

Guideline for Decision to Select use Third Party Logistics Service Provider (3PL) to Enhance Performance of Competitiveness in Industrial Business Sectors

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Abstract

The continuous increase in logistics costs greatly affects the competitiveness of industrial businesses. Deciding to decision select a good third party logistics service provider is critical to reducing the cost of an industrial business. The purpose of this study was to investigate guidelines for decision to select use third party logistics service provider to enhance competitiveness in industrial business sectors. The findings would then be used to develop a structural equation model of such guidelines. Both qualitative and quantitative research was conducted. Questionnaires were used to collect the quantitative data from 500 industrial business executives who employed logistics service provider. Descriptive, referential, and multivariate statistics were used to analyze the data.

It was found that the guideline for decision select use logistics service provider to enhance performance of competitiveness in business industrial sectors included 4 components prioritized according to the found means as followed: service quality ($\bar{X} = 4.16$), operations management ($\bar{X} = 4.14$), organization characteristics ($\bar{X} = 4.10$), value benefit ($\bar{X} = 3.91$), respectively. The most important guideline item found in each component was: the speed and accuracy of services by logistic service provider; consultants/specialists/academics of the organization to give advice on administration such as legal, tax, IT, etc.; experience in logistics services provider; reasonable and competitive logistics service prices, respectively. As for the hypothesis test, the study showed, as a whole, that the executives in large, medium and small industrial business similarly recognized the importance of the decision select use third party logistics service provider to enhance performance of competitiveness in business industrial sectors at the statistical significance level of 0.05.

The analysis of the developed structural equation model revealed that it passed the assessment criteria and was consistent with the empirical data. The calculated values of probability of chi-square, the relative chi-square, the index of consistency, and the root mean squared error of approximation were 0.061, 1.175, 0.962, and 0.019, respectively.

Keywords: third party logistics service provider, competitive performance, industrial business sectors.

Introduction

Increasing competitiveness is essential in leading the country towards sustainable development due to intense global business competition. As a result, the level of prices affects the industrial sector that is burdened with higher operating costs. Costs are divided by activities into 2 groups: production costs and logistics costs (Logistics Division Department of Industrial Promotion, 2020). Production costs is the total cost used in production such as raw material cost, labor cost, cost involved in producing the product. The logistics cost section relates to the cost of operating or all activities related to logistics which is a factor that affects the operations of the industrial sector and the important thing is Logistics costs, which are very important, affect the pricing of goods and services that affect sales and continued competition (Office of the National Economic and Social Development Council, 2020). Logistics costs consist of transportation costs, Inventory Keeping Costs and management costs, which tend to continue to rise, as shown in Figure 1.

