A Literature Review of Innovation Capabilities and Business Performance of Third-Party Logistics (3PL) Service Providers in Malaysia

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***Abstract*— According to the Malaysian Government Transformation Programme, transportation is one of the national priority areas and plays a significant role in the country's well-being and has contributed much to the development and improvement of the economic, social, political and cultural conditions of the nation. The role and contribution of transportation is very important in strategic business and it is also one of the key focal points in the Eleventh Malaysia Plan for 2016 to 2020. Moving forward, while the prospects for Malaysia's logistics industry are positive, there is still much room for improvement in terms of business performance. Most companies selling or producing goods require facilitating agencies such as third-party logistics (3PL) providers to assist them in transporting their products and services from one destination to another until they reach the end customer. Therefore, this study focuses on a review of the literature on innovation capability and business performance among 3PL service providers in Malaysia. This study focuses on four attributes of innovation capability: (i) service innovation, (ii) process innovation, (iii) marketing innovation and (iv) management innovation. It contributes to the body of knowledge in this field by identifying the significant factors that influence innovativeness that will lead to a higher level of business performance among 3PL providers in Malaysia. Its findings also useful to 3PL practitioners and policy-makers, particularly in Malaysia and the Asian region.**

***Keywords*—** *Malaysia, Innovativeness, Subjective Performance, Resource-Based View*

1. Introduction

Recently, innovation capabilities have come to be considered crucial to most companies producing and selling goods as these capabilities enable companies to build and sustain a competitive advantage. Moreover, these capabilities are particularly relevant to those firms operating in fast-changing market environment where innovations or 'new ideas' for products and services are vital to success. Creativity and innovation can be viewed as knowledge-based capabilities that may assist a firm in building its competencies [1]. The building of innovation competencies requires the presence of strong mainstream capabilities to ensure that innovation activities are accurately aimed at serving market needs and organisational goals.

Malaysia is the world's 24th largest trading nation, which makes the logistics industry a linchpin to move up the world trade rankings. Therefore, it is critical that the role of logistics is understood from the Malaysian trade and economics perspectives as the key role that this industry plays in the success of the Malaysian economy cannot be understated. Yet, many are still unaware of the significance of this industry. Moving forward, while the prospects for Malaysia's logistics industry are positive, there is room to make further improvements, for instance, to enable the logistics industry to handle greater volumes of freight, to reduce the time taken to deliver goods across supply chains and to lower the cost of delivery.

There is also evidence to suggest that by leveraging the advantages of the logistics industry, Malaysian industrial firms have successfully expanded their business into foreign markets and increased their profits. However, despite this success, there are also cases where industrial firms

have failed to sustain their business. A previous study has revealed that one of the common issues faced by logistics and supply chain firms in Malaysia concerns how to manage inventory, which if improperly managed may lead to a loss of sales [2]. Also, it is believed that there are other issues associated with the capabilities and on enhancing business performance of third-party logistics (3PL) service providers. Thus, there is a need to identify the challenges facing 3PL providers correctly by defining which capabilities need to be improved in order to enhance overall business performance. In fact, many of the issues that relate to the relationship between innovation capabilities specifically and business performance have not been adequately studied either in Malaysia or elsewhere.

In the current highly dynamic and competitive business environment, 3PL service providers in Malaysia need to be innovative in the services they provide in order to improve their performance. An accurate assessment of the level of innovativeness is vital for firms as it directly relates to their capacity to engage in innovation. Innovation capability may assist managers to overcome business problems and challenges and to thereby provide the basis for the survival and success of their firm well into the future. Most studies agree that innovation contributes to business performance. However, only a relatively small number of studies have focused on the factors that drive innovativeness and how innovativeness may influence the effect of other factors in relation to improving business performance, an issue that has been identified by Reference [3] as one worthy of attention.

This study aims to fill this knowledge gap, particularly in regards to the relationship between innovation capability and business performance among 3PL service providers. In addition, this study aims to analyse the literature on resource-based view (RBV) theory, which is deemed a suitable theory to apply to this topic. Moreover, this study attempts to review the innovation capabilities factors that may contribute to the improvement of business performance, particularly among 3PL service providers in Malaysia.

