How Overall Logistics Strategy Mediates The Influence Of Market Attractiveness And Dynamic Capability On Strategic Competitive Response?

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ABSTRACT: This research is conducted to examine the influence of market attractiveness and dynamic capability on strategic competitive response through overall logistics strategies of logistics service providers (LSPs). Involving 266 LSPs, SEM-LISREL is applied to test the hypotheses. The findings reveal that the market attractiveness and the dynamic capability positively affect the overall logistics strategy. Additionally, the market attractiveness and the dynamic capability positively affect the strategic competitive response. Indirectly, the market attractiveness and the dynamic capability positively affect the performance through strategic competitive response of LSPs. Obviously, overall logistics strategy strengthen the influence of both market attractiveness and dynamic capability on strategic competitive response. There are five alternatives to optimize the overall logistics strategy of LSPs: market intensification, integration, focus, collaboration, and strengthening value proposition. The involvement of overall logistics strategy as mediating variable is new paradigm in the strategic management discourses, especially in logistics industry. Further research needs to be performed by involving the size of business as control variable and LSPs' perception on Government's policies.

Keywords: dynamic capability, market attractiveness, overall logistics strategy, strategic competitive response

1. Introduction

Logistics service market grows along with the growth of economy. The huge size and the growth of the logistics industry attract both the the existing players and new comers to enter the market. The existing players attempt to build the barriers to protect their market, or even expand its market. There are not only domestic businesses, but also foreign companies that compete in the logistics market. For the region of Jakarta, there are 3,000 logistics service providers (LSPs) and about 400 of them are in the category of supply chain service providers (ALI, 2011). LSPs are generally involving many partners in the exercise of logistics activities. The limitations of resources, competencies, and the demands of the customer's total logistics services are the main drivers of LSPs to do this. An LSP should be able to manage the function of transportation, warehousing, and integrated inventory management to the benefit of its customers. The limitations of resources encourage LSP to improve collaboration with various partners, in particular the basic logistics service providers, so that the total logistics solutions customer demands can be fulfilled. Collaboration, of course with the base-line coordination, indeed become the basic character of supply chain management. While expanding their market, multinational LSP also collaborate with local partners due to the regulatory issues and strategic alliances.

Another aspect, i.e. the process of learning, become very important for the LSPs to build internal capability due to the limitations of resources and diverse market behavior. In the logistics industry, the learning process is generally undertaken both formally and informally, individually as well as collectively. LSPs generally establish temporary contract-based relationship. There is a tendency of customers to perform switching to other LSPs in order to search the right partner due to the changing business environment. LSPs should address the such a huge market with a dynamic character in order that their partnership with customers can take place within a long period. To overcome such displacement, LSPs should increase efficiency of operations and organization competence. This can be achieved by developing core competencies through the integration and restructuring of the resources available. Generally, LSPs innovate and develop trust to build a lasting relationship. The innovations undertaken in response to strategic competition can be realized in the form of resources either hard or soft. The response to the competition is also done through relationship and alliances with a variety of stakeholders. Strategic alliances in the logistics industry are performed with the supplier (the transporter, the owner of the warehouse, pallets, etc.), customers or even competitors. It is common in the logistics industry that the LSPs compete each other, while they also alliance in another time. Poslog and KALog compete in the land transportation market, but at more synergistic to other markets.

