THE EFFECTS OF VALUE CO-CREATION ON SUSTAINABLE LOGISTIC PERFORMANCE: FROM LENS OF LOGISTICS SERVICE PROVIDER IN MALAYSIA

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TABLE OF CONTENT

ABSTRAK

Logistik dan pengangkutan sektor memainkan peranan penting dalam mengekalkan dan meningkatkan aliran perdagangan antara ekonomi yang besar di dunia. Peranan sector tersebut semakin penting ke atas perniagaan dalam bidang logistik telah menjadi persaingan yang memberi tumpuan kepada pengurangan kos, ketangkasan dan peningkatan nilai kepada pelanggan melalui penciptaan bersama untuk mencapai prestasi unggul. Selepas itu, pembelian kajian ini adalah untuk menyiasat nilai untuk bersama penciptaan berkuatkuasa moderator pergolakan pasaran dan teknologi pergolakan yang mempengaruhi logistik mampan pembekal perkhidmatan logistik prestasi (LSP) kajian.Ini juga menyiasat kesan GST ke atas pengaruh logistik mampan prestasi logistik pembekal perkhidmatan soal selidik (LSP).Soal selidik telah dihantar ke kalangan pengurus LSP di seluruh Malaysia dengan kadar responden pada 62 peratus. Structural Equation Modeling berasaskan SmartPLS (SEM) telah digunakan untuk menilai model yang dicadangkan dan menguji hipotesis.Keputusan mendedahkan bahawa model DART nilai bersama penciptaan adalah positif yang besar ke atas prestasi logistik mampan. Kesan GST didapati adalah positif hanya ketara pada prestasi kewangan bahagian bawah prestasi logistik mampan. Pergolakan teknologi moderator terdapat pada hubungan antara model DART nilai bersama dan Prestasi Logistik mampan. Daripada moderator pergolakan pasaran terdapat kesan separa kepada hubungan antara model DART nilai bersama dan logistik mampan kajian prestasi .Ini adalah asal dan membuat sumbangan dalam beberapa cara .Pertama, yang menyediakan penemuan empirikal model DART nilai bersama penciptaan dalam sektor logistik yang mengisi jurang dalam kesusasteraan memeriksa kesannya terhadap mampan prestasinya di firma LSP Malaysia. Pandangan Berasaskan Sumber (RBV) diperluaskan untuk menyokong model teori. Kajian ini juga menyumbang hampir kepada pengurus logistik, dengan cara yang memahami sifat kompleks rantaian bekalan.

ABSTRACT

The logistics and transportation sector plays a critical role in maintaining and improving trade flows between the world's large economies. The growing on the business in logistics has become the competition focused on cost reduction, agility and increased value to customer through co-creation to achieve superior performance. Subsequently, the purchase of this study is to investigate the value to co-creation with moderator effect of market turbulence and technology turbulence that influence sustainable logistics performance logistics service providers (LSP).This study also investigated impact of GST on influence sustainable logistics performance logistics service providers (LSP).The questionnaires were sent to among LSP managers across Malaysia with the response rate on the 62 percent being achieved. Smart PLS based Structural Equation Modelling (SEM) was used to assess the model proposed and testing the hypotheses. Results revealed that DART model of Value Co-Creation was positively significant on sustainable logistics performance. The GST impact was found positively significant only on part finance performance under the sustainable logistics performance. The moderator technology turbulence was found on the relationship between DART model of Value Co-Creation and sustainable Logistics Performance. Then moderator market turbulence was found partial effect on the relationship between DART model of Value Co-Creation and sustainable logistics performance. This study was original and makes contribution in several ways. First, it provided the empirical findings of DART model of Value Co-Creation in logistics sector which fill a gap in literature examining its effect on sustainable on its performance at LSP firm in Malaysia. The Resource Based View (RBV) was extended to support the theoretical model. This study also contributed practically to logistics managers, in the way to understand the complex nature of supply chain.

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

In the year 1991, Internet was rapidly integrated into the way of doing business through the application of E-commerce (Zheng, 2009; Kenneth, 2008). In the early stages, the model was created for business to business communication such as electronic data interchange whereby information was transmitted between business supplier and business customer. With the advancement and development of information technology (IT), E-commerce has transformed into the model people used today, where transactions were basically borderless in terms of location and time.