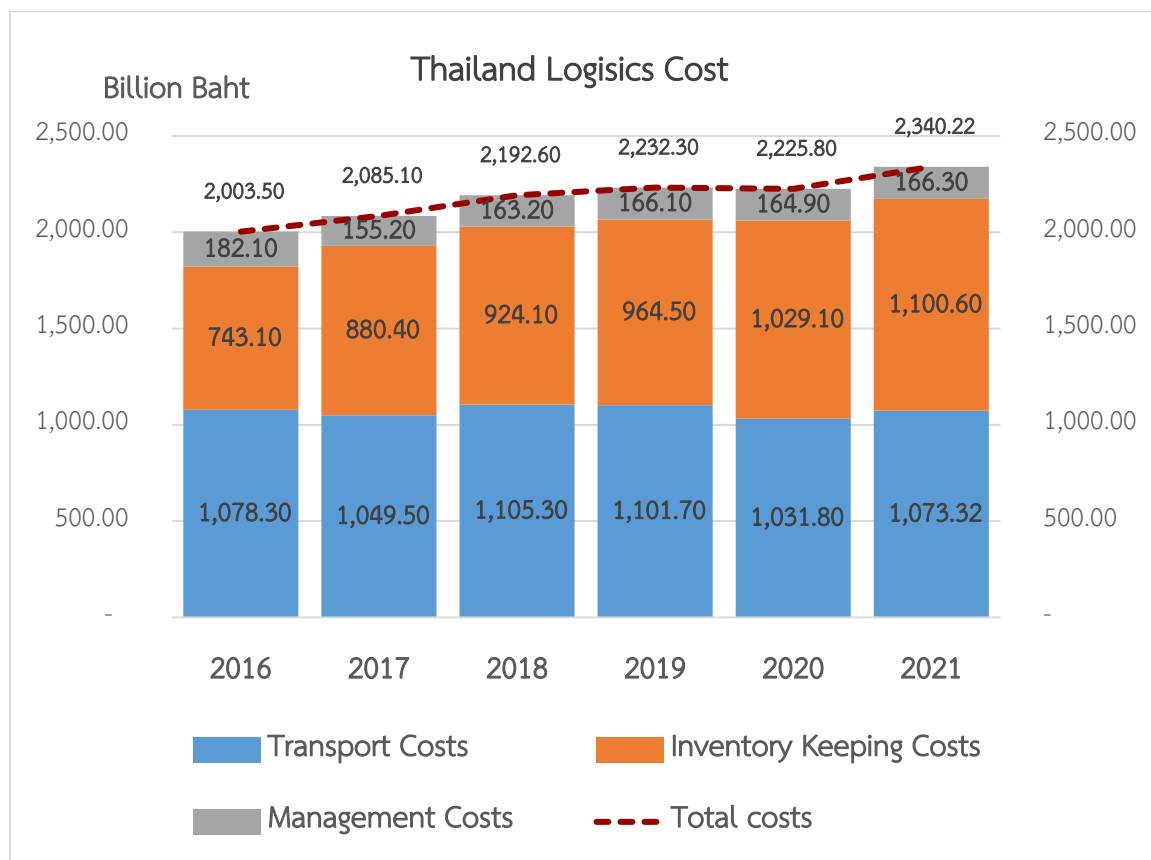


Figure 1 Thailand Logistic Cost (Office of the National Economic and Social Development Council, 2020).

From Figure 1, logistics costs have continued to rise. As a result, operators have to bear higher costs. Therefore, in order to reduce the cost incurred entrepreneurs have turned to using services that are hiring others (Outsourcing) to do business on behalf of oneself in order to reduce costs from logistics activities that require high costs, resulting in the emergence of third party logistics service provider business which is a contracting business for doing global activities. Whole logistics or only partial contracting activities (Nattapong, 2021).

Research Objectives

- 1 To study the components of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors.
- 2 To develop a structural equation model (SEM) guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors.

Research Hypothesis

From research objectives and related literature The researcher therefore formulated the hypothesis of the research according to the theory. which can be summarized into 6 hypotheses of the research (H1-H6) as follows:

- 1 H1 : Organization Characteristics Components Direct influence on Value Benefit components (Bansal, Kumar, and Issar, 2013) and (Sharma and Kumar, 2014).
- 2 H2 : Organization Characteristics Components Directly influenced the Service Quality component (Stefan et al.,2019) and (Soon Hu Soh, 2019).
- 3 H3 : Organization Characteristics Composition Direct influence on the Operations Management component (Alkhatib et al., 2015) and (Bali et al., 2015).
- 4 H4 : The Value Benefit component directly influences the Service Quality component (Serdarić and Konakli, 2018) and (Yesim et al., 2015).
- 5 H5: The Operations Management component directly influences the Service Quality component (Bayazit and Karpak, 2013) and (Alkhatib et al., 2015).
- 6 H6 : The level of importance of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business as a whole categorized by business size was no different (Gurcana et al., 2016).