2. Literature Review

2.1 Dynamic Capability in Logistics Service Industry

Dynamic capability reflect the company's ability to coordinate their resources and integrate it into the technological excellence for the benefit of customers. Discourses on dynamic capability emerge along with the challenges that come from changes in the environment. Teece et al. (1997) defines dynamic capability as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". Emphasizing on operational aspects, Zollo and Winter (2002) defines the dynamic capability as "a learned and stable pattern of
collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness”. The difference concept between Zollo and Winters (2002) with Teece et al. (1997) is on the operational capability of the dynamic object. Teece et al. (1997) use the term ‘competence’ to describe the object, whereas Zollo and Winter (2002) identify objects in more specific terms, i.e. the routine operation. Zollo and Winter (2002) also emphasize that the dynamic capability are established in a structured and clear, which are termed as ‘learned and stable pattern’ and ‘systematically’. In the context of logistics services industry, Brekalo et al. (2013) develop a framework of specific logistics alliance management capability (LAMC) in order to provide an overview of the strategic alliance in logistics system. In addition, the development of core competencies through the integration and restructuring of the resources is also very important in the establishment of dynamic capability of LSPs. The resources consist of tangible and intangible assets of the company, which according to Yang et al. (2009) includes physical resources, human capital, information, knowledge and relational resources.

### 2.2 Overall Logistics Strategy

As a liaison between suppliers with buyers, LSPs should understand the supply chain flow of their customers' products; from the suppliers to the most downstream customers (Hertz and Alfredsson, 2003). In practice, the LSPs often outsource their logistics activities to ensure the timely of products delivery to customers. Outsourcing is one of the typical characters in logistics industry. The more activities to be outsourced, the more number of contracts with other parties to be formed. This condition leads the existence of contract switchings. According to Wong and Caria (2013), the trend of contract switching in logistics industry, which can have an impact on operations inefficiency, can be overcome by improving the competence of LSPs. Wong and Caria (2013) also conclude that logistics companies can build superior competitiveness through the process of physical, human capital, knowledge, information, and relational resources. Bowersox and Daugherty (1987) identify the three-dimensional orientation of logistics strategies that can be used individually or in combination to respond to the business needs. All three are 1) process strategy, namely the management of traditional logistics activities with the primary goal to cost control; 2) market strategy, i.e. the management of the activities of traditional logistics within entire business unit with the goal of reducing the complexity faced by customers; and 3) information strategy (also referred to as the 'channel' strategy by some researchers), i.e. the various groups of traditional logistics activities and other activities that are managed as a system with the aim of achieving coordination and collaboration. Process strategy emphasizes the integration of the functions of both internal logistics such as inventory management, procurement, order processing, storage, and external collaboration among entities, such as the planning of distribution including forecast and replenishment (collaborative planning, forecasting and replenishment – CPFR). According to Autry et al. (2008), functional logistics strategy and external-oriented represent the collaboration as a character inherent in supply chain management. Kohn et al. (2011) use the model of overall logistics strategy from Bowersox and Daugherty and find that the process, market and information strategy affect the effectiveness of coordination of logistics, customer service, effectiveness and the level of response of the company against the competition.

### 2.3 Strategic Competitive Response

In the current global logistics business, maintaining a competitive position becomes very crucial as the competition in logistics service involves not only domestic but also global LSPs that are supported by excellence and competence resources. Domestic LSP usually establish strategic alliances or partnership with global/international players to meet consumer demand. Strategic partnership is needed to enhance competitiveness, expand markets and increase revenue of LSP. Logistics service industry, according to Briggs et al. (2010), has the existence of a strong relationship with customers/clients and reliance among LSPs. Liu et al. (2010) reveal that the performance capability LSPs is the deciding factor in their competitiveness. Thompson et al. (2010), state that the strategic alliance is a partnership between the companies to combine resources, capability and core competencies together to achieve the common goals. The companies will become partners when they divide up the control of the company's activities to achieve the benefits which might not be achieved if done on its own. Cravens (2009) states that the cooperation strategy (strategic relationship) is intended to: 1) gain access to the market; 2) improve the value of products/services being offered; 3) reduce the risk caused by changes in the environment; 4) complement each other in the field of expertise; 5) getting new knowledge; 6) establish sustainable cooperation with major costumers; and 7) acquire the resource not owned by the company. According to Cravens (2009), the reasons that drive the companies to cooperate with the other are the opportunity to enhance the value derived from a combination of the competence of two or more companies, the complex environment, the strategy of competing, and the disparity of skills and resources.

