2001) thereby placing greater demands upon firms and creating competition. The first generation 3PL (1970 to 1980) offered services such as transportation, brokerage, and shipping (Song & Regan, 2001). The second generation 3PLs (1980 to 1990)

were mostly asset or non-asset based companies with increased service offerings (Song & Regan, 2001). The third generation 3PLs (year 2000 onwards) are mostly web-based 3PLs with increased supply chain integration (Song & Regan, 2001).

According to Langley and Capgemini (2013), the global 3PL total revenue in 2011 was US\$616.1 billion. This shows the entire 3PL business is extremely huge because logistics activities are extremely important in most companies (Langley & Capgemini, 2010). Companies allocated an average of 11 percent of their company sales revenue to logistics activities with an average of 42 percent of that allocation spent on outsourcing of logistics services (Langley & Capgemini, 2010). Eighty nine percent of companies felt their outsourcing relationships are successful and expected outsourcing expenditures to grow (Langley & Capgemini, 2009). Two to three years prior to 2009, the effect of economic instability and volatility affected the global market impacting upon the relationship between users and 3PL providers. The brittleness of this relationship is affected by various factors for example service quality. Likewise the current and impending world trade volume fluctuations could also see its impact upon users and 3PL providers. A European survey - The European 3PL Market: A brief analysis of Eyefortransports's recent survey - showed 3PL providers see service quality and costs are equally important but from the users' perspective service quality is more important than costs (O'Reilly, 2009). Nevertheless, the majority of 3PL users use 3PL provider overall performance as a guideline to continue or terminate relationships with 3PL providers (O'Reilly, 2009).

In the 1990s, most of the international 3PL markets are dominated by US and European firms (Sohail, Austin & Rushdi, 2004). While the global economy was growing, Asian countries also experienced high economic growth in the past decade (Kueh & Voon, 2007). The use of 3PL in Asian countries increases with economic



growth. This could imply logistics activities grow in tandem with economic growth. According to Langley and Capgemini (2010), the increasing use of 3PL in Asia-Pacific is 81 percent. The Asia-Pacific 3PL 2011 revenue was USD191.11 billion and increased 21.2% compared to 2010 (Langley & Capgemini, 2013). According to World Shipping Council (2011), among the world top 50 container ports in 2010, 64 percent of ports are in the Asia-Pacific region. Also according to World Shipping Council (2012), Shanghai, China as the busiest port in the world in 2011 handled 31.74 million TEUs (twenty-foot equivalent units). In relation to airports, Hong Kong International Airport is the world's busiest cargo hub in 2011 (Centre for Asia Pacific Aviation, 2012). Hong Kong International Airport cargo volume was 23.1 percent (3.976 million tonnes) of the total air cargo volume in 2011 (Centre for Asia Pacific Aviation, 2012). Given such high volume, the Asia-Pacific region has therefore become an important region for the development of logistics industry.

Malaysia is a country in the Asia-Pacific region that has the potential to grow in logistics (Ali, Jaafar & Mohamad, 2008). According to World Airport Rankings 2011, Kuala Lumpur International Airport (KLIA) ranked at number 30 with a total of 694,311 tonnes of cargo (Center for Asia Pacific Aviation, 2012). Malaysia has two important ports which are Port Klang and Tanjung Pelepas. Both ports are among the world's top 20 container ports. Port Klang ranked number 13 having a total of 9.60 million TEUs and Tanjung Pelepas ranked number 18 having a total 7.50 million TEUs in 2011 (World Shipping Council, 2012). With the country's stable economic growth and external trade, the Malaysian logistics industry is expected to grow 9.5 percent to RM139.74 billion in 2013 compared to RM127.66 billion in 2012 and RM117.70 billion in 2011 (Yunus, 2012; Ali, 2013). The transportation and logistics market is forecasted to grow 12.6 percent and RM203.71

billion in 2016 as shown in Figure 1.1 (Yunus, 2012). The performance of logistics industry would influence the development of industrialization and the effectiveness in international trade (Ministry of International Trade and Industry, 2011). The logistics industry plays a key role for Malaysia to improve the progress in industrialization and international trade (Ministry of International Trade and Industry, 2011). The logistics industry in Malaysia is growing rapidly but there has been very little research in the area of logistics (Sohail & Sohal, 2003). This lack of research in Malaysian logistics industry is cited by Daud, Ahmad, Ling and Keoy (2011) and Pahim, Jemali and Mohamad (2011). The growth of the logistics industry, the fluctuating world trade volumes and market size, the lack of research in logistics present an opportunity to analyze and investigate the relationship between 3PL service quality and customer satisfaction with the latter affecting customers' loyalty from the users' perspective.

