Strategic Choices: A Composite Model for Logistics Service Providers

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Abstract

The purpose of this paper is to reveal strategic choices of third party logistics service providers in the face of an uncertain external economic environment and in the presence of the firms’ internal resource capabilities. Therefore, a framework is developed using Market-based view (MBV) and Resource-based view (RBV) theories in a parallel manner and is tested using path analysis. The findings show that both the external economic environment and internal resource capabilities influence strategic choices (operations emphases) of low cost and differentiation. This paper contributes by extending the theories of MBV and RBV to logistics/supply chain management and develops a composite strategy model for research.

Keywords: strategy, logistics, market-based view, resource-based view.

Introduction

Malaysia has positioned itself strategically in the service-based economy as the service sector contributed to 54.6% of the Malaysian Gross Domestic Product (GDP) in 2012. Since joining WTO (World Trade Organization) on 1st January 1995, opportunities have presented themselves and challenges emerged from the global liberalization of services. In 2012, Malaysia improved its ranking to become the 24th and 25th largest exporter and importer respectively in world trade (WTO, 2013). With external trade comes along the requirement to deploy a combination of different transportation modes like air, sea, rail and road. This would answer the call from exporters and importers to develop 3PL by arranging for services such as loading and unloading of goods, freight transportation overland by road and rail, and customs clearance for air and sea cargo.

In March 2013, Malaysia’s total trade grew by 1.6% reaching a value of RM114.94 billion compared to March 2012. Trade with France increased by RM1.52 billion; the People’s Republic of China RM1.04 billion; India RM693.5 million; the United States of America RM580.4 million; the Republic of Korea RM482.2 million and Thailand RM271.1 million with all these countries as major contributors to the positive growth of Malaysian trade (Malaysia External Trade Statistics, 2013). The growth was made possible by the
strategic location of Port Klang in Malaysia situated along the Straits of Malacca which is the world’s busiest shipping lane. The port has now moved up from 13th spot in 2011 to 12th in the World Container Port League for the year 2012 (Bernama, 2013). Therefore, the expansion of external trade has surged along with the growth of port logistics activities and demanded for more efficient and effective logistics services.

Despite the remarkable expansion of the industry, Malaysia was ranked a mere 29th place on the Logistics Performance Index (LPI) scores obtaining only 79.8% as compared to Singapore, the best performer in the world (Arvis et al., 2012). The poor performance could be due to the relatively higher logistics costs which greatly constrained the competitiveness of the Malaysia economy. The logistics costs of Malaysia relative to its GDP (13%) is higher than Singapore (8%) (Liu, 2012). This has put pressure on logistics providers to balance the conflicting challenge of low cost and better service to remain competitive in managing the complex international and domestic supply chain (MITI, 2006). In order to overcome the higher costs and provide broader service offerings, a company like Freight Management (Malaysia’s largest sea freight company) reviewed their internal organizational process and improved technology within its managerial IT capability to enhance strategy. Broader services entail service planning involving functional departments to design services for low cost and differentiation to achieve better performance.

This paper focuses on Porter’s five forces of external analysis to shape strategies and allow a company to consider comprehensively about their industry structure, and take pre-emptive actions against threatening moves of potential or new entrants, substitutes, rivals, customers and suppliers to sustain its superior performance (Porter, 2008). Several researchers (Bellingkrodt and Wallenburg, 2013; Sohal and Rahman, 2013; Mohezar et al., 2013; Daud et al., 2013; Wang et al., 2006; Huo et al., 2008) saw the paramount importance in the choices of competitive strategies (low cost or differentiation) for 3PL to obtain business and compete profitably in its dynamic internal and external environment. Therefore, the research question is “Does MBV or RBV drive 3PL firms to emphasize low cost or differentiation in an uncertain economic environment?”

The literature related to this study is presented in the next section. It contains the theoretical background of the RBV and MBV perspectives, followed by the development of conceptual framework and hypotheses. Subsequently, research methodology and data analysis are described, followed by discussion of the findings. Finally, it gives a conclusion, limitations and future research directions.