### 2.4 Research Framework

2.5 Research Hypotheses

Referring to the research framework, the hypothesis are proposed as follows:

H1 market attractiveness and dynamic capability simultaneously affect the overall logistics strategy of LSPs.

H2 market attractiveness and dynamic capability simultaneously affect the strategic competitive response of LSPs.

H3 market attractiveness affects the strategic competitive response through overall logistics strategy.

H4 dynamic capability affects the strategic competitive response through overall logistics strategy.

3. Methodology

The target population of this research are the members of the Association of Logistic and Forwarder of Indonesia (ALFI) located in the region of the Capitol of Jakarta and the Province of Banten. Primary data is obtained through observation, in-depth interview with the the manager level and above of LSPs, and structured questionnaire. Relationships between variables are built with covariance based Structural Equation Models (SEM), or linear structural relationships (LISREL). In addition, a test of suitability model (Goodness of Fit Test) test the normality of data is also done to qualify the use of SEM LISREL

4. Findings and Discussions

Line diagrams model the influence of market attractiveness and dynamic capability towards logistics overall strategy and response strategic competition as well as the implications for the performance of the LSPS are seen in the following image:

A summary of the results of the structural equations for hypothesis testing reflected in the table below.

Table 1. Summary of the results of statistical tests

<table>
<thead>
<tr>
<th>Substructure</th>
<th>Path</th>
<th>Coefficient</th>
<th>$t_{test}$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>$\xi_1 \rightarrow \eta_1$</td>
<td>0.457</td>
<td>5.636</td>
<td>0.634</td>
</tr>
<tr>
<td></td>
<td>$\xi_2 \rightarrow \eta_1$</td>
<td>0.432</td>
<td>5.286</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\xi_2 \rightarrow \eta_2$</td>
<td>0.319</td>
<td>3.444</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\eta_1 \rightarrow \eta_2$</td>
<td>0.192</td>
<td>2.085</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\eta_1 \rightarrow \eta_2$</td>
<td>0.355</td>
<td>3.234</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>$\xi_1 \rightarrow \eta_1$</td>
<td>0.402</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\xi_2 \rightarrow \eta_1$</td>
<td>0.404</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\eta_1 \rightarrow \eta_2$</td>
<td>0.705</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\eta_1 \rightarrow \eta_2$</td>
<td>0.502</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results from the second formation of the line diagrams, the testing of each hypothesis are described in the following description.

4.1 Test hypothesis 1

The F-test is used to test the influence of market attractiveness and dynamic capability on overall logistics strategy of LSPs. The criteria of the test is, reject H0 if $F_{test} > F_{table}$, otherwise accept H0 if $F_{test} \leq F_{table}$. Through the coefficient of determination ($R^2$), F value can be calculated as follows:

$$F_{test} = \frac{(259 - 2 - 1) \times 0.634}{2 \times (1 - 0.634)} = 221.73$$
With a level of significance of 95% and degree of freedom (2; 256) the value of $F_{table}$ is 3.03. As $F_{test}$ (221,73) > $F_{table}$ (3.03), it is decided to reject H0. Thus, it can be concluded that with a confidence level of 95%, market attractiveness and dynamic capability simultaneously affect overall logistics strategy of LSPs. This finding is in line with the concept of overall logistics strategy that early built by Bowersox and Daugherty (1987). Similarly, this finding is in line with Eisenhardt and Martin (2000) and Brekalo et al. (2013) that reveal that the market and dynamic capability drive LSPs to build strategic alliances, one of the outcomes of the overall logistics strategy, to build competitive advantage. This finding also support the research of Gleiβner et al. (2013) that market condition is one of the inputs in the preparation of plans and strategic control. Empirically, the increasing trend of outsourcing logistics forces the LSPs to enhance their competence in handling various products. Based on product they handle, some of them focus on the logistics FMCG, whereas the others focus on pharmaceutical products, cement, mining, and so on. While from the side of the activities, some of them focus on warehousing, whereas the other focus on transportation, and even integrated logistics. Focus on a particular segment are also encouraged by the capability of LSPs that are reflected in three capability; coordination, leaning, and alliances. The simultaneous influence of market attractiveness and dynamic capability on overall logistics strategy means that both market attractiveness and dynamic capability of LSPs together define the optimization process strategy, market strategy, and information strategy of LSPs.