Research Methodology

This research is to create a new body of knowledge by using a blended research consisting of 3 parts: qualitative research with in-depth interview techniques; Quantitative research with exploratory data collection and qualitative research using group discussion techniques to verify the validity of the research model. The method of conducting research consists of steps in sequence as follows:

Qualitative research with in-depth interview techniques. Nine experts, comprising 3 industrial business administration experts, 3 government or related executives experts, and 3 academic experts, were interviewed with open-ended questions based on the 4 components reviewed from relevant theories and literature, of which 4 components are 1) Organization Characteristics components 2) Value Benefit component, 3) Service Quality component, and 4) Operations Management component. The Index of Item Objective Congruence (IOC) examination result is between 0.60. –1.00 (accepted at > 0.5) When 100 questions, all 4 components, were tested and analyzed for the confidence of the questionnaire by finding Cronbach's Alpha Coefficient. got a value of 0.988 (accepted at >0.8). The values were between 0.51–2.63 and the question scale was estimated. By analyzing the Corrected Item–Total Correlation values, the values were between 0.33–

081, respectively.

Quantitative research by sending a questionnaire to business executives in large industries Small and medium-sized enterprises that use third party logistics service provider Running a business with continuous profits The three-month process involved collecting data from a total population of 2,000. The sample size of 500 (Comrey and Lee, 1992, referenced in Thanin, 2020) comprises 250 from large industrial businesses using third party logistics service provider. In logistics, the business continues to be profitable, and 250 of the small and medium-sized industrial enterprises that use logistics third party logistics service provider operate their business with continued profit. The questionnaire was a checklist and an estimation scale. The criterion for the weight value was defined as 5 levels according to the Likert method. Data analysis was done using both descriptive statistics. Statistics are referenced by SPSS software package. and develop a structural equation model using AMOS software, there were 4 criteria for Evaluating the Data-Model Fit: 1) Chi-square probability greater than 0.05, 2) Relative chi-squared less than 2.00, 3) Conformity index greater than 0.90 and 4) Root mean squared index of estimation error less than 0.08.

Qualitative research using focus group techniques with 11 experts to certify the structural equation model of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors.

Research Findings

Table 1 Research results, the level of importance of the components of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors.

Components of the approach guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors	Medium and Small			Large		
	\bar{X}	S.D.	Importance Level	\bar{X}	S.D.	Importance Level
The importance of overall components	4.07	0.87	High	4.04	0.91	High
1. Organization Characteristics	4.12	0.84	High	4.09	0.87	High
2. Value Benefit	3.92	0.94	High	3.90	0.98	High
3. Service Quality	4.17	0.88	High	4.15	0.90	High
4. Operations Management	4.09	0.84	High	4.04	0.89	High

Table 1 presents the overall importance level and all 4 factors of the structural equation model, the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors. The small and medium-sized businesses found that the overall picture was very important. The mean was 4.07 and when considering each component, it was found that every component is of great importance. The Service Quality component had the highest average ($\bar{X} = 4.17$) followed by

Organization Characteristics ($\bar{X} = 4.12$) Operations Management ($\bar{X} = 4.09$) and Value Benefit ($\bar{X} = 3.92$) respectively.

Large businesses found that overall, it is of great importance. The mean was 4.04 and when considering each component, it was found that every element is of great importance. The Service Quality component had the highest average ($\bar{X} = 4.15$) followed by Organization Characteristics ($\bar{X} = 4.09$) Operations Management ($\bar{X} = 4.04$) and Value Benefit ($\bar{X} = 3.90$) respectively.

The results of the comparison of the level of importance of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors as a whole, when classified by the size of the industrial business, found that there was no statistically significant difference at the 0.05 level.

Results of the Harmony Assessment of the Structural Equation Model (SEM) guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors before the improvement of the model and after the improvement of the model appeared as shown in Table 2.

Table 2*Statistical values assessing the conformity of the structural equation model (SEM) Compare before and after model improvement.

Statistics	Criteria	Before Adjusting	After Adjusting
CMIN-p	More than 0.05	0.000	0.061
CMIN/DF	Less than 2.00	3.445	1.175
GFI	More than 0.90	0.522	0.962
RMSEA	Less than 0.08	0.070	0.019

From Table 2, statistical values before model improvement. It was found that only one criterion passed: The root index of the squared mean of the error estimation was 0.070, less than 0.08, but the other three did not pass the assessment criteria. The researcher therefore analyzed and improved the model by considering the Modification Indices to exclude the unsuitable observational variables one by one, it was found that the chi-squared probability was 0.061 which was greater than 0.05. The relative chi-square had The value is 1.175 which is less than 2.00, the conformance index is 0.962 which is greater than 0.90 and the square root mean of the error estimation is 0.019 which is less than 0.08. It was concluded that the model passed the assessment criteria was consistent with the empirical data.

