

LEARNING AND GROWTH FOR SUSTAINABLE DEVELOPMENT OF LOGISTICS COMPANIES IN THAILAND

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Abstract: The main purpose of this research is to investigate the determinants for learning and growth for sustainable development of logistics companies in Thailand. There are two theories contributions which are (1) strategic competitive advantages and (2) balanced scorecard. This research used the questionnaire mailing; the surveys completed and returned of 84 respondents. The key informants were the chief executive officer, managing directors, or managers of logistics companies in Thailand. The logistics companies must be registered as members of the Thai International Freight Forwarders Association (TIFFA). The results suggested managers to focus on the management philosophy that promotes new ideas and proactive working climate with technology. The technology and its application can support working proficiency for employees. Concentrating on strategic competitive advantages determinants (especially, technology) can result in companies' success. Moreover, technology can help to revolutionize operational processes and practices, enhance the efficiency of operations, build and capture the opportunities in the market and offer new values to customers and stakeholders.

Key words: Strategic Competitive Advantages, Balanced Scorecard, logistics companies

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Introduction

The logistics sector in Thailand is a principal savings in fixed costs, time and operational costs to both manufacturing and service sectors. Thailand is ongoing to expand the multimodal transport networks and associated infrastructure around the country to be steadily decreasing over time and costs. Thailand develops the logistics system and infrastructure networks with the broader Association of Southeast Asia Nation (ASEAN) framework agreement on transport facilitation. One target for Thailand is to improve the transport facilitation of multinational transport procedures and documentation to cut logistics time and costs for cargo movement in the region (BOI, 2017). Thailand has tried to promote logistics systems and expects to enhance investment and trade, while also cutting transport costs, and simplifying mobility within the region. Therefore, the development of logistics infrastructure also promotes to increase combined sub-region. In terms of commercial networking, associations of supply chain and material can easily access to domestic consumer markets. It is to reinforce Thailand's situation as a leading logistics strategic country (Krebs and Panichakarn, 2019). Thailand can take the strategic advantages by a coordination of development efforts is being

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made and involved to improve of infrastructure, laws and regulations, customs systems, and domestic/multinational transportation networks. This will increase Thailand's competitiveness as well as assisting and enhancing trade and investment. Both domestic and international investors should feel confident that are laid out to provide a great opportunity to take advantage of Thailand future growth (BOI, 2017).

In examining the determinants for leaning and growth for sustainable development of logistics companies in Thailand. The main research question is raised on which this research needs to find the answers. This question is of which examining the determinants for leaning and growth for sustainable development of logistics companies in Thailand catching the competitive advantages. The key purpose of this research is to investigate the determinants for leaning and growth for sustainable development of logistics companies in Thailand.

Literature Review

This research examines the determinants for leaning and growth for sustainable development of logistics companies in Thailand. The leaning and growth perspective traditionally is described as the companies' performances through non-financial measures such as market share, productivity, innovation, social responsibility, etc (Pirzada et al., 2015). These measures are criticized for a short and long term goals for companies (Kaplan, 2010). However, the financial measures such as net income, earnings per share, sale, profit, etc. are inadequate as a meeting the information needs of investors and administrators to assess the short and long terms prospects for companies. Most of the executives accept that companies need to include the financial and non-financial evaluations (Ghosh and Wu, 2012) to make precise decisions.

Strategic Competitive Advantages Theory

This theory allows a company to overcome its competitors. This theory includes an access to company's resources to gain an advantage over the competition, it is important to acheive the needs of the target customers to greater requisitions than competitor offers. The company needs to take into account competitors' strategies and target the needs of customers; therefore, it is importance to analyze the competition. The strategic competitiveness advantages factors are analyzed as the following (Ciburiene, 2009):

1) *Innovation Perspective (IP)* is ability of the administrators to determine principles for supporting work processes to accomplish innovativeness, this is including government policy makers, managers, and employees to improve their tasks (Elkins and Keller, 2003). This is to maintain administrative structures and also to improve resources usage. Thus, this can be innovation of the companies (Zawislak et al., 2013). Managers can lead Innovation to motivate more by what can happen for the profit of their companies. Innovation can drive positive change

and endless improvement in innovation growth and success to achieve of company's goals (Arniati et al., 2019).

2) *Creation Perspective (CP)* is the company's focus on the creations, collections, exchanges, and application of information in the systematic ways to effective information management to increases companies' level of competitiveness higher than competitors. The exceptional thoughts by employing procedures that are mainly used the creativities in actions that there is a relationship between profitability and non-profitability (Roberts, 1999). Ciburiene (2009) indicates that knowledge and creativity would form strategic competitive advantages development of the companies.