The E-commerce landscape was further intensified due to changes in demographic, education level, IT knowledge which were key drivers in the E-commerce evolution and acceptance (SEDA, 2012). Additionally, with the increased intensity of lifestyle due to technology advancement has changed the buying behaviour of consumers, which further increased the dependency on e-commerce. Langley (2009) reported that the role of logistic service providers has changed through times. Traditionally, their role was to ensure goods were being delivered accordingly, on time and to the correct location. In other word, instead of being regarded as a functional unit of supportive industry in the supply chain, now, logistics has been viewed as a strategic business on its own. The intensifying magnitude of the logistics industry was partly caused from the growth of the international and global trade of companies (Ali et al., 2008) as well as the advancement of IT.

Advancement of IT, especially mobile devices for example Smartphone and tablets due to their low acquisition cost in terms of affordability, has contributed for higher usage of e-commerce. Evidently, in 2014,global spending through E-commerce in goods and services amounted to $1.5 trillion, and continue to grow. This was proven due to the advertising forecasted to spend on internet advertising will surpass the $160 billion in 2015 (Criteo, 2015). On 11 November 2014, one of the world biggest E-commerce platforms Alibaba.com managed to record a $9.3 billion sale within a day (Forbes Asia, 2014). This showed that consumers were more likely to shop online with spot-on advertisement due to the convenience it brings for shopping anytime and anywhere with just a simple mouse click or effortless tap on mobile screen.

In year 2015, E-commerce was estimated to contribute more than €140 billion or $154 billion to the global logistic market. Never the less it was forecasted to have continuous growth for the next few years (Transport Intelligence, 2015). E-commerce was touted as one of the game changer for business model logistics, which in the past only focused between manufacturer-market links, but now manufacturers were able to reduce and simplified their distribution channel even to the extent of direct to end users (Loh, 2014).Logistics were deemed as bringing value by adapting delivery conditions in a cost effective way to the customers (Stank et al., 2003). Boom of internet brought about new logistics trend, far from being obsolete by this new economy and the internet hype, transportation has transformed into a strategic activity. Restructuring and merging of logistic chains might have been taken place by the major logistics providers, yet the growing demand in terms of complexity and capacity need to be managed, while at the same time ensuring reliability towards customers' high expectation (Lasserre, 2004).

Therefore, logistics performance, measures a service provider's capability to constantly deliver demanded products within the entailed time frame at an agreeable cost (Bowersox et al.,2002). Consequently, success of E-commerce and logistics services was viewed as inter-dependent, whereby accomplishment of one is highly reliant on the success of the other. Evidently, the success of E-commerce was very much supported by the efficiency of the Logistics Service Provider (LSP). While at the same time, LSP will only become a major key player if the acceptance and usage of e-commerce advanced. In another word, the business performance and growth of E-commerce and LSP were inter-dependent on each other.

New small and medium scale entrepreneurs realised the opportunity and took advantages of advancement of E-commerce to provide delivery services, especially in a smaller scale for local distribution. This new found opportunities were further complemented due to the items purchased through E-commerce were mostly small items, which generated a relatively higher profit margin as compared to the traditional large console shipment. The emergence of these small to medium scale LSPs have not only created stiff competition to the existing LSP companies but somewhat threatened the few monopolistic LSP companies in terms of declining market shares, which were mainly encouraged due to the low entry barrier.

In the early days, major LSPs were key players in the supply chain due to the necessity which brought abundance of business opportunities. Today, due to the highly competitive environment, emerging trends in the corporate world necessitates speed and steady flow of business transactions which were considered the most functional and applicable strategies to acquire superior performance, thus LSPs were required to refocus on cost cutting measures as well as establishing customer relationship in order to ensure continuous growth to the companies.

Currently, to be competitive, LSPs have to offer additional services to add value to their main role, such as assisting in arranging the goods and inventory count. The increasing complexity of the global supply chain had forced the service providers to reposition their focus on the three most significant challenges in logistics, namely managing visibility of information and product movement, such as ability to track orders, inventory management and real-time shipment; managing cost structure and last but not least reliability in securing services (Nagarajan &White 2008).