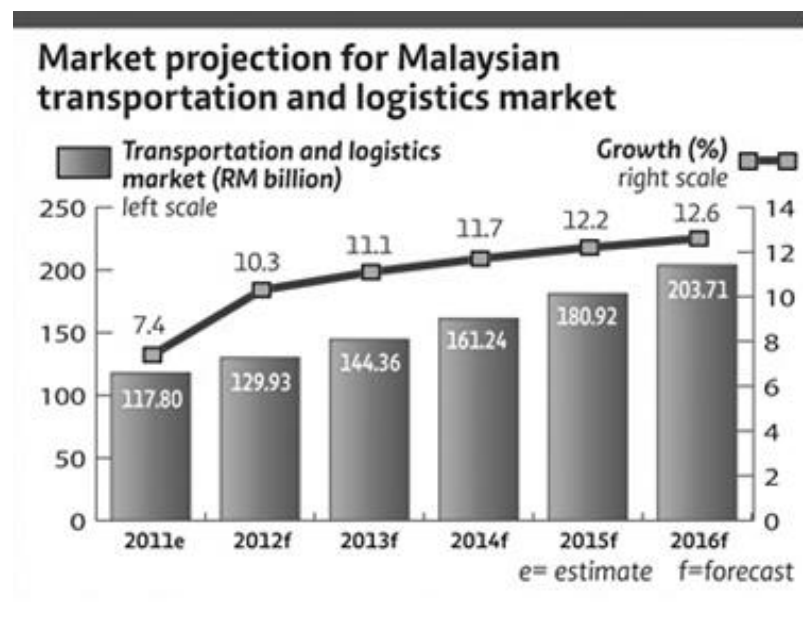


Figure 1.1: Market projection for Malaysian transportation and logistics market  
 Source: Yunus (2012)

### **1.3 Logistics Industry in Malaysia**

As the global economy has improved and with continuing strong domestic demand and consumption, it would likely strengthen Malaysia external trade performance (Zulkefli, 2013). Bank Negara Malaysia expected Malaysia economic growth to be sustainable at between 5 and 6 percent in 2013 based on strong domestic demand and it may even surpass the 5.6 percent growth in 2012 (Chong, 2013; Zulkefli, 2013). Earlier, according to Bank Negara Malaysia Annual Report 2011, the Malaysian economy has a steady pace of growth of 5.1 percent in 2011 compared to 7.2 percent in 2010. The growth was lower in year 2011 because of the overall poor performance of the global economy and the disruption in the global manufacturing supply chain that arose from the natural disaster in Japan (Bank Negara Malaysia, 2011).

According to the Malaysia Economic Report 2011/2012, the service sector is the largest contributor of growth (Ministry of Financial Malaysia, 2011). The service sector experiences the same growth rate in 2011 and 2010 which is 6.8 percent and it accounted for 58.6 percent of the GDP in 2011 comparable to 2010 which was 57.3 percent of GDP (Ministry of Financial Malaysia, 2011). The services sector is expected to contribute 58.9 percent of GDP in 2012 (Chin, 2011). The service sector is targeted as one of growth areas under the Third Industrial Master Plan (IMP3) of Malaysia (Ministry of International Trade and Industry, 2011). The IMP3 is a plan launched by Malaysia government for year 2006-2020. The objective of IMP3 is to accomplish long-term global competitiveness through transformation and innovation of manufacturing and services sectors (Ministry of International Trade and Industry, 2006). The Malaysian government has set targets to achieve an annual growth of 7.5 percent and a GDP contribution from 50.5 percent in 2005 to 59.7 percent by 2020 (Ministry of International Trade and Industry, 2011). The service sector is driven by

the domestic demand oriented sub-sectors such as the whole and retail trade, finance, insurance, communication, transport and storage.