Literature Review

This section consists of literature review of the theories which render support to the consolidation of the relationships among the variables in the conceptual framework.

Internal and External Environment Analysis

The RBV of a firm is a useful approach to identify the internal resources and capabilities that are crucial determinants of competitive advantage leading to firm performance (Teng and Cummings, 2002). A resource is defined as an available stock or asset, tangible or intangible, that is owned or controlled by the firm (Warren, 2002). Whereas, capability is defined as a complex bundle of distinctive resources exercised through organizational processes that ensure coordination of functional activities (Day, 1994). Within the classical RBV theory, a firm gains sustainable competitive advantages by ensuring appropriate exploitation of a bundle of distinctive resources which are valuable, rare, non-substitutable and inimitable (Barney, 1991). Only by meeting the preceding four resource criteria would the resources be capable of contributing to the attainment of competitive advantage to achieve performance (Newbert, 2008). The two resources studied in this research are functional involvement and capability of IT.
Resources which are valuable will enable a firm to conceive and implement strategies to improve its efficiency and effectiveness (Barney, 1991). Functional involvement defined as the extent of the participation of the executives from different functional areas in the overall strategic formulation and planning for the company (Huo et al., 2008) is a valuable resource. Similarly, the capability of IT which offers a great opportunity to improve logistical efficiency, effectiveness and flexibility is also considered a valuable resource (Sum et al., 2001). The capability of IT is defined as the extent of support to business and operations by applying a series of hardware, software, databases and other devices (Liu et al., 2010).

The rareness of a specific resource would depend upon the combination of a particular resource and its difficulty to be imitated by rivals (Bharadwaj, 2000). Therefore, the combination of resources from functional areas participating in competitive strategic formulation is a specific resource considered rare and unique necessary for the successful implementation of a strategy. IT such as information processing system is also considered rare because it is deeply embedded in a firm’s formal and informal decision making process providing the potential of continual competitive advantage (Barney, 1991).

Non-substitututability is defined as a resource that has no strategic equivalent and no other potentially competing firms can implement the same strategies (Barney, 1991). Central to the view of non-substitutability are the activities coming from cross-functional experiences. The capability of IT in planning and formulating a competitive strategy based on their own expertise and unique capability are accumulated over time from their respective functional areas.

Inimitability requires a combination of the three resource characteristics of unique historical conditions, causal ambiguity and social complexity to qualify a resource as inimitable (Wade and Hulland, 2004). Cross-functional team with a history of interactions may have pre-existing routines for further interactions (Helfat and Peteraf, 2003). At the same time, capability of IT of a firm also provides it access to the firm’s unique historical conditions by allowing the firm to draw upon confidential information such as past ordering behaviours of their customers for strategic planning purposes.

The second characteristic of inimitability resource is causal ambiguity. This is found within the concept of human assets – the creation of competitive advantage leading to firm performance - which is not easily and well understood because of its inherent cognitive process (Coff, 1997). Since human asset is the substance of cross-functional involvement, it is considered a resource difficult to trade and imitate and therefore forms a firm’s competitive advantage. Similarly, Wade and Hulland (2004) claimed the development of greater capabilities of IT over an extended period of time is embedded in a company and is also causally ambiguous.

Social complexity involves human assets, which comprises interpersonal relationships, corporate culture, and collection of routines, skills and employee knowhow, cut across the functional areas in formulating a strategy (Teece et al., 1997). Human assets are difficult to duplicate and understand by competitors and therefore functional involvement is a complex resource to achieve competitive advantage and improve firm performance. As for IT resource, Barney (1995) suggested that the exploitation of physical technology by people in a firm often involves the use of socially complex firm resources when implementing a competitive strategy.