2. Literature Review

2.2 Resource-based View Theory

Resource-based view theory explains how organisations achieve and maintain competitive advantages by exploiting and utilising their own strategic resources and capabilities [4]. Reference [5] defines a firm's resources as all the assets, capabilities, organisational processes, firm attributes, information and knowledge controlled by that firm. The theory proposes that a firm's resources cannot be duplicated or imitated by competitors if those resources are rare and valuable and that such resources can lead to enhanced capabilities. In recent years, logistics service providers have grown through a combination of organisational expansions, mergers, acquisitions and alliances. These activities are all ways in which resources can be acquired to achieve growth. Resource-based view theory has been employed in logistics-related research to assess the contribution made by logistics activities to firm performance [6]. Thus, resource-based view theory can provide a key theoretical foundation upon which logistics service providers can base their strategies in order to achieve competitive advantage. Specifically, the application of resource-based view theory can help a firm to exploit opportunities and reduce the effect of threats. Therefore, the logistics industry should consider devising strategies that lead to competitive capabilities by adopting a resource-based view.

Moreover, Reference [7] believe that resource-based view theory is an appropriate theory to apply to explain competitive advantage in the 3PL services industry because resources are distributed heterogeneously across different 3PL providers, freight operators, forwarders, and 3PL users. According to Reference [7], a firm's resources can be categorised into tangible and intangible resources. For instance, physical and human resources are classed as tangible resources, whereas other resources such as trademark and trade name are classed intangible. These intangible resources in particular give a firm the ability to win new contracts and maintain long-term relationships with strategic partners, and such resources are hard to replace. Therefore, resource-based view theory is a suitable theory to employ in the study of the innovation capabilities and business performance of 3PL service providers in Malaysia.

2.3 Innovation Capability

The intensifying competition that has resulted from and is continuing to increase due to the globalisation of markets, the evolution of technologies and the fluctuating demand for logistics has increased the need for 3PL providers to devise methods to outperform their competitors. According to Reference [8], innovation appears to be the only means by which organisations can convert change into opportunity and thus succeed. Nowadays, transportation and logistics services in Malaysia are extremely important, particularly as they assist many small and medium-sized businesses to strategically channel their products into specific markets.

Innovation can exist in various forms; it can be technological [9] or organisational [10], or it can involve the creation of new bundles of resources [11]. The term 'innovation capability' refers to a "firm's capacity to engage in innovation, in terms of [the] introduction of new processes, products, or ideas in the organisation" [12, pp. 429]. This capacity to innovate is among the most important factors influencing performance (see e.g., [13], [14], [15]). Firms may differ in their innovation capabilities as it is difficult for them to copy or imitate each other's resources. Also, firms may be specialised in particular technologies or related expertise, leading them to pursue different innovation activities [16].

As innovativeness is generally considered a prerequisite for a firm's success and continued survival, a growing number of studies have been conducted to determine the drivers of innovativeness. These studies has focused primarily on the relationships between learning orientation, innovativeness and performance [13], [17] and [18]; market orientation and innovativeness [19] and [20]; organisational learning and organisation innovation [21]; innovation capability and performance [16] and innovation capability, relationship orientation and performance [14].

According to Reference [22], innovation capabilities can be divided into three sub-categories: (i) capability to conduct research and development for new products, product improvements, and quality control; (ii) capability to upgrade from semi-automatic machines to fully automatic machines; and (iii) capability to redesign packaging to meet export standards. Therefore, Malaysia needs to leverage these innovation capabilities to develop business networks in order to enhance export performance.

This study categorises innovation capabilities into four types: service, process, marketing and management. Service innovation involves manufacturers and service providers undertaking various innovation activities to enhance customer satisfaction including the provision of after-sales services and warranty policies [23]. This type of innovation capability can be expressed in terms of the new services launched and the rate of improvement in the rendering of the services, particularly in the logistics industry [24]. Service innovation has an influence on a firm's competitive market advantage [25]. On the other hand, process innovation involves creating and improving delivery and production methods and the adoption of new elements into the firm's delivery and production processes [26] and [27]. According to Reference [28], this type of innovation may require time, resources, capabilities, and knowledge.

Meanwhile, marketing innovations can be made in marketing research, price-setting strategies, market segmentation, advertising promotions, retailing channels and marketing information systems [29]. Reference [30] state that devising innovative marketing measures is essential as these measures can help firms in any industry to transform good ideas, products and services into sales revenue and profit. Various factors influencing marketing innovation: (i) the demands of customers, (ii) intensification of competition, (iii) organisational ties and (iv) the characteristics of managers and firms [31]. Marketing innovation plays an important role in the evolution of industries which to transform product and services into profit.