As mentioned, to be competitive, LSPs no longer the sole power possessor, on the other hand, they were required to balance the power by imparting certain authorities to the end customer in order to provide a better supply chain of products and services. Hines (2004) stated with a sophisticated view on the connection in the supply chain that works together effectively and efficiently. The ultimate goal was to generate higher customer satisfaction and value at the final delivery point to the end consumer. This system builds value beyond the cost of network building which in return achieving far more revenue for those working and collaborating within the network. Hence the more established LSP companies need to re-tune their strategy to create competitive advantage via better service quality, competitive price as well as working closely and together with customers through application of Value Co-Creation concept. This new found concept support the finding of Fawcett and Cooper (1998), whereby the study indicated that traditional logistics performance practices, which focused on the five categories, namely asset management, cost, productivity, consumer service and quality of logistics no longer offers the acumen required to manage for competitive edge in present-day global market dynamics. A more assertive and novel performance system was needed as the focus of influence was now closer to the customers, hence, the importance of fostering a customer centric services was imminent to ensure customer satisfaction.

Owing to the traditional approached was consider to be inward-looking and least focus were given to customer experiences (Stock & Lambert, 1992), bigger attempts were required to associate with customer's needs (Ohmae, 1988).

All these issues and challenges point to the research done by Diaz-Mendez and Gummesson (2012), where the concept of Value Co-Creation of the service, which based on service dominant logic, was an appropriate concept for the LSPs. In terms of logistics sector; the Value Co-Creation can be used to formulate customers' trust through providing an opportunity for them to create their own satisfaction with the service to be provided. Fulfilling customers' needs and demand was the key to achieve an above average performance through service differentiation; therefore, acquiring knowledge and investment to understand the customers' needs and demand was crucial. Most LSPs nowadays not only concentrate their effort in the local businesses but expanded into the international market to a certain extent which in turn needs to provide even more peripheral goods or services in order to be more competitive in order to overcome these challenges.

Dey et al. (2011) pointed out that the role of logistics will be an important function for any companies to successfully achieve a sustainability policy, due to the amount of costs incurred and the prospect to recognize and reduce inefficiencies as well as reduce the negative environmental impact. Traditionally, the emphasis of corporate bottom line has been about increasing financial gain through cost reduction and increased sales, economic perspective. Nowadays, there were intensifying concerns on subjects such as the diminishing of natural resources; global warming and greenhouse effect have further intensified the importance of aligning the sustainability aspect into company strategies (Lee, 2010). The subject of environmental sustainability concentrating on the activities of LSPs has been gaining substantial interest (Colicchia et al., 2013). Thus, the business impact on environmental sustainability has increased public consciousness. LSPs need to remodel their

practices to ensure a lesser negative environment impact (Lau, 2011). This new found sustainable initiatives approach can be used by LSPs to provide service differentiation within the industry from their competitors, such as costs reduction and enhancement of customer services (Dey et al., 2011).

1.1 Problem Statement

In today's supply chain landscape, logistics activities in the supply chain have become a key function in the support of E-commerce advancement. According to PROLOGIS (July 2014), E-commerce was changing the operations of retail and logistics industries. It has also transformed the logistics distribution activities from the traditional way to direct to customers. Globally, E-commerce was expected to grow annually and reaching $750 billion by end of 2014. However, with the immense growth of the e-commerce, logistics service providers need to exhibit above average performance to be able to support the growth.

Besides, globalization which has changed the world into a borderless world generates even higher significance in the logistics activity due to its increased demand anywhere and anytime. Therefore the floodgate was open for more players due to its higher profit margins as well as low entry barriers, which in turn required all players to have their own competitive advantages in order for them to sustain. Nevertheless, price and dependability were not the major elements for consideration in terms of customers' buying preferences. On the other hand, the verdict was on the ability to innovate and fostering a customer centric service through Value Co-Creation.

Porter (1995) suggested that an organization need to create differentiation and preserved its product or services, of which allowed the organization to surpass the competition. Hence, the Value Co-Creation concept, which emphasised on creating value towards customers through collaboration, was essential for businesses. As such, the organization would then be able to foster and preserve long-term customer relationships by centred on customer satisfaction and to create value together. The mainstream literature has commonly defined logistics management as part of supply chain management, and supply chain frameworks tend to characterize LSPs as supporting actors to manufacturing firms and as non-value-adding entities (Rabinovich & Knemeyer, 2006).Although the number of studies on LSPs has increased, few have addressed for the value creation; exceptions are Berglund (2000) and Huemer (2006). Berglund (2000) related LSPs' value creation to their functions, and Huemer (2006) related it to their mediating role. Both studies were conducted at the firm level, although they also acknowledge the importance of collaboration for LSPs to create value.