Before the introduction of the MBV, traditional industrial organization (IO) theory was used based on the structure-conduct-performance (SCP) paradigm originally posited by Bain (1956) and later modified by Porter (1980) with the five
forces model. While the concept of MBV has been SCP, Porter’s five forces framework refers structure to industry structure containing the five forces (Spanos and Lioukas, 2001) and conduct to generic strategies (the firm’s choice of key decision variables). Hence, MBV is used to shape firm strategies in achieving performance after considering environmental features and competition within industries (Müller et al., 2010).

**RBV and MBV Perspectives**

The main reasons for employing both theories are (1) the analysis relying on RBV is internally focused and more oriented towards the longer run while (2) MBV is market or externally focused and more oriented towards the short run (Makhija, 2003). Peters et al. (2011) also found the importance of RBV and MBV in the theory and practice of strategic management. However, the role of RBV and MBV are somehow interestingly debatable and yet complementary (Makhija, 2003). Therefore, it would be useful to discover the roles of RBV and MBV in the study of strategy making by 3PL specifically in Malaysia.

**Conceptual Framework**

In this research, development of operations strategies through environmental analysis is developed principally based on the works of Porter (2008) and Huo et al. (2008). Figure 1 is the conceptual framework of this research based on the theoretical foundation consisting of RBV and MBV theories.

![Figure 1: Conceptual framework](image)

**External Environment and Operations Emphases**

Porter’s five forces is established since 1980 in Porter’s classic text book Competitive Strategy and has been applied in IO analysis to business strategy (Spulber, 2003). The five forces analysis is considered still valid and used to indicate several possible competitive strategies to successfully compete within the industry (Hopkins, 2008). While Porter (1980) categorized environment analysis into five forces, this study aggregates the five forces into two major categories (variables) following that of Narayanan and Fahey (2005). The two variables are extended rivalry (potential/new entrants, substitutes and rivalry) and bargaining power (customer and supplier). With
respect to business strategy, Huo et al. (2008) suggested two dimensions of operations emphases namely low cost emphasis and differentiation emphasis. Low cost emphasis is defined as a company competing by being the lowest cost service provider (Huo et al., 2008). Differentiation emphasis is defined as a company differentiating its services from its competitors’ services in areas such as quality, speed and flexibility while cost is not the major strategic focus (Huo et al., 2008). Therefore, the hypotheses are:

**H1a.** There is a positive relationship between extended rivalry and low cost emphasis.

**H1b.** There is a positive relationship between extended rivalry and differentiation emphasis.

**H1c.** There is a positive relationship between bargaining power and low cost emphasis.

**H1d.** There is a positive relationship between bargaining power and differentiation emphasis.

### Internal Environment and Operations Emphases

Brown et al., (2007) and Huo et al. (2008) suggested that functional managers from different departments are needed to get involved in the business-level strategic planning to enhance organization performance. IT also facilitates the strategy implementation process by measuring their activities more precisely and helping to motivate managers to implement strategies successfully (Porter and Millar, 1985). Therefore, the hypotheses are:

**H2a.** There is a positive relationship between functional involvement and low cost emphasis.

**H2b.** There is a positive relationship between functional involvement and differentiation emphasis.

**H2c.** There is a positive relationship between capability of IT and low cost emphasis.

**H2d.** There is a positive relationship between capability of IT and differentiation emphasis.

### Research Methodology

Given the uncertainty of global trade since 2009 (Burns and Rensburg, 2012), the firms which have survived in the past three years would have chosen the right strategy and likely continue to perform and survive in the next two years. Therefore, using data collected through cross-sectional mail survey methodology is appropriate to capture the results of the strategic decision making of 3PL in the most recent two years. Each questionnaire was accompanied with a self-addressed stamped envelope and a cover letter describing the purpose of this research and assurance of confidentiality.

### Pre-Test

The pre-test took four weeks with the participation of five academic experts and ten managers in the field. Five academic experts (professors from higher institutions in Malaysia) in the field of logistics and operations management were consulted for the face validity of the measurement indicators used in this research. This was followed by face-to-face discussion with ten managers in 3PL firms to assess the extent of applicability of the construct in the logistics context. Consequently, a refined final questionnaire was developed for this research.