The growth of trade and the flow of foreign direct investments have led Malaysia into the global economy (Ministry of International Trade and Industry, 2006). With the steady growth of Malaysia economy and external trade, the external trade is expected to increase 6.5 percent to RM1.42 trillion in 2013 compared to RM1.34 trillion in 2012, RM1.24 trillion in 2011 and RM1.16 trillion in 2010 (Frost & Sullivan, 2011; Yunus, 2012; Ali, 2013). The Malaysian logistics industry is expected to grow to 9.5 percent to RM139.74 billion in 2013 compared to RM127.66 billion in 2012, RM117.8 billion in 2011 and RM108.5 billion in 2010 (Frost & Sullivan, 2011; Yunus, 2012; Ali, 2013). The total export trade for 2011 was RM694.70 billion with RM574.20 billion for total import trade. There was an increase of 8.58 percent of total trade compared to 2010. It consisted of RM639.40 billion for export trade and RM529.20 billion for import trade in year 2010 (see Figure 1.2). Total cargo volume of Malaysia is forecasted to increase 10.1 percent to 545.13 million tonnes in 2012 compared to 495.29 million tonnes in 2011 (Yunus, 2012). The logistics industry plays an important role to increase the demand of international trade and the development of national economy so it needs to be further developed (Ministry of International Trade and Industry, 2006). With the development of high technology and capital intensive projects under the 10th Malaysian Plan and with the Economic Transformation Program (ETP), this is expected to create opportunities for the nation's logistics market. Malaysian logistics is projected to grow at a compound annual growth rate (CAGR) of 12.6 percent to reach RM196.5 billion in 2015. Under the IMP3, the logistics industry is expected to

grow 8.6 percent with a contribution to GDP of 12.1 percent by the year 2020 (Ministry of International Trade and Industry, 2011).

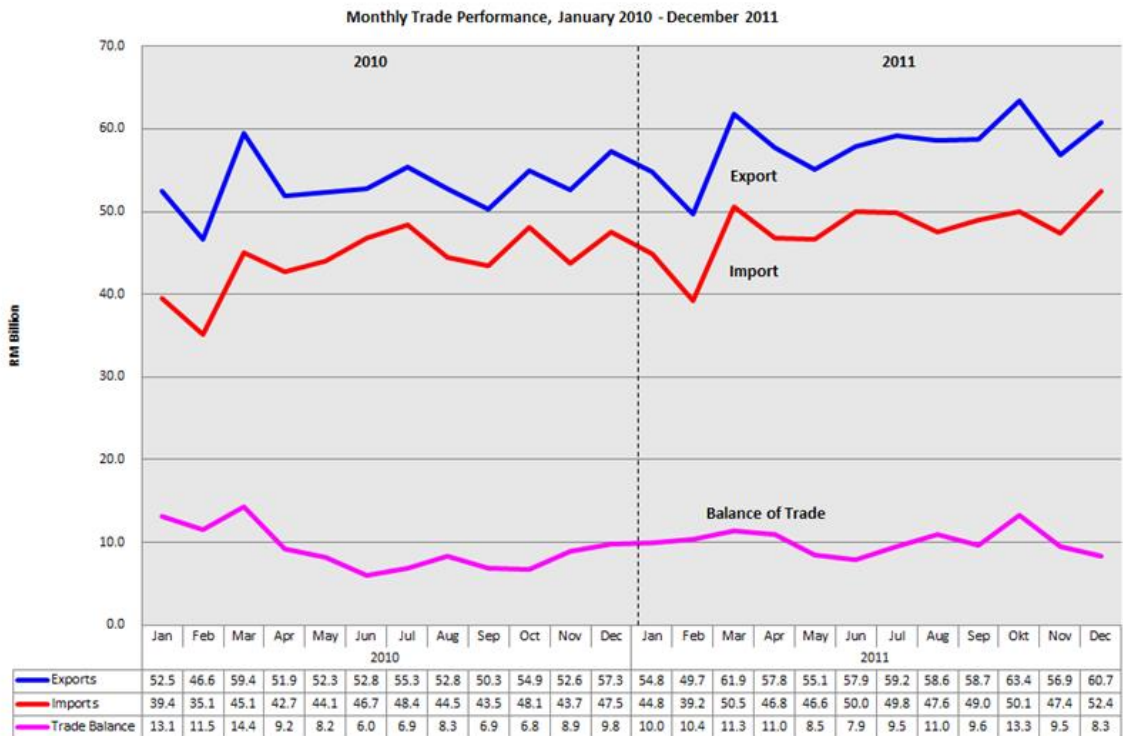


Figure 1.2: Export and Import trade from year 2010 to year 2011.  
Source: Ministry of International Trade and Industry (2012)

According to the Ministry of International Trade and Industry (MITI), there are four types of services provided by logistics service providers in Malaysia. These services are facilitation services, distribution services, integrated logistics services and business support services. Facilitation services providers are customs brokers, freight forwarders, consolidators, non-vessel operating common carriers, ship brokers and shipping agents. Distribution services are warehousing and transportation, inventory management, domestic and regional distribution and courier companies. Integrated logistics services are 3PL providers while the lead logistics providers are often referred to as fourth party logistics providers (4PL). Business support services consist of information and communication technology (ICT),

banking and insurance, suppliers of human resource and equipment handling, education and training, maintenance and repairs and security.