In logistics operations, better greening capability enables LSPs to deliver logistics services to their customers more efficiently (Lun et al., 2015). Implementation of sustainable logistics operations requires setting up additional appropriate logistics infrastructure for the arising flows of used and recovered products, which adds an additional level of complexity to traditional logistics network design (Le at al., 2010).

Decisive empirical outcomes that associate developments in logistics performance to overall company performance were not easy to attain (Stank et al., 2003). Though, Daugherty et al. (1998) found that distinguished levels of logistics service performance were indirectly related to market share through consumer satisfaction and loyalty. However, the antecedents to achieve logistics service performance were not addressed. According to Yazdanparast et al. (2010),consideration through attention to detail has dedicated in discovering the creation of

logistics value from the service dominant logic viewpoint. Thus, encouraging customers to co-create value was considered as an essential strategy for businesses to not only fulfil their customers' demands but to achieve a competitive edge. LSPs have taken steps to pursue environmental objectives by involving customers in their operations. This study defines greening propensity (GP) as ''involvement of customers to perform logistics activities to achieve environmental performance" (Lun et al., 2015). However, most studies done were on the co-creation of values in firms' performances. Still, the comprehensive understanding of the impact of co-creation value in a sustainable logistics performance viewpoint was still lacking.

Thus far, a search on Value Co-Creation showed that most studies were carried out in the service-oriented industry, and evidently, in the past decade Value Co-Creation concept emerged predominantly in both marketing and purchasing literature (Engelseth&Törnroos, 2013). This study has highlighted collaborative value creation initiatives from a LSP perspective and, in contrast to the few firm level studies on the value creation of LSPs, has also acknowledged a system level of analysis. The study presents LSP strategy and value creation as a cooperative endeavour, which was in keeping with the growing interest in cooperative strategies as expressed (Wang et al., 2014).There was still a great trade-off between theory and practice in combining the respective concepts. In theory, a combination of value co-creation processes, relationship management and sustainability seems to be manageable. In practice, it will be a great challenge, especially focusing on the whole Value Chain(Arnold, 2015).

This might be due to the rigid nature of logistics and transportation business, where the interaction and Value Co-Creation with the customers were being overlooked thus less researched.

In Malaysia the concept of Value Co-Creation was still fresh and has not been applied as an organizational best practices and culture in the most of the firms. Through a literature search on available online databases for research and studies on Value Co-Creation in Malaysia, only two sectors were found to have used the concept of Value Co-Creation. These two sectors were education and retailing, which were studied by Ahlan (2013) and Shamim et al. (2014) respectively.

Logistics has long been recognized as a potential source of competitive advantage for firms (Bowersox et al., 2000). Shipment frequency was positively related to fuel consumption as well as carbon emissions. Subsequently higher order quantity and less frequent transportation would allow firms to better utilize their vehicle capacity or employ a vehicle with greater transport capacity to save total fuel consumption and reduce carbon emissions (Tang et al., 2015). LSPs provide different logistics service bundles, which we defined as ‘‘a group of highly related and complementary logistics activities that enables a firm to convert its business routines into a formidable means to satisfy different logistics service needs (Lun et al., 2015).Sustainability addresses the companies' activities to implement sustainable and social-ecological requirements across the whole value chain(Arnold, 2015). Logistics performance can be lead time, on-time delivery, and service level. Measuring logistics performance moved the focus from strategic, financial performance to operational performance enabled by information sharing between supply chain actors (Papakiriakopoulos & Pramatari, 2010). Ferreira et al. (2012) claimed that “implementing various performance indicators and measures and setting targets reflect the strategic goals and objectives of an organization” (p. 683). It was not enough to merely measure performance; rather measurement should be expanded into performance management, which implies that a number of sequential activities – from strategy to action – were viewed as a whole (Forslund & Jonsson, 2007; Papakiriakopoulos & Pramatari, 2010). Knowledge about logistics

performance management was mainly based on manufacturing companies (e.g. Bourne et al., 2002; Forslund and Jonsson, 2007).

Logistics activity in Malaysia was growing mainly due to the manufacturing industry and e-commerce. The number of the cargo delivered by LSP increased year per year, as shown by one of the major air freight, MAS Kargo shipped 0.75 million tonnes in 2014 as compared to 0.66 million tonnes in 2013 (www.maskargo.com).However, only LSPs with good performance can continue to run the business and achieving sustainability. Therefore, the concept of Value Co-Creation was the key in achieving sustainable logistics performance, but the importance and application seems to be overlooked in literature. Consequently, this study was to emphasize on the importance and application of Value Co-Creation concept which enable LSPs to achieve a sustainable logistics performance.