3) *Entrepreneurship Perspective (EP)* is defined as the capabilities to integrate creativity and executive to overcome managerial difficulties and challenge the course of developing processes, procedures, and products (Mbizi et al., 2013). The entrepreneurship is an executive's willingness to find opportunities for company's resources that have opportunity of success and failure (Wang et al., 2015).

4) *Technology Perspective (TP)* is an ability of company to create effective uses of technological knowledge (Westphal et al., 1985) and a capability to accomplish technical changes (Bell and Pravitt, 1995). The technology oriented strategy is an essential for company's strategic competitive advantages development then technological capability and systems applied to create technological development for strategic plans (Rush et al., 2007). This is to build new processes and tactics to create new product development and company's strategies and activities. Therefore, the technology perspective has a potential to positively affect company's performance in learning and growth.

Balanced Scorecard (BSC)

The learning and growth perspective is one in four elements (financial perspective, customer perspective, internal business perspective, and learning and growth perspective) of the BSC concept. The learning and growth perspective is to evaluate the company's performance evaluation through value, human capital, technology, infrastructure, culture and other company's capacities. This perspective may be known as 'Organizational Capacity' (Kaplan and Norton, 1992).

The balanced scorecard (BSC) is used to inspire employees to complement the company's goals. The BSC transform company's strategic plans to actions. The BSC can evaluate the company's strategic management, link strategy and processes in a new management system, create intrinsic motivation, and support all business units to corporate strategy (Kaplan, 2010). A key benefit of using BSC is that it leads companies a sustainable success by accomplishing the missions, visions and strategies. Akbarian et al. (2015) used BSC to analyze the strategic aims and a data envelopment analysis (DEA) to increase the company's strengths and decrease the weakness. Also Harwati and Permana (2017) mentioned that BSC as a performance indicator that has advantages on both financial and non-financial aspects. The BSC

is an extensive model for companies to organizing whole process of organizational strategy (Ghasemzadeh et al., 2017). In this regards, BSC presents the significance of non-financial measure in company and put the learning and growth perspective in a comprehensive indicator for a long-term policy (Thi et al., 2018). Consideration of learning and growth perspective such as ability to keep business, displacement of new products and services that may be helpful in determination of more accurate company's strategies. Thus, this research measure learning and growth perspective in the BSC model as a company's decision criteria for sustainable development of the company in a long term (Sultani and Mahfuz, 2018).

For the concepts of strategic competitive advantages, four determinants are posited that all of which are combined in the following framework (Figure 1). Therefore, the hypotheses are as follows:

H1: Innovation perspective positively affects company's learning and growth for sustainable development.

H2: Creation perspective positively affects company's learning and growth for sustainable development.

H3: Entrepreneurship perspective positively affects company's learning and growth for sustainable development.

H4: Technology perspective positively affects company's learning and growth for sustainable development.

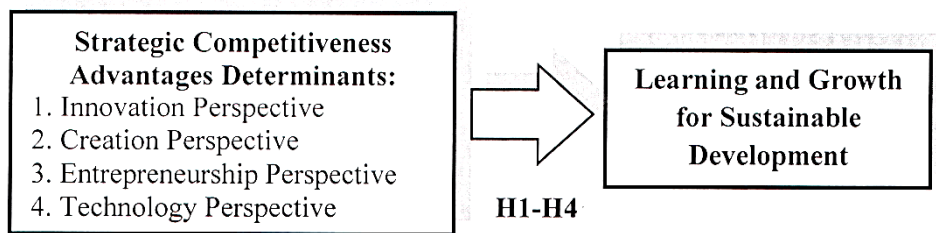


Figure 1: Research Framework

Research Methodology

Data Collection and Measurements

Data were collected from 84 logistics companies in Thailand who registered as the member of the Thai International Freight Forwarders Association (TIFFA, 2017). The key informants were the chief executive officer (CEO), managing director (MD), or managers of each logistics companies in Thailand. The questionnaire mail survey was used to collect which were distributed during September – November, 2017.

The questionnaire is divided into three parts. Part one requests for key informants' information, part two requests for general firm information, and part three is related to evaluating each of constructs in the conceptual model which measuring items are

anchored by a five-point Likert scale from 1= strongly disagree to 5 = strongly agree.

Test of Non-Response Bias

All 84 received questionnaires of logistics companies are divided into two equal groups (Armstrong and Overton, 1977) to test the non-response bias. The early respondents are the first group (n1 = 42) and the latter (n2 = 42) are the second group. Number of employees ($t=.133$, $p > .05$), total company's assets excluding land and vessels ($t = -.509$, $p > .05$), company age ($t = -.668$, $p > .05$), state of major shareholder ($t = -.458$, $p > .05$), and joint venture experience ($t = -.248$, $p > .05$). This shows that is not significant difference between the first and second groups of these two samples. It indicates a non-response bias between respondents and non-respondents in characteristical dataset. Therefore, a non-response bias is not a major point in this research.