There are three transport modes in logistics service. They are land, sea and air. Sea freight is the most popular mode of transport for cargoes in Malaysia. Sea freight handling constitutes more than 70 percent of total volume of total freight traffic in 2012 and the total sea cargo is RM505.26 million (Ali, 2013). The sea cargo is expected to grow 5 percent to 523.3 million tonnes in 2013 (Ali, 2013). The sea cargoes are handled in the five major ports in Malaysia. They are Port Klang, Tanjung Pelepas, Penang, Kuantan and Bintulu with Port Klang as the busiest port in Malaysia. In 2011, Port Klang contributed 39.20 percent of total sea cargo volume, Tanjung Pelepas contributed 22.70 percent of total volume of sea cargo and Penang Port contributed to 5.90 percent (Yunus, 2012). Total number of containers handled by Port Klang in 2011 was 9.60 million TEUs which is an increase of 8.25 percent compared to 8.90 million TEUs in 2010 (Jayaraman, 2012).

Air cargo was predicted to grow 1.10 percent to 900,000 tonnes in 2013 (Ali, 2013). The Kuala Lumpur International Airport (KLIA) is the busiest airport in Malaysia. It contributed about 73 percent of total air cargo volume in 2010. The total air cargo handled by KLIA in 2010 was 697,015 tonnes. Finally, railway transport is the least frequently used mode by logistics service providers in Malaysia. The cargo volume is expected to increase 6.47 million tonnes in 2013 compared to 6.16 million tonnes in 2012 (Ali, 2013).

As cited earlier, the Malaysian GDP growth is expected to grow at 5 to 6 percent in 2013 with improved global sentiments and continuing strong domestic demand and consumption; exports and imports would experience a much stronger

growth rate (Ali, 2013). The total exports of 2012 experienced an increase of 1.1 percent while total imports grew 7.4 percent as compared to 2011 (Ali, 2013). While the above reports painted a growth picture for the Malaysian logistics industry, these views must be balanced against the still weak global dynamics which are expected to hurt the country export, albeit at a smaller quantum (Chong, 2013). This weakness would have its apparent rippled effect on manufacturing exports invariably affecting the logistics industry.

#### **1.4 Problem Statement**

The current status of Malaysian logistics industry is growing significantly, recovering from the 2009 economic crisis (Zecha, 2010). According to Frost and Sullivan vice-president for transportation and logistics practices Asia and Pacific and country head for Malaysia Mr. Gopal Ramasubramaniam, the Malaysian logistics industry is expected to grow 9.5 percent to RM139.74 billion in 2013 compared to RM127.66 billion in 2012, RM117.8 billion in 2011 and RM108.5 billion in 2010 which is supported by the steady growth of Malaysia economy and external trade (Yunus, 2012; Ali, 2013). In 2010, the 3PL market in Malaysia consisting of transportation, storage and courier services was valued at RM27.5 billion while the in-house logistics cost in Malaysia was valued at RM81 billion (Frost & Sullivan, 2011). These figures indicate the 3PL market in Malaysia is small compared to in-house logistics. Therefore there is potential for 3PL to grow. The growth of 3PL is also important because it involves cross border trade. Incidentally the growth of logistics industry in Malaysia is hampered by a lack of logistics professional, the fragmented nature of the logistics industry and a lack of value-added services by logistics service providers (Frost & Sullivan, 2011). Since 3PL is a sector in the

logistics industry and is currently a relatively small portion of the overall logistics, this study would focus on the quality of 3PL services to enhance the growth of the overall logistics industry.