### Data Collection and Survey Procedure

3PL is a broader term that is frequently used to cover businesses in freight forwarding or contract logistics (Vasiliauskas and Jakubauskas, 2007). Therefore, 3PL is used interchangeably with freight forwarders to describe the service offerings or logistics activities. Taking this cue on interchange-ability, freight forwarding companies in Malaysia will be regarded as 3PL. This brings into
focus the Federation of Malaysian Freight Forwarders (FMFF). In 2000, the Ministry of Transport endorsed and recognized FMFF as the national association to represent the Malaysian logistics industry (http://www.fmff.net/). FMFF gives a sampling frame of 1307 freight forwarding companies with the breakdown illustrated in Table 1.

Table 1: Sampling of 3PL companies in Malaysia

<table>
<thead>
<tr>
<th>Association</th>
<th>Numbers of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selangor Freight Forwarders and Logistics Association (SFFLA)</td>
<td>532</td>
</tr>
<tr>
<td>Johor Freight Forwarders Association (JOFFA)</td>
<td>241</td>
</tr>
<tr>
<td>Penang Freight Forwarders Association (PFFA)</td>
<td>121</td>
</tr>
<tr>
<td>Sarawak Forwarding Agencies Association (SFFLA)</td>
<td>73</td>
</tr>
<tr>
<td>Kota Kinabalu Forwarding Agents Association (KKFAA)</td>
<td>52</td>
</tr>
<tr>
<td>Labuan Freight Forwarders Association (LFFA)</td>
<td>10</td>
</tr>
<tr>
<td>Airfreight Forwarding Agents</td>
<td>142</td>
</tr>
<tr>
<td>Seafreight Forwarding Agents</td>
<td>136</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1307</strong></td>
</tr>
</tbody>
</table>

Source: Malaysia Logistics Directory 2011/2012

A total of 1307 sets of questionnaire were mailed to top/middle management officers of 3PL companies listed in the FMFF. As a further step to ensure the appropriateness of the respondents, the first question in Section I of the questionnaire asked the respondents the extent of their knowledge regarding their business strategy. If this item is rated lower than 3 on the five-point Likert scale (with 5 = very knowledgeable), the responses will be excluded from analysis.

Telephone calls were made to all firms three weeks after the initial mailing. Based on information obtained through the telephone calls, 159 companies were excluded for various reasons. 118 sets of questionnaire were returned undelivered because the addressees are no longer employed. Four firms indicated their organizations are not 3PL and six completed questionnaires were received too late to be included in the data analysis. Thirty one respondents cited busyness and proprietary nature of questionnaire as reasons for not responding. Therefore, 1148 3PL providers is the effective sample size. Of the 1148 recipients, 163 returned the questionnaires fully completed and were used for analysis. This represents an effective response rate of approximately 14.2%.

Results and Discussions

The model was analysed using path analysis. Table 2 shows the results of the findings.
Table 2: Summary of research findings

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Beta</th>
<th>Std Error</th>
<th>t-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a Extended Riv → Low cost</td>
<td>0.258**</td>
<td>0.072</td>
<td>3.582</td>
<td>Supported</td>
</tr>
<tr>
<td>H1b Extended Riv → Diff</td>
<td>0.223**</td>
<td>0.088</td>
<td>2.529</td>
<td>Supported</td>
</tr>
<tr>
<td>H1c Bargaining power → Low cost</td>
<td>-0.092</td>
<td>0.068</td>
<td>1.347</td>
<td>Not supported</td>
</tr>
<tr>
<td>H1d Bargaining power → Diff</td>
<td>0.222**</td>
<td>0.051</td>
<td>4.331</td>
<td>Supported</td>
</tr>
<tr>
<td>H2a FI → Low cost</td>
<td>0.617**</td>
<td>0.082</td>
<td>7.490</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b FI → Diff</td>
<td>0.175</td>
<td>0.110</td>
<td>1.588</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2c IT → Low cost</td>
<td>-0.272</td>
<td>0.093</td>
<td>2.928</td>
<td>Not supported</td>
</tr>
<tr>
<td>H2d IT → Diff</td>
<td>0.168</td>
<td>0.116</td>
<td>1.448</td>
<td>Not supported</td>
</tr>
</tbody>
</table>