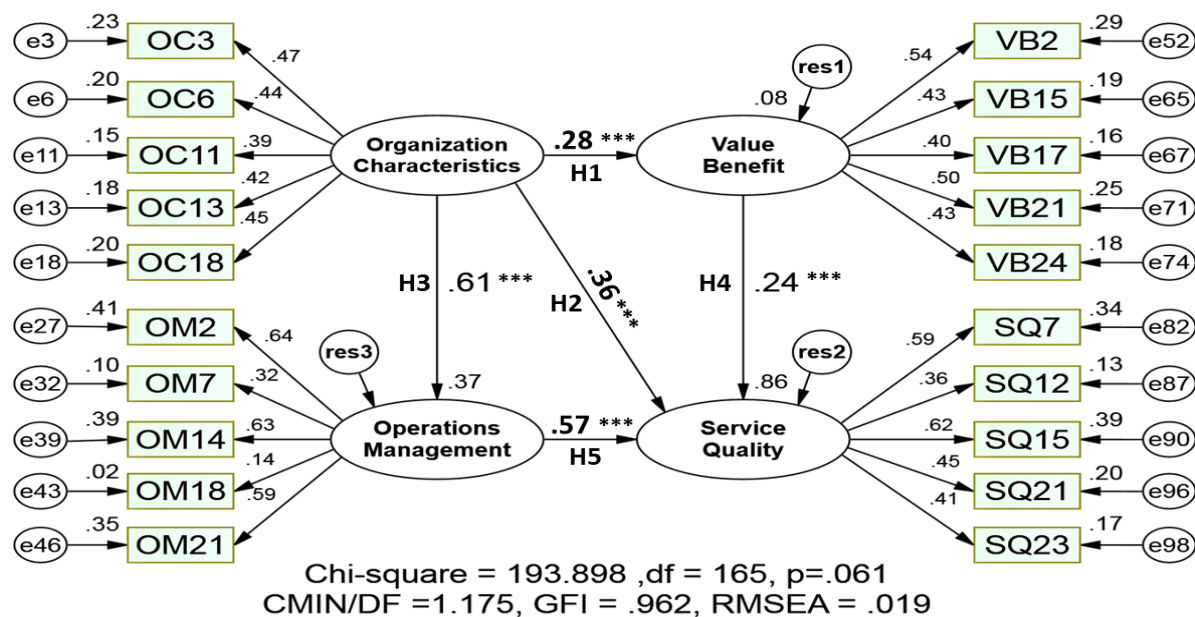


Figure 2 Structural equation model guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors in Standardized Estimate mode.

From Figure 2, the results of the analysis of the causal influence between the variables in the Structural Equation Model of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors in the Standardized Estimate mode revealed that :

Research Hypothesis No. 1 : Organization Characteristics Variables Direct influence on value benefit variables The statistical significance at the 0.001 level was weighted equal to 0.28.

Research hypothesis No. 2: Organization Characteristics variables directly influenced service quality variables. The statistical significance at the 0.001 level was weighted equal to 0.36.

Research hypothesis No. 3: Organization Characteristics variables directly influenced operations management variables. The statistical significance at the 0.001 level was weighted equal to 0.61.

Research hypothesis No. 4 : Value Benefit variable directly influenced the service quality variable. The statistical significance at the 0.001 level was weighted equal to 0.24.

Research hypothesis item 5 : Operations Management variables directly influenced service quality variables. The statistical significance at the 0.001 level was weight equal to 0.57.

The statistical value obtained from the model analysis after model improvement is shown in Table 3.

Table 3 Statistical values obtained from structural equation model analysis after model improvement.