### 4.2 Test hypothesis 2

The F-test is also used to test the influence of market attractiveness and dynamic capability on strategic competitive response of LSPs. The criteria of the test is, reject H0 if $F_{test}$ > $F_{table}$, or otherwise accept H0 if $F_{test}$ < $F_{table}$. Through the coefficient of determination ($R^2$), $F$ value can be calculated as follows:

$$F_{test} = \frac{(259 - 2 - 1) \times 0.139}{2 \times (1 - 0.139)} = 20.66$$

As $F_{test}$ (221,73) > $F_{table}$ (3,031), it is decided to reject H0. Thus, it can be concluded that with a confidence level of 95%, market attractiveness and dynamic capability simultaneously affect strategic competitive response of LSPs. The influence of market attractiveness and dynamic capability on strategic competitive response indicates that the strategy for building the commitment of suppliers, designing logistics services, and responding the competition is influenced by the attractiveness of the market as well as the dynamic capability of LSPs. Thus, both the attractiveness of the market and the dynamic capability of LSPs together will determine the commitment of suppliers, service design, and response to the competition. In practices, the relationship between the customer with LSPs are generally built on contract that has a certain duration. In the customer perspective, the selection of LSP as a logistics provider in outsourcing logistics is based on their capability. On the other hand, LSPs will target the customers based on their market potential and the sustainability of partnerships. It also becomes the pattern for the LSPs, where the formulation of strategy of supplier selection, service design, and the rivalry is defined by the market attractiveness as well as the dynamic capability. This phenomenon amplifies the opinion of Halldórsson and Skjøtt-Larsen (2004) that the election of outsourcing logistics partners that tends to be temporary by the customers should be addressed with innovations by LSP to build customer trust and a lasting relationship. The market attractiveness and the dynamic capability must be a consideration of LSPs in the process of innovation.