Lastly, Reference [32] and [33] emphasise that management innovation may relate to management practices, processes, and techniques as well as structure, and that the aim of such innovations is to achieve competitive advantage. Reference [34] have identified six elements that may contribute to the development of management innovation, particularly among 3PL service providers: (i) ideas generation, (ii) innovative ideas selection, (iii) innovative ideas implementation, (iv) organisation and people, (v) top management commitment and (vi) proactive internal and external linkages with clients and suppliers [34]. Therefore, for successful management innovation, creativity within an organisation should be improved by implementing

innovative ideas to find more effective ways of working that then leads to long-term benefits.

2.4 Business Performance of 3PL Service Providers

Despite the remarkable expansion of the logistics industry, the poor performance of logistics services providers could be due to the relatively high logistics costs, which has greatly constrained the competitiveness of the Malaysian economy [35]. This situation has put pressure on logistics providers to balance the conflicting challenge of offering low-cost, high-quality services in order to remain competitive in terms of gaining and retaining contracts and, at the same time, managing complex international and domestic supply chains [36]. The Malaysian Ministry of International Trade and Industry (MITI) stated that logistics firms must pay greater attention to attracting quality investments and encouraging existing industries to shift from lower value-added products and services to reinvesting in higher value-added and knowledge-intensive products and services [37].

The business performance metric can be used for several purposes: (i) business owners use business performance to track the achievement of company goals and objectives; (ii) investors use business performance to gauge specific financial and productivity indicators; (iii) management uses business performance to analyse past performance and make necessary future adjustments; and (iv) employees use business performance to track productivity in an effort to meet bonus pay criteria [38].

All types of stakeholders have long undertaken the practice of measuring business performance in order to make a range of organisational decisions and they reach such decisions based upon accumulated data [38]. Over the years, researchers have adopted various approaches to conceptualise and measure business performance. Reference [39] state that performance is a multidimensional construct that cannot be adequately reflected in a single performance item. This suggests that a composite measure of performance would more accurately reflect business performance improvements as opposed to a single quantitative or accounting-related performance measure.

Reference [40] found that effective supply chains contribute directly and indirectly to an increase in various performance indicators for clients as well as suppliers. In the logistics industry, the delivery of a high-quality logistics services will have an influence on the performance of 3PL providers [14], because logistics service providers must keep their clients satisfied by: (i) demonstrating the ability to solve problems, (ii) keeping accurate records, (iii) delivering services on time, and (iv) communicating effectively [41]. These factors can increase market share as well as enhance the business performance of 3PL providers [42].

Thus, generally, in this study, the business performance of 3PL providers is assessed in terms of improvements in market share, profitability, sales growth, return on investment and overall performance. Furthermore, in this study, business performance is also considered as subjective assessment. This approach is appropriate because managers have been found to be effective in making subjective judgements regarding the effect of changes on corporate performance [43] and [44].

3. Conclusion and Further Recommendations

The logistics industry in Malaysia still faces numerous challenges and lags behind in terms of development and competitive advantage, unlike in neighbouring countries such as Singapore, Thailand and Vietnam. Malaysian 3PL service providers could develop their innovation capabilities to enhance their performance. Doing so, may assist the managers of industrial firms to overcome a number of business problems and challenges in particular the relationship orientation between supplier and client.

Due to the high competition in the business environment, the logistics industry in Malaysia will need to innovate in order to improve performance. Therefore, the results of this study may assist 3PL service providers in surmounting some key business problems and challenges. The results may also help to enhance the performance of Malaysian 3PL service providers. With regards to the review conducted by this study, the findings may be of relevance to three government policies, namely the National Priority Areas; the Eleventh Malaysian Plan (11MP); and the Third Industrial Master Plan (IMP3). Moreover, these three policy areas have the potential to contribute significantly to the growth of the Malaysian transportation and logistics industry and enable the companies in the industry to become more competitive in the marketplace.

Future research studies may wish to examine the 3PL-client relationship because it is believed that innovativeness in this area will lead to improved business performance. It is important to provide high-quality logistics services through the development of client relationships and the introduction of innovativeness into processes and techniques. It is also recommended that future studies consider using quantitative data and conducting analyses using structural equation

modelling (SEM) in Analysis of Moment Structures (AMOS) software to describe the relationships between the variables. Besides that, future studies may also wish to expand the value of the research in this area by comparing results between different sectors or geographical areas which may reveal ways in which to achieve competitive advantage.

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References

[1] Racela, O. C., "*Customer orientation, innovation competencies, and firm performance: A proposed conceptual model*", Procedia - Social and Behavioral Sciences, Vol. 148, pp. 16–23, 2015.