Variables	Estimate		R ²	Variance	C.R.	P
	Standard	Unstandard				
ORGANIZATION CHARACTERISTICS				0.19		
OC3	0.47	1.00	0.23	0.64		
OC6	0.44	0.77	0.20	0.45	6.20	***
OC11	0.39	0.83	0.15	0.72	5.70	***
OC13	0.42	0.80	0.18	0.54	6.04	***
OC18	0.45	0.95	0.20	0.64	6.27	***
VALUE BENEFIT				0.08		
VB2	0.54	1.00	0.29	0.84		
VB15	0.43	0.65	0.19	0.64	5.98	***
VB17	0.40	0.60	0.16	0.69	5.64	***
VB21	0.50	0.84	0.25	0.75	6.40	***
VB24	0.43	0.68	0.18	0.72	5.93	***
SERVICE QUALITY				0.86		
SQ7	0.59	1.00	0.34	0.57		
SQ12	0.36	0.47	0.13	0.43	6.65	***
SQ15	0.62	0.88	0.39	0.90	10.02	***
SQ21	0.45	0.71	0.20	0.61	7.90	***
SQ23	0.41	0.72	0.17	0.78	7.31	***
OPERATIONS MANAGEMENT				0.37		
OM2	0.64	1.00	0.41	0.45		
OM7	0.32	0.47	0.10	0.60	5.92	***
OM14	0.63	0.97	0.39	0.45	10.08	***
OM18	0.14	0.22	0.02	0.74	2.72	**
OM21	0.59	0.89	0.35	0.45	9.76	***

*** Significant Leve 0.001 ** Significant Level 0.01

From Table 3 Organization Characteristics Components consists of 5 Observed Variables as follows: Variable 1) CSR activities which are social and environmental activities such as reforestation, scholarships, awareness campaigns, Help Victims (OC3) Weight (Standardized Regression Weight) 0.47. 2) Variables, there is a clear target for the work of the third party logistics service provider (OC18), Standardized Regression Weight (0.45) 3) Variables include vehicles, machines, buildings. Environmentally friendly (OC6) Weight (Standardized Regression Weight) 0.44 4) Variable Shareholding of third party logistics service provider (OC13) Standardized Regression Weight 0.42 5) Variable Adequacy of manpower or labor providing logistics services (OC11) Standardized Regression Weight 0.39.

The Value Benefit component consists of five Observed Variables as follows: 1) VB2, Standardized Regression Weight 0.54, 2) Variable Additional services for employers free of charge such as consulting providing the required information Joint problem analysis (VB21) Standardized Regression Weight 0.50 3) Fair or reasonable insurance or compensation variables in case of damage in logistics operations (VB15) Weight values (

Standardized Regression Weight) 0.43 (C.R. = 5.98) 4) Opportunity to negotiate to improve service prices that change according to economic conditions for appropriateness of costs and profits (VB24) Standardized Regression Weight 0.43 (C.R. = 5.93) 5) Variables reduce opportunity costs for employers, such as using funds to develop products instead of building fixed assets themselves (VB17), Standardized Regression Weight 0.40.

The Service Quality component consisted of five Observed Variables as follows: 1) the non-dismissal variable in the contract (SQ15), the standardized regression weight 0.62; 2) the training variable. Personnel have the ability to work interchangeably/ inter-changeably to prevent mistakes when changing leave (SQ7) Standardized Regression Weight 0.59 3) Variable Knowledge is shared among personnel within the third party logistics service provider organization. (SQ21) Standardized Regression Weight 0.45 4) Variable care/ maintenance assets, condition of vehicles and machinery, equipment used in logistics by third party logistics service provider. (SQ23) Standardized Regression Weight 0.41 5) Variable ability to clearly communicate information related to services to customers (SQ12) Standardized Regression Weight 0.36.

The Operations Management components consist of 5 Observed Variables as follows: 1) Variables have a backup plan for emergency situations. that may occur during the operation of the third party logistics service provider (OM2) Standardized Regression Weight 0.64 2) Variables The presentation of the contract or agreement of the third party logistics service provider at be clear True and fair to customers (OM14) Standardized Regression Weight 0.63 3) Variables Creating a good atmosphere in the work of third party logistics service provider (OM21) Standardized Regression Weight 0.59 4) Variables Personnel participation in expressing opinions on the improvement of third party logistics service provider' services (OM7), Standardized Regression Weight 0.32 5) Variables are clear in sequence of steps. Ordering within the third party logistics service provider organization (OM18) Standardized Regression Weight 0.14.