According to the Malaysian Industrial Master Plan 3 (IMP3), the logistics industry plays an important role in the initiatives to strengthen Malaysia's progress in industrialization and international trade (Ministry of International Trade and Industry, 2006). The transport sub-sector includes ports, airports, roads, railways and inland haulage services. The average growth rate of Malaysia's transport sub-sector including storage and communication from year 1996 to 2004 is 6.6 per cent; Singapore grew at 6.1 per cent. The usage of 3PL in Malaysia was 63 per cent and Singapore was 60.3 per cent (Sohail & Sohal, 2003; Sohail et al., 2006). The 3PL usage in Malaysia was higher than in Singapore. Since 3PL is related to cross border trade, it would be prudent to study the Logistics Performance Index (LPI) overall score which evaluates customs clearance process, quality of trade and transport related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time of a country (Arvis, Mustra, Ojala, Shepherd & Saslavsky, 2012). The lower the score of LPI would mean the weaker the logistics performance of the country (Arvis et al., 2012). The highest score is five and the lowest is one. Based on the 2012 LPI, Singapore is ranked at number one with a score of 4.13 and Malaysia is ranked at number 29 with a score of 3.49 (Figure 1.3) (Arvis et al., 2012). This means while the usage of 3PL in Malaysia is relatively higher than that of Singapore, the LPI of Malaysia trailed behind that of Singapore. This provides another reason to study the 3PL service quality of Malaysia to improve its international standing.