Owing to Value Co-Creation involved internal party of organization and external party of customer, hence external collaboration were deemed an essential approach for the organization. Consequently, organizations concentrating on external collaboration approach with intention to develop the company's core competencies that push competitive advantage need to take into consideration of the effect of market turbulence, which has a moderating factor in contributing to the outcome and performance (Wang et al., 2015). Study by Terawatanavong et al. (2011) on buyer-supplier close relationship, indicated that external collaboration facilitates company to overcome the dynamics of environment. However, there was a need to be aware of the effect of technological turbulence which might become unfavourable towards performance in enhancing a close relationship between buyer and supplier. Market turbulence and technological turbulence were two of the most important types of uncertainty(Terawatanavong et al., 2011). The majority of studies on logistic which link between Value Co-Creation and logistic performance have not investigated the moderating role of market turbulence and technology turbulence. This strategic perspective

appears to predict that market turbulence and competitive intensity may alter the effects of a firm's innovativeness on its business performance (Tsai & Yang, 2013). The extent to which the buyer can enhance its performance in its working relationship with market-oriented suppliers depends on conditions of technological turbulence(Terawatanavong et al., 2011). Inconclusive findings of technological turbulence were found to negatively moderate the linkages between internal lean practices and operational performance and internal lean practices and organizational performance. Thus, the potential moderating influence of market turbulence on this relationship warrants additional investigation across different settings (Terawatanavong et al., 2011).Therefore, this study which evaluates the impact of Value Co-Creation between the customer and LSPs would take into consideration of the effect of market and technological turbulence in moderating the outcome of sustainable logistics performance.

Finally, as the recent implementation of Goods and Services Tax (GST), which affected most of the industries in Malaysia, would eventually affect the bottom line of LSPs. Thus GST was taken into consideration in this study as well to determine its impact in LSP achieving sustainable logistics performance. The impact of GST in Malaysia has been under-researched in the logistics literature.

The expected changes in government taxation policies and regulation of service providers would be the most important factors in the process of development of the industry. That apart, growth of the overall logistics network from the perspective of trade would be essential in assisting the government of India's 'Make in India' strategy. In the report 'Indian Logistics - Taking Giant Leaps Forward', JLL addresses logistics-related properties as a separate and individual asset class within the industrial real estate sector. The paper estimated the impact of E-commerce on the industrial real estate sector as well as the effect of future government taxation changes(Kothary, 2015).

1.2 Research Questions

1) To what extent has DART Model of Value Co-Creation impact on firm‘s sustainable logistics performance?
2) Does the technology turbulence moderate the relationship between DART model of Value Co-Creation and sustainable logistics performance in LSP firm in Malaysia?
3) Does the market turbulence moderate the relationship between DART model of Value Co-Creation and sustainable logistics performance in LSP firm in the Malaysia?
4) Does the GST have any impact on firm‘s sustainable logistics performance?

1.3 Research Objectives

For this study, the perspective of the logistics service providers (LSP) will be represented by their managers. This study will also examine their role on the effect of Value Co-Creation in logistics companies. The aim of this study was to achieve the following objectives:

1) To examine the relative importance impacts of DART model of Value Co-Creation on the sustainable logistics performance of LSP.
2) To investigate the moderating effect of technology turbulence on the relationship between DART model of Value Co-Creation and sustainable logistics performance.
3) To investigate the moderating effect of the market turbulence on the relationship between DART model of Value Co-Creation and sustainable logistics performance.
4) To examine the relative importance impact of GST on the sustainable logistics performance of LSP.

1.4 Significance of the Study

1) Theoretical contributions:

This study was significant in theoretical, social and practical perspectives. From the theoretical perspective, this study was aimed at highlighting the importance of the dominant actor within the value chain. It will then extend the knowledge through the investigation carried out in logistics industry as well as the logistic managers by understanding the effect of the DART model of Value Co-Creation on their respective company performance, which were less research in the logistic industry.

2) Practical contributions:

On the practical perspective, managerial implications and solutions were deliberated to provide answers to the concern of the managers who intend to expand their capacities and performance of their company. The value of co-creation will allows the firm to face any challenges in the present and future market situation. LSPs with high performance will help in the creation of operation efficiency, which in turn help the firm to venture out to the international market with the objective to increase trade value. Through Value Co-Creation, firm ventured globally, would not only understand the needs and demands of the customer, but having the capability to gather first-hand information on local culture and customs which were considered as one of the major setback for global firms.