Discussion

Key issues found from research findings regarding guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors. It is a guideline for decision to select use third party logistics service provider that focus on building competitiveness in the industrial sector. Under today's environment that changes rapidly in technology to create long-term success From the results of this research The researcher brought it to the discussion. To come to a conclusion by bringing relevant research documents to support or contradict 7 items as follows:

From research results when comparing the composition of the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors. Overall, there was no statistically significant difference at the 0.05 level due to small and medium-sized industrial businesses, large industrial businesses. There is a nature of business in choosing use third party logistics service provider. logistics in the same direction consistent with research on Third Party Logistics (3PL) provider selection with AHP applications including reputation, long term relationship, financial performance, compatibility (Compatibility) in accordance with the research on Third Party Logistics (3PL) Provider Selection with AHP Application ([Omer Faruk Gurcana, İbrahim Yazıcıb, Omer Faruk Beycac, Cigdem Yavuz Arslan, 2016](#)).

From the hypothesis testing results, it was found that the Organization Characteristics Directly influencing the Operations Management component has the highest Standardized Regression Weight of 0.61, demonstrating that organizational characteristics are essential to doing business. The organization's characteristics with a learning and growth perspective focus on the logistics processes perspective that leads to operational management to create a work system to this is consistent with the logistics service providers (LSPs) evaluation and selection: literature review and framework development (Alkhatib) research. , (SF, Darlington, RI and Nguyen, TT, 2015), including relationships that consist of Operational guidelines and experience (Image and experience) Technology capability Echnological Capabilities, Delivery time, Quality, Costing, Availability and Flexibility. Availability and flexibility (Ozkan Bali, Serkan Gumus and Ihsan Kaya, 2015), including empirical attention to internal decision-making processes that support the role of risk management in stable performance. with business processes to be used to manage and identify risks in business models Managers are able to make informed and conscious decisions with empirical evidence to discuss whether business models are useful structures and to explore management options for the future (Boonnuan and Thawornsujaritkul, 2021).

Guidelines for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors In terms of service quality, the average was 4.16, which was the highest average. Corresponding to the research on evaluating the service quality of third- party logistics service providers using the analytic hierarchy process reflects the importance of service quality directly affecting the business sector as service is the most important factor to perceive. 3 PL customers consist of 1) Physical, physical characteristics of personnel, tools or equipment used; in service 2) Reliability The ability to provide reliable and accurate service as promised; 3) Responsiveness, willingness to help customers and provide prompt service in response to customer requests and problems; 4) Confidence, skill, knowledge and courtesy of the provider. service and the level of trust they communicate with their customers; 5) Individualized care, company care and attention for customers (Soon-hoo SoI, JaeJon KimII, KiJu CheongII, Geon ChoII, 2006) aligned with the Logistics Service research. Quality as a Segment-Customized process by service quality structure demonstrate the validity and reliability of large logistics enterprises, and provide empirical support for logistics service quality processes, support logistics service quality processes in Customer groups that should customize logistics services according to customer groups include: 1) The quality of personnel contact 2) The quantity of orders 3) The quality of the information 4) The order process 5) The accuracy of the order 6) Order Conditions 7) Order Quality 8) Handling order tolerances 9) Timeliness (John T. Mentzer, Daniel J. Flint, & G. Tomas M. Hult, 2001) and in accordance with the task. Logistics Service Quality: Conceptual Model and Empirical Evidence research shows from the study that customer-focused quality is the most important aspect of developing quality-aware logistics services, consisting of 1) Customer focus 2) Quality of compliance with orders 3) Timeliness 4) Quality of information 5) Image (Vinh V. Thai, 2013).