[2] Abdullah N, Yaakub, S., & Subhan, M., "*Logistics and supply chain related issues faced by Malaysian SMEs : a case Study*", International Review of Management and Marketing, Vol. 6, No. 3, pp. 432–435, 2016.

[3] Nadarajah, G., "*Factors influencing third party logistics performance in Malaysia: The role of trust as a mediator*", International Journal of Supply Chain Management, Vol. 4 No. 4, pp. 108–114, 2015.

[4] Wernerfelt, B., "*A resource based view of the firm*", Strategic Management Journal, Vol. 5, No. (2), pp. 171–180, 1984.

[5] Barney, J. B., "*The resource-based view of the firm*", Journal of Management, Vol. 27, pp. 625–641, 2001.

[6] Yang, C. C., Marlow, P. B., & Shan lu, C., "*Assessing resources, logistics service capabilities, innovation capabilities and the performance of container shipping services in Taiwan*", International Journal of Production Economics, Vol. 122, No. 1, pp. 4–20, 2009.

[7] Wong, C. Y., & Karia, N., "*Explaining the competitive advantage of logistics service providers: a resource-based view approach*", International Journal of Production Economics, Vol. 128, No. 1, pp. 51–67, 2010.

[8] Huse, M., Neubaum, D. O., & Gabrielsson, J., "Corporate innovation and competitive environment", The International Entrepreneurship and Management Journal, Vol. 1, No. 3, pp. 313–333, 2005.

[9] Nelson, R.R. & Winter, S.G., *Evolutionary Theory of Economic Change*, Cambridge, MA: Belknap Press of Harvard University Press, 1982.

[10] Caves, R.E., "*Industrial organization, corporate strategy and structure*". Journal of Economic Literature, Vol. 18, No. 1, pp. 64-96, 1980.

[11] Penrose, E., *The Theory of Growth of Firm*, New York: John Wiley, 1959.

[12] Hult, G. T. M., Hurley, R. F., & Knight, G. A., "*Innovativeness: its antecedents and impact on business performance*", Industrial Marketing Management, Vol. 33, No. 1, pp. 429–438, 2004.

[13] Rhee, J., Park, T. & Lee, D.H., "*Drivers of innovativeness and performance for innovative SMEs in South Korea: mediation of learning orientation*", Technovation, Vol. 30, pp. 65-75, 2010.

[14] Panayides, P., "*Enhancing innovation capability through relationship management and implications for performance*", European Journal of Innovation Management, Vol. 9, No. 4, pp. 466-483, 2006.

[15] Hurley, R.F. and Hult, G.T.M., "*Innovation, market orientation, and organizational learning: an integration and empirical examination*", Journal of Marketing, Vol. 62, pp. 42-54, 1998.

[16] Tseng, C., Kuo, H. & Chou, S., "*Configuration of innovation and performance in the service industry: evidence from the Taiwanese hotel industry*", The Service Industries Journal, Vol. 28, No. 7, pp. 1015-1028, 2008.

[17] Keskin, H., "*Market orientation, learning orientation, and innovation capabilities in SMEs*", European Journal of Innovation Management, Vol. 9, No. 4, pp. 396–417, 2006.

[18] Lee, T.-S. & Tsai, H.-J., "*The effects of business operation mode on market orientation, learning orientation and innovativeness*", Industrial Management & Data Systems, Vol. 105, No. 3, pp. 325–348. 2005.

[19] Radas, S. & Bozic, L., "*The antecedents of SME innovativeness in an emerging transition economy*", Technovation, Vol. 9, pp. 438-450, 2009.

[20] Erdil, S., Erdil, O. & Keskin, H., "*The relationship between market orientation, firm innovativeness and innovation performance*", Journal of Global Business and Technology, Vol. 1, No. 1, pp. 1–10, 2004.

[21] Liao, S.H., Fei, W.C. & Chen, C.C., "*Knowledge sharing, absorptive capacity, and innovation capability: an empirical study of Taiwan's knowledge intensive industries*", Journal of Information Science, Vol. 33, No. 3, pp. 340-359, 2007.

[22] Hassan, M., & McCarthy, G., "*Influential organisational capabilities for SMEs' export performance : An exploratory study*", Annual Summit on Business and Entrepreneurial Studies, Conference Master Resources, Sarawak, Malaysia, 593–613, 2011.

[23] Koskull, V., Strandvik, T., & Tronvoll, B., "*Emotional strategizing in service innovation*", Management Decision, Vol. 54, No. 2, pp. 270–287, 2016.