### 4.3 Test hypothesis 3

T-test is used to test the influence of market attractiveness on the strategic competitive response through overall logistics strategy. The criteria of the test is, reject H0 if $t_{test}$ > $t_{table}$, otherwise accept H0 if $t_{test}$ < $t_{table}$. The test results show the $t_{test}$ is 2.801, larger than $t_{table}$ which is 1.96. As $t_{test}$ > $t_{table}$, it is decided to reject H0. Thus, it can be concluded that with a confidence level of 95%, market attractiveness affects the strategic competitive response through overall logistics strategy. Indirectly, through overall logistics strategy, the total influence of market attractiveness on the strategic competitive response is $(0.457) \times (0.355) \times 100\% = 16.1\%$. This finding indicates that the strategy of building supplier commitment, designing logistics service, and establishing an efficient and collaborative logistics is not solely determined by market attractiveness, but is also influenced by the formulation of the process strategy, market strategy, and information strategy. The effect of market attractiveness on the strategic competitive response through overall logistics strategy (16.1%) turned out to be larger than the direct effect (10.2%). This means that the process strategy, market strategy, and information strategy will strengthen the influence of market attractiveness on the effectiveness of the strategic competitive response. The increasing of supplier commitment, the ability of building the logistics service capability and the collaborative partnership can be realized faster if it is developed based on process strategy, market strategy and information strategy built from the market attractiveness. Empirically, the high potential and fragmented market addressed by LSPs by focusing on a particular segment of the market, or even on a really nice products, such as oil, gas, or other commodities requiring special logistics handling. In order to meet the needs of the customers, LSPs must be able to control the suppliers (shipliners or providers transportation with very particular specifications) and build a special competence. The last two attempts can be made if the LSPs are able to guarantee that the market has great potential and build competitive advantage for those special logistics market. This finding supports several other studies before. Hertz and Alfredsson (2003), for example, who suggested that focus on a niche market can help LSPs to speed up adaptation to customers and conduct coordination. Likewise, Lai (2004) that identifies the character and tendency of every type of LSPs and competence as well as the preference of the logistics service practiced. Schmoltzi and Wallenburg (2011) also state that a partnership is also driven by the market, where such cooperation is established on contract. In the context of the alliance, this finding is also consistent with the finding of Brekalo et al. (2013) that the ability to identify market opportunities needed to formulate a model of the alliance and coordination with suppliers as well as other logistics partners.
4.4 Hipotesys Test 4
T-test is also used to test the influence of dynamic capability on strategic competitive response through overall logistics strategy. The criteria of the test is, reject H0 if \( t_{test} > t_{table} \), otherwise accept H0 if \( t_{test} \leq t_{table} \). The test results show the \( t_{test} \) is 2.78, larger than \( t_{table} \) which is 1.96. As \( t_{test} > t_{table} \), it is decided to reject H0. Thus, it can be concluded that with a confidence level of 95%, dynamic capability affects the strategic competitive response through overall logistics strategy. Indirectly, through overall logistics strategy, the total influence of dynamic capability on the strategic competitive response is \((0.432) \times (0.355) \times 100\% = 15.3\% \). The influence of dynamic capability on strategic competition response through overall logistics strategy means that the strategy of building supplier’s commitment, designing logistics’ services and building collaborative logistic is not solely determined by the dynamic capability, but also influenced by the formulation of process strategy, market strategy, and information strategy. The effect of dynamic capability on strategic competitive response through overall logistics strategy (15.3%) turned out to be larger than the direct effect (3.7%). This means that the process strategy, market strategy, and information strategy will strengthen the effect of dynamic capability on strategic competitive response. The increment of the supplier’s commitment, the capability of developing a logistics service that is able to meet customer’s need, and the establishment of collaboration will be realized faster when compiled on process strategy, market strategy, and information strategy of that which built upon capabilities of coordinating, learning and alliance. In logistics management, the LSPs will involve other providers due to the limitations of its resources. Empirically, in order to control the transporter of FMCG, for example, LSPs must have the ability to coordinate through the mastery of information of the supply and demand flows between warehouses with the distribution centers. This ability is gained by the learning process and, of course, with the collaboration with customer and other related parties. In the case of project logistics, LSPs must even be able to coordinate different vendors and understand the business process of the project deeply. For the special commodities logistics, LSPs must also have the competence which is gained through the process of learning and also alliance/collaboration with customers and other related parties. In the relationship context, the phenomenon is in line with Hartmann and Grabl’s findings (2011), that knowledge has positive impacts on LSP’s flexibility or its collaborative capabilities as the reflections of their capabilities. Wallenburg and Raue (2011) dictate a similar idea, that relational management can increase the harmony between partners in logistics activities in comparison with formal management in which would end on having positive impact for innovation intensity.

5. Conclusions, recommendations, and future research
The market attractiveness and the dynamic capability simultaneously affect the overall logistics strategy LSPs. This provides empirical evidence that the higher the market attractiveness and dynamic capability will encourage LSP to formulate a more optimal overall logistics strategy. The market attractiveness affects the strategic competitive response through overall logistics strategy. This means that the enhancement of suppliers’ commitment, the ability of the services that can meet the needs of customers, and collaborative partnership can be realized faster if compiled based on process strategy, market strategy, and information strategy built from the attractiveness of the market. The dynamic capability affects the strategic competitive response through overall logistics strategy. This means that the increasing of suppliers’s commitment, the ability of satisfying customers’ needs, and the collaborative partnership will be realized faster if compiled based on strategy process, market strategy, and information strategy built on the ability of coordination, learning, and the alliance of LSPs. Further research needs to be done by involving the company size as control variable. In addition, involving micro variable, like perception of LSP on a policy, is necessary to assess the impact of government policies in order to increase the performance of the logistics.

References