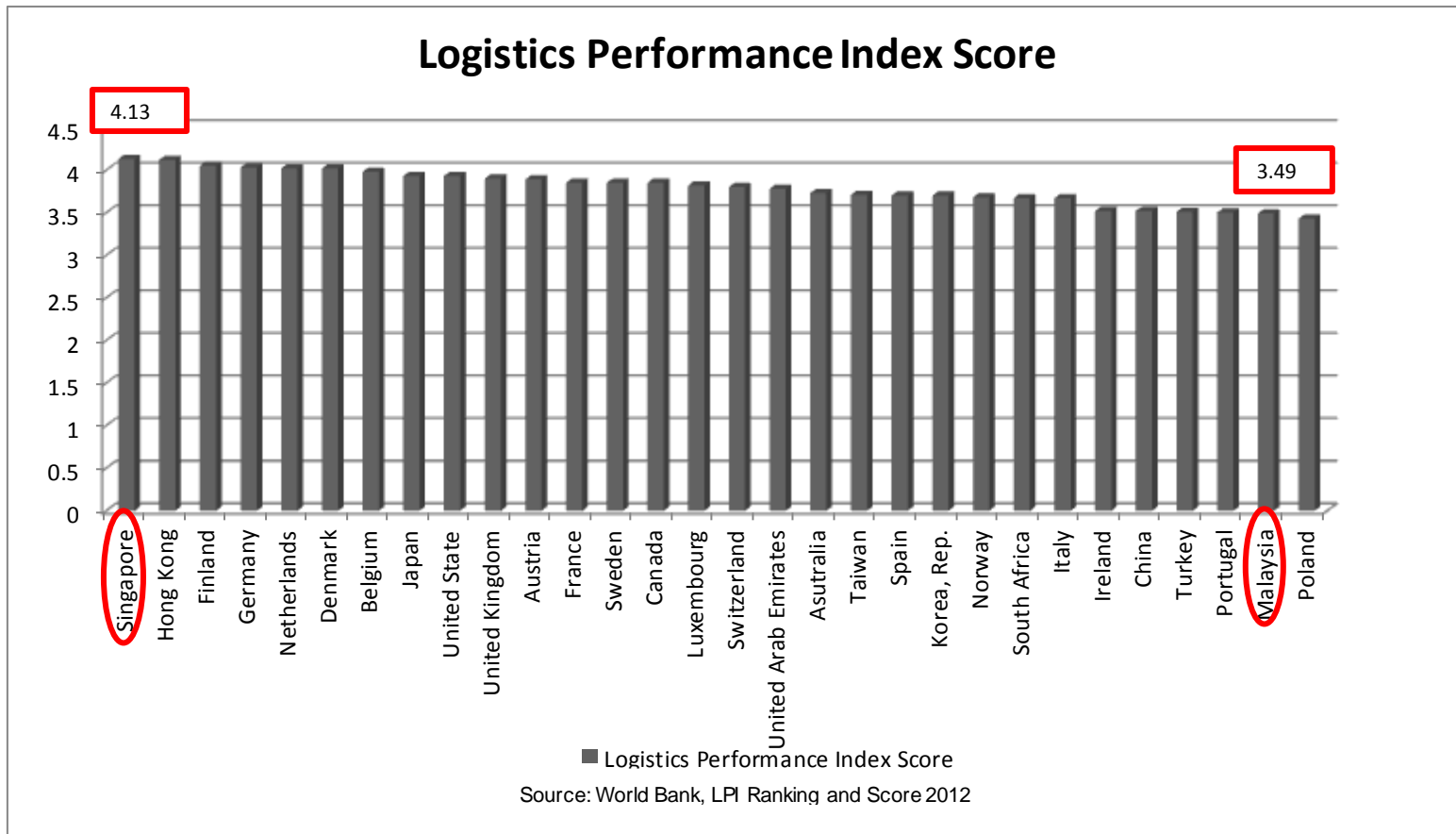


Figure 1.3: Logistics Performance Index Score  
Source: Arvis et al., 2012

The Malaysian government has created a friendly investment environment such as Free Trade Zone (FTZ) and Free Commercial Zone (FCZ) (Frost & Sullivan, 2011). This has boosted the logistics industry such as import-export forwarding, shipping and airfreight business which has caused more new 3PL companies to develop (Frost & Sullivan, 2011). This development allows customers consider having more than one 3PL provider and permits changing 3PL provider if they are not satisfied with their 3PL provider (Frost & Sullivan, 2011). Therefore 3PL providers must focus on their current customers' expectation and satisfaction to persuade customers to repurchase or to maintain a long-term relationship. The 3PL industry is characterized as "undergoing constant change" and therefore deserving greater study (Selviaridis & Spring 2007). According to Jaafar and Rafiq (2005), the trend towards the development of a longer term partnership is increasing. This longer term relationship gives 3PL providers the opportunity to gradually provide better services to exceed customer requirements and expectations in order to strengthen the relationships with existing customers and to attract new customers.

The overall success of a firm is dependent upon logistics services deemed strategic and this is attested to by researchers and corporations (Mentzer, Gomes & Krapfel, 1989; Brensing & Lambert, 1990; Bowersox, Mentzer & Speh, 1995; Bienstock, Mentzer & Bird 1997). In response, this multibillion-dollar 3PL industry should dedicate itself to improving manufacturers' logistics services. That dedicated response is also to seize upon the business logistics view of the role of logistics as a primary source of competitive advantage in a firm's overall market efforts (Novack, Rinehart & Langley 1994). As an example, customer service is the research focus of logistics discipline over several years. Coming from these researches, logistics services are applied creating customer and supplier value via service performance

(Novack et al., 1994) increasing market share (Daugherty, Stank & Ellinger 1998). It also enables mass customization (Gooley, 1998) and creates effective customer response-based systems (Closs et al., 1998) to affect customer satisfaction positively resulting in corporate performance (Dresner & Xu, 1995). This also provides competitive advantage to differentiate (Bowersox, Mentzer & Speh 1995; Kyj & KyJ 1994; Mentzer & Williams 2001) for different customer segments (Gilmour et al., 1994).

In a business-to-business (B2B) environment, suppliers understand the importance and benefits of attracting and maintaining loyal customers. Loyal customers are more willing to pay higher prices, and purchase large volume of products and services which increase company revenue and profits (Chow & Holden, 1997; Anderson & Swaminathan, 2011). Customer satisfaction is the key component to maintain customer loyalty (Faullant, Matzler & Fuller, 2008). Empirical studies show there is a positive relationship between customer satisfaction and repurchase intention (Zeithaml et al., 1996; Reichheld & Sasser, 1990; Faullant et al., 2008). According to Oliver (1999), though customers are satisfied with the products or services, the satisfaction do not generally translate into loyalty. According to Nam (2011), the structure of market makes most loyal customers satisfied but satisfaction do not promise loyalty. Saura, Frances, Contri and Blasco (2008) claimed other factors could also affect loyalty besides satisfaction. Repeated or continued purchase products or services from the same supplier do not mean the customer will always remain loyal to the supplier (Dick & Basu, 1994). Dissatisfied customers are likely to maintain relationship and continue repurchase with existing providers when there are other determining factors (Yang & Peterson, 2004). Then spurious loyalty could appear in the relationship between customer and provider, and researchers claimed

that it is difficult to distinguish spurious loyalty from true loyalty (Day, 1969; Bennett & Rundle-Thiele, 2002; Matos et al., 2009).