This study will show the value added and significance of utilising the DART model in Value Co-Creation to achieve sustainable logistic

performance. This study will also indicate if technology and market turbulence influence in the application of the DART model. Finally, this study will try to examine if there was any impact on sustainable logistics performance with the introduction of GST.

3) Social contributions

The social can enjoy the benefit from the better logistics performance. The good logistics performance will create more jobs to the society. The efficient of logistic and make sure the industrial can get the cargo on time. The efficient of logistics performance the manufacture can reduce the cost for holding the material and improve the cash flow and the cost of production was reduced. Thus the consumer can enjoy better -priced products.

1.5 Definition of Key Terms

In order to prevent any confusion as well as having a common understanding of the terms used in this study, the concepts of the key terms are defined as per listed below:

1) Value Co-Creation

Value Co-Creation was as per defined by Prahalad and Ramaswamy (2004), as a process when the client and the organization were intimately related to jointly creating values in the relationship that was sustainable to the firm and at the same time unique to an individual customer.

2) Logistics performance

As per Cohen and Roussel (2005),logistics performance was defined as the extent in which the organization was capable of achieving sustained competitive advantage.

3) Sustainable logistics performance

Logistics being a key player in the supply chain has a major responsibility in reducing emission of greenhouse gas as well as promoting renewable energy. So far, the contribution of logistics to sustainable initiatives has been on reducing logistics costs. In spite of this, the potential of sustainable logistics in reducing CO2 emissions in logistics and to the extent that were cost effective was a requirement to make the transition successful. On the other hand it was also the task for sustainable logistics to identify the requirements for new options.

As there was no specific definition on sustainable logistics performance, hence for this study, it will be described as the continuity in achieving logistics performance by considering triple bottom line such as social, environmental (or ecological) and financial outcomes.

4) Market turbulence

Market turbulence refers to “changes in the composition of customers and their preferences” (Slater & Narver, 1994, p. 51).

5) Technology turbulence

Technological turbulence refers to “the amount and unpredictability of change in production or service technologies” (Slater & Narver, 1994, p. 51).

6) Goods and Service Tax

Goods and Service Tax (GST) was enforced by the Malaysian government on 1 April 2015, on the supply of products and services at every phase of the supply chain until the final customers or end users. GST was a consumption tax imposed on all sectors of industries in Malaysia (www.gst.customs.gov.my).

7) Logistic Service provider

LSPs as a company who provide logistics services and its can provide logistic services more than clients at any given time. Those clients can choose to outsource some portion or all their logistics process flow to LSPs to reduce the cost and efficient .Example of the common service provide by are warehousing, inventory management cross docking, transportation and freight forwarding

1.6 Organization of Dissertation

This report was structured in five chapters. Chapter one was on introduction where an overview of the study was being described. Chapter two was the literature review about previous studies undertaken which were related to Value Co-Creation, DART model, sustainable logistics performance, market turbulence and technology turbulence and impact of GST; as well as the theoretical framework and hypotheses of this study. Chapter three will illustrate on the methodology used for this study, where all the data and variables in terms of research design, sample collection, measurement of variables, and the method of data analysis and expected outcome were elaborated. Chapter four present the analysis results of

the study. And finally Chapter five would depict on the discussion and conclusion of the study followed by the study limitation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Logistics Service Providers (LSP) were defined as companies that execute logistics activities for customers either having a wholly or partially involvement which depend on the customers' request or need. Logistic activities not only embrace activities such as packing, warehousing, transporting and others, but also included prevalent intention such as those associated with the freight bill, tracking and tracing as well as customs clearance. Kraut et al. (2005) had said that LSP can be categorized and defined into four different types. Firstly, there were the third party logistics (3PL), which usually defined those LSP with long-term outsourcing of logistics affairs by a manufacturer (Harry et al. 1996).Second type referred to those shippers and carriers which were classified as the suppliers and buyers of transportation. Thirdly were those freight forwarders which act as international trade experts that offer a diversity of the services with convenience. And the final one were those shipping companies and lines run activities of transportation, such as ocean liners or ocean freight shippers.

Additionally, Sink (1996) argued that LSPs can also be characterized based on the typical industrial logistic services that were being provided. These logistics services were transportation, warehousing, inventory management, order processing, information systems and value-added activities (Table 1.1).