Methods

The factor loadings of each item was tested from thirty companies in each sample. The results found that each item of every variable is loaded on a single factor and the range of loaded factor is between 0.422 and 0.726. This is to indicate acceptable construct validity (Neuman, 2005). The Cronbach's alpha (greater than 0.70) is applied to examine the reliability of the instruments used for each of the constructs estimated (Nunnally, 1994). As a result, the coefficients of Cronbach's alpha for every variable in this research expressed between 0.865-0.880.

The evaluation of the variable and interaction effects will be undermined due to problems of multicollinearity. The analysis of collinearity statistics can indicate that the range of the variance inflation factor (VIF) values is between 1.266 and 1.717. It indicates that there is no major multicollinearity issue (Hair et al., 2010) in this research.

This research employs the Ordinary Least Squares (OLS) regression analysis to test four hypotheses following the research framework. Therefore, all hypotheses in this research are transformed to equation for testing as follows:

$$LGD = \alpha + \beta_1IP + \beta_2CP + \beta_3EP + \beta_4TP + \varepsilon \quad (1)$$

Where:

LGD = company's performance in learning and growth for sustainable development; *IP* = Innovation Perspective; *CP* = Creation Perspective; *EP* = Entrepreneurship Perspective; *TP* = Technology Perspective.

Results

The results of demographical characteristics of the 84 respondents, about 64.3% of the respondents are male, 36-40 years old (35.7%), higher than the bachelor degree of education level (41.7%), 11-15 years working experience (29.8%), and department manager position (46.4%). Companies have more than 200 employees

(36.9%), 1,000,000-5,000,000 baht total company's assets excluding land and vessels (25.0%), more than 20 years of operation (41.7%), Asia as major shareholders (22.6%), and more than 20 years of joint venture companies (36.9%). The results of the correlation analysis of variables have significant positive relationships with company's learning and growth for sustainable development ($r = 0.299 - 0.464$, $p < .01$). The correlations among all variables are in the range of 0.299 to 0.546 with $p < 0.01$, which is lower than 0.7 (Hair et al., 2010). Thus, the results indicate no multicollinearity problem in this research. The mean and standard deviation (S.D.) of the company's learning and growth for sustainable development (LGD), independent variables (IP, CP, EP, and TP), and correlation values are presented in Table 1. The results find that technology perspective (TP) is explained as the most agreement determinants on average with the mean score of 3.86. Following with the entrepreneurship (EP), creation (CP), and innovation (IP) perspectives have average the mean scores of the agreement level at 3.85, 3.72, and 3.48, respectively.

Table 1: Descriptive Details and Correlations Matrix

Variables	Mean	S.D.	LGD	IP	CP	EP	TP	VIF
LGD	4.05	0.75	1					
IP	3.48	1.23	.299**	1				1.266
CP	3.72	0.78	.308**	.449**	1			1.717
EP	3.85	0.86	.302**	.546**	.393**	1		1.533
TP	3.86	0.62	.464**	.431**	.370**	.375**	1	1.327

** $p < 0.01$ (2-tailed)

The results of hypotheses tested are presented in Table 2. The Durbin-Watson found that 1.801 approves the values of all variables within an acceptable range between 1.50 and 2.50 (Gujarati, 2006). The F -statistic is significant with adjusted $R^2 = 19.50\%$ which the inclusion of performance improves the model's fit. There is one variable which is TP positive and significant ($p < 0.01$). This suggests that the strategic competitive advantages determinants and company's learning and growth for sustainable development of the logistics companies in Thailand is significant and positively affected by technology perspective. These results supports hypothesis 4 but not support hypotheses 1, 2, and 3 at the statistical significance of 1% level of significance.

The technology perspective illustrated that significantly and positively affects to the company's learning and growth for sustainable development ($\beta = 0.512$, $p < 0.01$). This is about high-tech services and distribution, new product development process, and application used in medium-high/high-technology companies. This implies that logistics companies need to highlight on technology through operational processes. Positively, high-technology performance is growth nowadays not only that it can be originally think of as high-tech but also a larger range of industries extension from production, trade, investment, and service through business networks.

The future of logistics companies and their capacities faces major economic, social, and environmental challenges. These companies rest largely on how they adapt technology to take advantage of environmental changes (Aulet and Murray, 2013). Logistics companies should move their strategies to business growth and develop on innovation and technology to drive growth and competitiveness in international market.

Technology perspective is extremely important to entrepreneurs involved in the advancement of scientific and technological knowledge and the rights of company's assets (Aulet and Murray, 2013). The technology-intensive companies are regarded for their potentials and impacted on competitiveness, economic growth, and prosperity sustainability (Bulut et al., 2019).