**p < 0.01 (t > 2.33), *p < 0.05 (t > 1.65)

In relation to the issue of the relative impact of extended rivalry on low cost emphasis, our results show that H1a is supported. Low cost emphasis is highly desirable, but it is usually short term at best and difficult to sustain (Stank et al., 2001). In this uncertain economic environment, low cost seems to come in as an important strategy. We opine if the economic environment continues to be uncertain, lower cost would continue to be an appropriate strategy. Since low costs emphasises has its challenges, firms also establish differentiation to outperform competitors, substitutes and potential or new entrants as supported in H1b. A differentiation emphasis could be due to competitive pressure prompting many 3PL providers to improve their services by delivering better value in their product or service offerings.

It should be noted that the results of this study have not lent support to H1c which hypothesized a positive relationship between bargaining power and low cost emphasis. According to Porter (1980), low cost emphasis is not a long term solution to neutralize the bargaining power of customers because the customer would exert its power to drive down the price until the next most efficient competitor appear in the market. With respect to differentiation emphasis, customers are willing to pay a premium price effectively reducing the bargaining power of customers (Hill & Jones, 2001). Along these lines of reasoning, a differentiation emphasis could also tolerate the increase in the price of inputs by yielding higher margins to cope even with powerful suppliers (Porter, 1980). Therefore, emphasizing differentiation over low cost explains the significant finding of H1d and the unsupported H1c.

Regarding the internal environment analysis, the results support H2a indicating functional involvement significantly influences low cost emphasis but the evidence only marginally supports H2b which is the influence of functional involvement on differentiation emphasis. However, Huo et al. (2008) and Wang et al. (2010) found functional involvement in its relationship to differentiation is the main pathway to improve 3PL performance and profits; and there is no relationship between functional involvement and low cost. Ali et al. (2008) found 3PL in Malaysia normally do not have basic training in logistics and thus they are not proactive in providing solutions to their customers implying a lack of differentiation capability. Therefore, the results contrast with the previous work explained by a lack of operational skills and capability to implement differentiation emphases among 3PL in Malaysia.

Additionally, the results do not support H2c and H2d which hypothesized a direct impact of capability of IT towards implementation of operations emphases. According to Ali et al. (2008), most logistics companies in Malaysia do not fully exploit IT in their daily business transactions due to costs constraint and lack of experienced personnel. Despite the rejection of H2c, the results marginally support H2d indicating capability of IT influences differentiation emphasis. Although the relationship is supported at the 0.10 level, this finding adds to the understanding that capability of
IT may be linked to differentiation emphases and adds further credence to the RBV theory of the firm.

Conclusions

This study was conducted in the midst of an uncertain global economic environment. The results show 3PL firms would deploy both low costs and differentiation emphases, which theoretically cannot coexist, to achieve financial performance. The findings from this research would also help the Malaysian government formulate policies to further assist the development of logistics industry in Malaysia.

The following limitations of this study are worth noting. First, this study may limit the extent to which the findings can be generalised to other context different from Malaysia, such as Western countries. Second, discussions in this study are based on self-reporting survey having only one respondent from each firm in answering the set of questionnaire. Although some efforts were made to avoid the common method variance using different Likert scales in the questionnaire, the result of this study should still be interpreted cautiously because of the biasness. Future research could add the social desirability scale on top of the deployment of different Likert scales in the questionnaire to re-examine the hypothesized relationship by including 3PL of other countries.

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