Table 1.1

Activities of Logistics Service Providers (Sink et al., 1996)

Transportation	Shipping forwarding, (De) consolidation, Contract delivery, Freight bill payment/audit, Cross-Docking, Brokering.
Warehousing	Storage, Receiving, (Re-) Assembly, Return good.
Inventory Management	Forecasting, Coactions analysis, Consulting.
Oder processing	Order entry/fulfilment, Consignee management, Call centre.
Information Systems	EDI, Routing/scheduling, Artificial Intelligence, Expert system, Bar coding, RFID, Web-based connectivity, Tracking and Tracing.
Value-added activities	Design and Recycling of packing, marking/labelling, billing, call centre activities.

Source: Sink et al., (1996)

2.1 Logistics and Transportation in Malaysia

E-commerce transactions in Malaysia was estimated to grow from RM1.8 billion in 2010 to RM5 billion by year end of 2014 (Ho, 2011). Logistic services in Malaysia, was an economic lifeline of the country. Logistic services in Malaysia have taken an important role not only in international trade but local transportation as well. There were four modes of transportation in Malaysia, namely sea, road, rail and air (Table 1.2).Hence, Malaysia was experiencing a significant market share in freight traffic in South East Asia due to its strategic geographical location, whereby distribution points were located throughout Peninsular Malaysia, Sabah and Sarawak.

In year 2005, logistic industry contributed 8.8 per cent to the total Gross Domestic Product (GDP) of Malaysia. Additionally, Malaysian Government set up a logistic council, Malaysia Logistic Council (MLC) in February 2007, not only to focus on logistic, but also act as the institution to coordinate all strategies, policies, regulations and rules for the logistic services in Malaysia.

In Malaysia, there were more than 22,000 companies involved in the logistic industry in 2015. The logistic industry was expected to grow by 11.5 per cent or RM121 billion in values per year. The growth of logistic industry in Malaysia has made it a point for consideration in the 10th Malaysia Plan as well as part of the Malaysia Economic Transformation Program (ETP).

Table 1.2

Logistic Check List of Malaysia

RAIL	**AIR**
Keretapi Tanah Melayu Berhad (KTM) - Provides land feeder services to: • Five port container terminals (Butterworth, Westport, Northport Pasir Gudang and Tanjung Pelepas). • Three inland ports (Ipoh, Nilai and Segamat). • Four inlands container deport (Three at Prai, Penang and one at Seri Setia Selangor). • Four freight terminals. - Total freight traffic was 4.4 million tonnes in 2006. - Container handling was 298,206 TEUs. - Cargo volume is projected to increase to 6.2 million tonnes in 2012. - Freight traffic is predicted to reach 18.6 million tonnes by 2020.	Companies: - Air cargo carriers and integrators. - Airport and cargo terminal operators (ground handlers). - Air Cargo agents or airfreight forwarders. - Airport regulators: 5 international airports (KLIA, Bayan Lepas, Senai, Kuching and Kota Kinabalu) plus 15 domestic airports. - Total cargo handled: • In 2006, 869,924 tonnes. • In 2007, 838,651 tonnes. - Cargo volume is expected to increase by 12 per cent in 2011, with KLIA contributes a 74.8 per cent. - In 2012, cargo volume is expected to hit 925,000 tonnes. - Air freight is forecasted to handle 2.4 million tonnes by 2020.

SEA	ROAD
- 5 major ports (Port Klang, Tanjung Pelepas, Penang, Kuantan and Bintulu) and 24 main ports. - Total ports throughput volume : • 2006-13,594,847 TEUs • 2007-15,338,007 TEUs - Cargo volumes forecasted to increase to: • 493.7 million tonnes in 2011. • 543.13 million tonnes in 2012. - Expected to handle 36 million Teus by 2020.	- The North-South Expressway (NSE) is the longest expressway (772 km) running form Bukit Kayu Hitam in Kedah near the Malaysia-Thai border to Johor Bahru at southern part of the Peninsular Malaysia. - East Coast Expressway (ECE) is an extension of the Kuala Lumpur-Karak Expressway, which starts from Kuala Lumpur to Karak linking the West Coast and the East Coast of the Peninsular Malaysia. It passes through 3 states, Selangor, Pahang and Terengganu. ECE III is an extension of the ECE II which is under construction. ECE III will connect Kampung Gemuroh, Kuala Terengganu to Kota Bharu, Kelantan and end at Pengkalan Kubor with an approximate length of 171 km. Phase IV of the ECE runs to south, connecting Kuantan and Johor Bahru. - Pan Borneo Highway also known as Trans Borneo Highway, is a road network connecting two states in East Malaysia, Sabah and Sarawak running through Brunei. The section that connects Sarawak, Sabah within Brunei is Lawas -Temburong (Brunei). The length of the entire highway is estimated as 2,083 km (Malaysian section).