[24] Flint, D.J., Larsson, E., Gammelgaard, B. & Mentzer, J.T., "*Logistics innovation: A customer value-oriented social process*". Journal of Business Logistics, Vol. 26, No. 1, pp. 113-147, 2005.

[25] Chapman, L. R., Soosay, C., & Kandampally, J., "*Innovation in logistic services and the new business model: a conceptual framework*", Managing Service Quality, Vol. 12, No. 6, pp. 358–371, 2002.

[26] Chen, H., Tian, Y., Ellinger, A. E., & Daugherty, P. J., "*Managing logistics outsourcing relationships: an empirical investigation in China*", Journal of Business Logistics, Vol. 31, No. 2, pp. 279–299, 2010.

[27] Chen, W. J., "*Innovation in hotel services: culture and personality*", International Journal of Hospitality Management, Vol. 30, No. 1, pp. 64–72, 2011.

[28] Du Preez, N., Louw, L., & Essmann, H., "*An innovation process model for improving innovation capability*", Journal of High Technology Management Research, pp. 1–24, 2009.

[29] Medrano, N., & Olarte-pascual, C., "*An empirical approach to marketing innovation in small and medium retailers : an application to the Spanish sector*", Contemporary Economics, Vol. 10, No. 3, pp. 205–216, 2016.

[30] Lin, C. Y., & Chen, M. Y., "*Does innovation lead to performance ? An empirical study of SMEs in Taiwan*", Management Research News, Vol. 30, No. 2, pp.115-132, 2007.

[31] Soltani, S., Azadi, H., Hosseini, S. J. F., Witlox, F. & Passel, S. V., "*Marketing innovation in rural small food industries in Iran*", Journal of Food Products Marketing, Vol. 21, No. 5, pp. 533-551, 2015.

[32] Birkinshaw, J., Bouquet, C., & Barsoux, J.-L., "*The five myths of innovation*", MIT Sloan Management Review, Vol: Winter, pp. 1–80, 2011.

[33] Birkinshaw, J., Hamel, G., & Mol, M. J., "*Management innovation*", Academy of Management, Vol. 33, No. 4, pp. 825–845, 2008.

[34] Bessant, J., & Tidd, J., *Innovation and Entrepreneurship*, John Wiley & Sons, 2007.

[35] Soh, K., Wong, W., & Chong, C., "*Strategic choices: a composite model for logistics service providers*", Journal of Southeast Asian Research, Vol. 2015, pp. 1–10, 2015.

[36] MITI. (2007). Ministry of International Trade and Industry Report 2007 - Economic Developments, Trade and Investments of the World), pp. 33–147. Retrieved from http://www.miti.gov.my/miti/resources/MITI Report/MITI_Report_2007_(BM).pdf, 2007.

[37] MITI, Ministry of International Trade and Industry Report 2013 - Driving Transformation and Powering Growth, 42–44. Retrieved from http://www.miti.gov.my/miti/resources/fileupload/MITI_REPORT_2013.pdf, 2013.

[38] Lee, Y., Kim, S., & Hight, S. K., "*Market orientation and business performance : evidence from franchising industry*", International Journal of Hospitality Management, Vol. 44, No. January, pp. 28–37, 2015.

[39] Dess, G. G., & Robinson, R. B., "*Measuring organizational performance in the absence of objective measures : the case of the Privately-Held Firm and Conglomerate Business Unit*", Strategic Management Journal, Vol. 5, No. 3, pp. 265–273, 1984.

[40] Choi, T. Y., & Hartley, J. L., "*An exploration of supplier selection practices across the supply chain*", Journal of Operations Management, Vol. 14, No. 4, pp. 333–343, 1996.

[41] Leuthesser, L., & Kohli, A. K., "*Relational behavior in business markets: implications for relationship management*", Journal of Business Research, Vo. 34, No. 3, pp. 221–233, 1995.

[42] Stank, T. P., & Vickery, S. K., "*Logistics service performance: estimating its influence on market share*", Journal of Business Logistics, Vol. 24, No. 1, pp. 27–55, 2003.

[43] Taghian, M., D'Souza, C. & Polonsky, M. J., "*A stakeholder approach to corporate social responsibility, reputation and business performance*", Social Responsibility Journal, Vol. 11, No. 2, pp. 340-363, 2015.

[44] Slater, S. F, & Narver, J. C., "*Market orientation and learning organization*", Journal of Marketing, Vol. 59, No. 3 (July), pp. 63–64, 1995.