Guidelines for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors. In terms of service quality, it was found that the speed and accuracy of the third party logistics service provider 's service having a mean of 4.40 (SD.= 0.82) having the highest importance focus on logistics

capabilities to deliver service quality and create greater satisfaction with delivery services. Consistent with the research on Logistics service quality: a new way to loyalty (Irene Gil Saura, David Servera Frances, Gloria Berenguer Contrí, Mari´a Fuentes Blasco, 2008) describes quality, satisfaction and loyalty in the delivery context. Provide logistics services with the objective of considering the role of information and communication technology (ICT) which consists of 1) Personnel Quality 2) Information Quality 3) Order Quality 4) Timeliness 5) Satisfaction 6) Loyalty (Irene Gil Saura, David Servera Frances, Gloria Berenguer Contrí, Mari´a Fuentes Blasco, 2008). Corresponding to research on logistics service process quality and logistics service quality results affecting customer loyalty. Positive attitude and behavioral loyalty with satisfaction as a variable consisting of logistics service process quality. Quality of employees, Data quality, Service cost, Quality of ordering process service readiness error handling use of technology, Quality of logistics service results timeliness, product condition, Accuracy, Loyalty attitude emotional commitment being the first choice positive word of mouth, Referrals to others, Loyalty, Behavioral, Continuous patronage, Increasing service traffic (Kittinat Nunthong, Pattaraphon Chummee, Wongthera Suwanin, 2019).

From the results of the analysis of the relationship between the variables in the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors. After improving the structural equation model, it was found that the personnel participation variables in expressing opinions on the improvement of third party logistics service provider service work. The highest correlation with the variable had consultants/experts/academics of the organization to give advice on management tasks such as law, tax, IT, etc. The highest correlation value was at 0.47, consistent with the research on Collaborations and Operational Flexibility on Strategic Orientations-Performance: 3 PLs User Perspective Operational Flexibility Regarding Performance Strategic Orientation From a user perspective, 3PLs describe the transport and logistics efficiency resulting from collaboration and include flexibility in logistics operations. Consistent with the study Modeling the Operational Performance of 3PLs, modeling the performance of 3PLs is a theoretical link between the factors that it is thought to influence capacity development and performance impact using data from a third-party (3PL) logistics environment, performance and efficiency during the learning process and performance. It provides a theoretical framework covering structural equation modeling to test the direct and indirect relationships of 3PL during the learning process. The ability to absorb employees Performance factors are indirectly influenced through the ability to perform in a 3PL environment (Chris Hemstrom and Norma Harrison, 2012) and are consistent with research on assessing performance factors for a 3PL in a value chain. 3PL in the value chain. The integrated strategic and operational goals are assessed within a framework based on four levels. Performance goals planning activities logistics operations and efficiency characteristics of logistics operations. The analytical network process is used to determine the powerful performance characteristics that contribute to the sector. Logistics by demonstrating a paradigm shift in performance measurement (Gulgun Kayakutlu, Gulcin Buyukozkan, 2010).

Guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors In terms of Operations Management, it was found that there were consultants/specialists/academics of the organization to give advice on management tasks such as law, tax, IT, etc., with an average of 4.60, consistent with the research on collaborations and operational.Flexibility on strategic, Orientations-Performance: 3 PLs ,User Perspective is the use of third party logistics service provider to get good results in the market. In conclusion, collaborating with third-party logistics service providers is one of the feasible strategies for companies to advance their

operations (Xiaoyu Wang, 2010). Research on assessing performance factors for a 3PL in a value chain by logistics operations highlighting the efficiency characteristics of logistics operations. The network analytics process is used to define attributes. Optimal performance (Gulgun Kayakutlu, Gulcin Buyukozkan, 2010) aligns with the study Modeling the Operational Performance of 3 PLs through the learning process and the absorption of employee competency influencing performance with operational capabilities. Work in 3 PL according to the environment (Chris Hemstrom and Norma Harrison, 2012) and in accordance with the research on Guidelines for Innovation Development for Increasing Logistics Efficiency of Manufacturing Industrial in Thailand. Innovative practices developed to optimize the logistics of the manufacturing industry with the most advanced methods consist of 1) Logistics knowledge management, that is, giving employees the opportunity to study logistics; To increase knowledge and skills 2) Contemporary technology, i.e. exchanging technology, information, information both inside and outside the organization via the Internet 3) Management: appointing executives with vision, foresight, and creativity. to lead the organization towards sustainable success and 4) Cooperation networks, including the establishment of an up-to-date and easily accessible customer database system (Leepaitoon, Lata, Worawattanaparinya, 2020).

Guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors organizational characteristics (Organization Characteristics) found that the experience in logistics services of third party logistics service provider with a mean of 4.48 (SD. = 0.84) having the highest significance. consistent with the research on Characteristics of a Logistics-Based Business Model (Characteristics of a Logistics-Based Business Model) has studied and conducted research on logistics-based business models. Its objective is to explore the nature of the logistics business model. Therefore, this research helps to establish a logistics infrastructure as a business model and identify how it can be forwarded to logistics and distribution companies for an overall strategy of logistics. Companies are 1) Multiple common strategies 2) Whole supply chain utilization 3) Combination of lean and agile strategies 4) Intuitive logistics processes are well managed 5) Centralization of logistics design, planning and control 6) IT and logistics operations have outstanding capabilities 7) Flexibility in logistics supports a unique set of offerings 8) Single-functional logistics (Erik Sandberg, Tobias Kihlén and Mats Abrahamsson, 2011) is consistent with the research paper Logistics Strategy Organizational Design and Performance in a Cross-border Environment. The organizational design used to implement strategy and performance outcomes is experienced as a result of controlling the relationship between organizational design and performance. In addition, the total medium of this is consistent. With the hypothetical relationship between strategy selection and organizational design, the components were 1) Overall performance, 2) Strategic choice, 3) Level of integration, 4) Size of the company, 5) Level of integration decision center 6) Process of formalization 7) The level of expertise of staff skills (Theodore P. Stank Pater, Trick A. Traical, 1998) is consistent with the results of the study (Thawornsujaritkul, 2018) found that the four factors that entrepreneurs are most interested in are core activities, Value, Key resources and Cost structure, adding another five for better operational efficiency, which consists of customer groups, Customer relationship, Revenue channels, Main partners and Various channels.

Research Conclusion

Guideline for decision to select use third party logistics service provider to enhance

performance of competitiveness in industrial business sectors, there are 4 main components.

The arranged in order of importance as follows:

Organization Characteristics component is experience in providing third party logistics service provider.

Value Benefit component is the competitive pricing of logistics services.

Service Quality components include the speed and accuracy of the third party logistics service provider.

Operations Management components include having consultants/ specialists/ academics in the organization to give advice on management tasks such as legal, tax, IT.

Recommendations for Future Research

- 1 From the research study, it was found that more diverse industry groups or operator locations spanning all major and sub-sectors. including more industrial estates in order to get a guideline for decision to select use third party logistics service provider to increase the efficiency of diverse competition. This will increase the efficiency of competition or may increase other factors that are expected to affect the guideline for decision to select use third party logistics service provider to enhance performance of competitiveness in industrial business sectors.
- 2 From the research study, it was found that experienced executives can lead industrial businesses to participate in logistics award contests to enhance success, such as the award for entrepreneurs with excellence in logistics management (Excellent Logistics Management Award: ELMA) or the industry award outstanding (The Prime Minister's Industry Award) Logistics Management Category to be used to improve the organization to be competitive.
- 3 From the research study, it was found that large industrial business Small and medium-sized enterprises that use third party logistics service provider to operate business in the industrial sector of Thailand. There is still a lack of research, comparative data to make decisions about choosing important third party logistics service provider. For use to improve the capacity development of industrial businesses that use third party logistics service provider. Therefore aiming to the education sector has conducted research on building decision making capacity for third party logistics service provider. logistics in the industrial business sector in various comparative forms to lead to the development of the organization in the right direction for the long-term competitive advantage of the organization as well as increase the efficiency of competition and create economic stability of the nation, government or related agencies.

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