Current literature concentrates on relational exchanges and is less attentive to relationships of dependence and power (Davis & Mentzer, 2006). However, with a substantial literature base relating to dependence asymmetry in supplier-customer relationships (Buchanan, 1992; Heide & John, 1988; Lusch & Brown, 1996), enough evidence is present to indicate it affects even supplier customer relationships which are considered most successful. The development of customer loyalty is the attention of management but its psychological development remains fuzzy (Pritchard, Havitz & Howard 1999). Added to that, studies by Parasuraman et al. (1985), Barsky (1995), and Friday and Cotts (1995) concluded the perceptual differences of loyalty exists between supplier and customers. This would make the research even more complex, as judging an individual service is already a subjective matter. This study focuses only on the customer's perception of 3PL logistics service quality.

The rapid growth of economy and the increasing importance of service industry have caused firms face severe competition among business service outsourcing (Lam et al., 2004). Firms find the best way to maintain customer loyalty such as improved customer satisfaction and customer value (Liu, 2006). Switching costs plays an important role to maintain customer loyalty (Liu, 2006). Most of the switching costs researches are concentrated in B2C settings finding ways to maintain customer loyalty (Liu, 2006). Many researchers found switching costs can protect and prevent customers switch to alternative or competing suppliers (Jones & Sasser, 1995; Patterson & Spreng, 1997; Burnham et al., 2003; Lam et al., 2004; Jones, Reynolds, Mothersbaugh & Beatty, 2007; Yen, Wang & Horng, 2011). However, there is a lack of switching costs research in the B2B environment (Liu, 2006). In

addition, Jones et al. (2007) specifically pointed out there is a lack of research in the different types of switching costs also in B2B context. Therefore, this study investigated switching costs (second order factor) and also its different types (first order factor) towards the relationship between customer satisfaction and behavioural loyalty.

The annual survey report called The State of Logistics Outsourcing is a review of the development of 3PL industry in USA. This survey report describes the development of 3PL industry in the US and the effects of economic, regulatory and technological trends driving logistics development (Langley & Capgemini, 2010). European countries also have annual review report for the development of 3PL industry called The European 3PL Market - Eyefortransport. With the availability of these reports, 3PL providers study the trend and development of the industry to know the requirements and needs from customers input. Unfortunately, such annual reports of the 3PL are not compiled in Malaysia. Therefore 3PL providers and customers in Malaysia are unable to get the latest information regarding the development of the industry. Sohail and Sohal (2003) indicated an absence of a comprehensive study and literature regarding the extent of the development of 3PL firms in Malaysia. Five years after Sohail and Sohal (2003), Ali, Jaafar & Mohamad (2008) also indicated a lack of literature in the 3PL industry in Malaysia though the logistics industry in Malaysia has developed and grown rapidly. Therefore this study will fulfill that literature vacuum to enrich the existing knowledge particularly relating to the Malaysian 3PL industry in service quality, customer satisfaction and customer loyalty.

From the research perspective except for Vlachos et al. (2010) who performed analysis on the first and second order hypothesis in their research, most

researchers focus on single level order factor hypothesis, for example, Burham et al. (2003), Eom, Wen & Ashill (2006) and Saura et al., (2008) performed only first order hypothesis analysis. On the other hand, Mentzer et al. (2001), Rafiq & Jaafar (2007), Akgun, Halit, John & Selim (2007), Talke (2007), Matos, Henriques & Rosa (2009) and Akter, D'Ambra & Ray (2010) performed only second order hypothesis analysis. These different levels of order factor in model analysis have brought results which are difficult to reconcile. An analysis of only the second order would camouflage the inferential results of the first order dimensions. An analysis of only the first order could lead to the abandonment of not significant dimensions when the aggregated higher order hypothesis is significant. Therefore the analysis of first, second and third order hypothesis would clarify the priorities found in each level of order factor results when the aggregated higher order hypothesis is significant. When higher order hypothesis are not significant but lower order hypothesis are significant, these would alert researchers and practitioners not to ignore individual dimensions which are significant and therefore important. The absence of performing the first, second and third order analysis in a research except for Valchos et al (2010) is a cause for concern. This research addresses this concern.