Table 2: Determinants of the Strategic Competitive Advantages and Learning and Growth for Sustainable Development

Independent Variables	Coefficients
Constant	1.740^{***} (.500)
IP	.004 (.067)
CP	.160 (.124)
EP	-.071 (.106)
TP	.512^{***} (.136)
No. of respondents	84
R ²	.234
R ² Adjusted	.195
F-Statistic	6.038
Durbin-Watson	1.801

**** p < 0.01 and beta coefficients with standard errors in parentheses*

Discussion

The results support only technology perspective related to the companies' learning and growth for sustainable development. The results are consistent with previous researches (Dvorak and Civinskas, 2018; Ghasemzadeh et al., 2017; Milolozza, 2017) in the above model indicating that logistics companies with high technology improvement will satisfy the competitive advantages and stay over the competitors. The companies with using technology perspective are required to enhance and sustain the competitive advantages for a long time.

The results are similar to Aymen et al. (2019)'s study that learning and growth perspective should be developed to achieve better intellectual capital and knowledge management by technological applications. This can enhance the company performance and ultimately company survives.

Conclusion

Managers should focus on the management philosophy that promotes new ideas and proactive working climate with technology. The technological applications and instruments can support working proficiency for employees.

Concentrating on strategic competitive advantages determinants (especially, technology) can result in companies' success. Equally, managers should also be conscious of the change and growth of technology perspective. The growth of technology can provide benefits to companies. Advances in technology can help to revolutionize operational processes and practices, enhance the efficiency of operations, build and capture the opportunities in the market and offer new values to customers and stakeholders.

Future Research Suggestions

Other business types such as service, financial, agricultural and etc. can conduct into the comparative research. The economic and financial determinants such as interest rate, sources of funds, sales, costs, and loan variables can be included as possibly affecting companies' performances. The qualitative of in-depth interviews may increase the up-to-date information. The qualitative methodology may draw an overview and comprehensive understanding of the companies' strategic competitive advantages.

Moreover, other statistical techniques like the Structural Equation Modeling (SEM) may apply to test hypothesis and determine the relationships of all constructs within the research framework. This would be fruitful to the literature to expand this research in the future.

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NAUKA I WZROST DLA ZRÓWNOWAŻONEGO ROZWOJU FIRM LOGISTYCZNYCH W TAJLANDII

Streszczenie: Artykuł poświęcony jest zbadaniu czynników warunkujących oczekiwanie i rozwój w celu osiągnięcia zrównoważonego rozwoju firm logistycznych w Tajlandii. Istnieją dwie teorie, które stanowią (1) strategiczną przewagę konkurencyjną i (2) zrównoważoną kartę wyników. W badaniach wykorzystano wysyłane kwestionariusze, ankiety wypełniło i zwróciło 84 respondentów. Kluczowymi informatorami byli: naczelni dyrektorzy wykonawczy, dyrektorzy zarządzający lub kierownicy firm logistycznych w Tajlandii. Firmy logistyczne muszą być zarejestrowane jako członkowie Thai International Freight Forwarders Association (TIFFA). Wyniki sugerują menedżerom skupienie się na filozofii zarządzania promującej nowe pomysły i proaktywny klimat pracy dzięki technologii. Technologia i jej zastosowanie mogą wspierać sprawność pracowników. Koncentracja na strategicznych determinantach przewagi konkurencyjnej (szczególnie technologii) może przynieść sukces firmom. Ponadto technologia może pomóc zrewolucjonizować procesy i praktyki operacyjne, zwiększyć wydajność operacji, budować i wykorzystywać szanse na rynku oraz oferować nowe wartości klientom i interesariuszom.

Słowa kluczowe: strategiczne przewagi konkurencyjne, zrównoważona karta wyników, firmy logistyczne

泰国物流企业可持续发展的学习与成长

摘要:本研究的主要目的是调查影响泰国物流公司可持续发展的趋势和增长的决定因素。有两个理论贡献:(1)战略竞争优势和(2)平衡计分卡。这项研究使用了问卷邮寄,完成了调查并返回了84位受访者。主要信息提供者是泰国的首席执行官,董事总经理或物流公司的经理。物流公司必须注册为泰国国际货运代理协会(TIFFA)的成员。结果表明,管理者应专注于管理理念,该理念可通过技术促进新想法和积极主动的工作氛围。该技术及其应用可以提高员工的工作水平。专注于战略竞争优势的决定因素(尤其是技术)可以导致公司取得成功。此外,技术可以帮助革新运营流程和实践,提高运营效率,建立和抓住市场机会,并为客户和利益相关者提供新价值。

关键词:战略竞争优势平衡计分卡物流公司