Source: News Sunday Times, 18 December 2011 page 11

2.2 Resource Base View (RBV)

The theory of Resource Base View (RBV) was acknowledged as the most significant structure for comprehending strategic management (Barney 1991) and was used to attain better performance and competitive edge for the organization. RBV evaluates the link between internal characteristics of an organization and its performance, which in turn facilitate the organization to achieve higher profitability (Rungtusanatham et al, 2003).Barney (1991) argued that sustainable competitive edge derives from an organization's resources and abilities, which incorporates skills of management, operational processes and competences, as well as information and knowledge. Therefore, these tangible or intangible resources, which originate from financial, human and technological, will enable an organization to implement value-creating strategies. As studies carried out by Russo and Fouts (1997) and Bharadwaj (2000) stated that capabilities of an organization refer to their ability to gather, incorporate and implement valuable resources and capabilities gain a sustained competitive advantage. Earlier studies on RBV (Prahalad & Hamel, 1990; Barney, 1991; Muthuveloo, 2012) showed that organization having the capabilities to turn their valuable resources into competitive advantage hold the four key features that a resource encompass, namely valuable, rare, non-tradable and non-imitable.

There were two basic assumptions about resource and capabilities which derived from RBV that an organization may control. Firstly, the resource was heterogeneous, meaning organizations within the same industry having diverse resources and capabilities. In second assumption, resources were non-tradable, suggesting some resources and capabilities disparities amongst organizations were long term due to the high cost in acquiring or developing them. These two assumptions of RBV explained why some organizations surpass other organization in the same industry through value-creating (Barney, 1991), which enable

the organization to add value from the resources and capabilities that were not easily substitutable.

2.3 Value Co-Creation

According to Michael Porter (1995), if an organization can create any difference which can be preserved, then this will enable the organization to outperform its' rivals. Hence, the ability to provide excellent value to customers was a necessity for businesses, especially in this high technology era. As such, when the organization attempt to build and preserve long-term customer relationships, it would need to stress on the importance of formulating customer satisfaction over the perceived value of customer.

The concept of co-creation signifies companies having to interact with their customers to harness their innovation potential. This interaction with both provider and user was to deliver a personalized experience through the co-creation concepts, which in turn enabled the company to stay viable and having an edge over its' competitors (Prahalad& Krishana 2008).Moreover, Value Co-Creation was a domain in which the company has the profound interactive exchange of ideas and a deep channel of communication with its customers (Tijmes, 2010).The Value Co-Creation was identified as the emerging trend in the business world to attain competitive edge (Prahalad&Ramaswany, 2004; Prahalad &Krishnan, 2008). Therefore, in general terms, the uniqueness of co-creation of value was defined as individual consumer and company were both closely contributed in creating the greatest value for both the consumer and the company, which eventually enable the company to achieve sustainability (Prahalad& Ramaswamy,2004; Prahalad& Krishnan, 2008; Restuccia,2009).The Value Co-Creation was a desirable concept to assist companies in

highlighting customer's point of view in order to improve the front-end process of identifying customer's needs and wants (Lusch&Vargo, 2006).

Literature reviews showed that companies already adopted the practices in their customized products where customers were directly involved in the production process. This production process required high-quality engagement with customers for the customization of products; hence customer training was essential with the utilization of technology. As a result, it enables the firm to standardize their method and business activities in creating value to the customers. In reality, the more active in the role of customer, the more profit the company would gain. Value Co-Creation were likely to influence how companies conduct their businesses and how they look at their businesses, while at the same time acknowledging their customers as a business partners (Prahalad & Ramaswamy 2004).Therefore, co-creation of value was becoming more relevant in terms of concept and practice generally in the marketing world and specifically in business to business environment.

2.4 DART Model

Prahalad and Ramaswamy (2004) stated that the value was to be co-created by both the company and customer. From a company's standpoint, this will enable the company to learn about the customer's needs, wants, wishes, incentives and behaviours concerning product or service features and functions. Additionally, company will be able to reduce any ambiguity in capital obligations as well as identify and eradicate probable environmental risk.