As a summary, the problem statement of the research is as follows. Malaysian logistics industry is growing significantly recovering from the 2009 economic crisis (Zecha, 2010). However, 3PL industry growth is trailing behind the overall growth of the logistics industry. The LPI of Malaysia ranked behind that of even Singapore though the logistics usage of Malaysia is higher than Singapore. There is a need to study 3PL service quality of Malaysia to enhance its share of the Malaysian logistics industry and also to improve its LPI standing. LSQ is very important for the 3PL to expand businesses by retaining clients and attracting new ones. In order to do so, it

would be useful to obtain an assessment of 3PL industry service quality from users' perspective to ascertain the service quality variables that are significant in influencing loyalty. There are other factors affecting a customer's relationship with a 3PL provider for example, spurious loyalty might develop in the relationship between the customer and 3PL provider. While there has been research in 3PL in Malaysia, it is limited to the relationships of the following variables such as information technology, service quality, behavioural issues and new market as found in the journal articles of Ali et al. (2008), Salleh and Dali (2009) and Zakaria, Zailani and Fernando (2010). The influence of functional and technical quality upon customer satisfaction and moderated by the influence of switching costs has not been dealt with yet in the Malaysian 3PL context. This is the purpose of this study. Therefore knowing what makes customer satisfied and truly loyal as opposed to spurious loyalty is examined. This is because spurious loyalty appearing as true loyalty might be easily abandoned by customers. Therefore suppliers must face the reality of customer satisfaction and the issue of true loyalty.

### **1.5 Research Questions**

To achieve the purpose of this research, the following questions were addressed:

- i) Which LSQ order factor positively influences customer satisfaction?
- ii) Does customer satisfaction positively influence behavioural loyalty in 3PL?
- iii) Does LSQ positively influence behavioural loyalty in 3PL?
- iv) Which order factor of switching costs moderate the relationship between customer satisfaction and behavioural loyalty towards 3PL providers?

## 1.6 Research Objectives

Most 3PL providers face various management challenges such as continual growth, globalization, and customer diversity. In the foregoing continual challenges, the aim of this research is to identify determinants of customer loyalty arising from relationships between the quality of 3PL providers and their customers' satisfaction by explicitly considering various variables of functional and technical aspects of LSQ. Therefore this investigation relies upon the development of a conceptual framework that integrates LSQ, customer satisfaction and loyalty.

With a highly competitive market (Li & Green, 2010), businesses become more challenging. Therefore in addition to customer satisfaction, there are other factors that might affect customer loyalty. Apparently switching costs is one of the elements that would affect the relationship between customer satisfaction and loyalty (Hauser, Simester & Wernerfelt, 1994; Sharma & Patterson, 2000; Lee, Lee & Feick, 2001). Given this awareness, 3PL providers should also know the impact of switching costs upon customer loyalty, and efforts should be made to convert any spurious loyalty to true loyalty.

Therefore the research objectives of this study in the context of 3PL are:

- i) To assess the relationships of LSQ at the first, second and third order factor towards customer satisfaction.
- ii) To assess the relationship between customer satisfaction and behavioural loyalty.
- iii) To assess the relationship between LSQ and behavioural loyalty.
- iv) To assess the role of switching costs at the first and second order factor in the relationship between customer satisfaction and behavioural loyalty.



## **1.7 Significance of the Study**

### **1.7.1 Theoretical Significance**

The conceptual framework of this research hinges squarely on the established cognitive-affective-conative model – with LSQ corresponding to cognitive dimension, satisfaction to affective dimension, and behavioural loyalty to conative dimension – making the framework valid. Conversely, the statistical significance of the conceptual framework from data analysis will underscore the continued validity and usefulness of the cognitive-affective-conative model. Therefore the conceptual framework and the cognitive-affective-conative model would possibly enjoy a mutual theoretical reinforcement.

Theoretically, this study is largely founded on the Social Exchange theory (SET) with the independent LSQ variable and the mediating customer satisfaction variable impacting upon the dependent loyalty variable. This conceptual framework of LSQ-Customer Satisfaction-Behavioural Loyalty enjoys the reciprocity founded in the aforesaid theory. As such the robustness of the SET was tested in this study as well. The conceptual framework invariably tested the mediating role of customer satisfaction. This study undertook what seems to be a pioneering study of the impact of switching costs upon the SET in the Malaysian 3PL context. This because the inclusion of switching costs in this study has also enriched the understanding of the robustness or response within the SET especially in the context of 3PL customer satisfaction to achieve and maintain customer loyalty.

In addition, the cost-benefit theory is helpful to explain when there is evidence of spurious loyalty. The costs refer to the costs borne by the 3PL users