

CHAPTER V

CONCLUSION AND RECOMMENDATION

The purpose of this chapter is to analyze and interpret the result of data analysis, which are collected from the questionnaires and depth interview in order to prove the research objectives. The results of data analysis are based upon the data collection of 93 respondents, using SPSS program did the compiled data and analysis. The analysis of the result in this chapter is related to results in chapter 4, which are (1) the results of respondent's general information analysis, (2) the results of respondent' attitude toward factor considered in selecting 4PL providers, (3) the result of respondent's perception toward expected benefits and obstacles in using 4PL providers, (4) the hypothesis test result and (5) the result from depth independent interview.

5.1 Research Findings from Questionnaire

Firstly, the researcher needs to find of general characteristic of respondents in order to understand their attitude and perception from their personal information provided. In this research, the researcher sets 4 analysis criteria as type of industry, company latest revenue, the company's current logistics strategy and the use of logistics service of them. From SPSS results, the researcher found that 74.2% of respondents of this research are from consumer product industry (another 25.8% are from automotive industry) who mostly annual income around 1-50 million baht. In regard to current logistics strategy, 93.5% of respondents mentioned to outsourcing by 3PL while only 6.5 % employed insourcing logistics strategy. In addition, 81.7% used logistics in warehousing, 75.3% used in transportation and 3.2% used in procurement respectively.

Secondly, the researcher was analysis the results of respondent' attitude toward factors considered in selecting 4PL providers by divided respondents into 2 groups which are the group of automotive respondents and consumer product respondent. The results of automotive respondents is show that they think that 4PL can help to increase the company's core competency ($X = 4.33$) and can higher supply chain capabilities ($X = 3.92$). The respondents do not caring of low technology capabilities of them ($X = 2.25$) because they think that this can improve and

development later. For consumer product respondents, they think that 4PL can help to increase the company's core competency ($X = 3.96$) and at the present, customers' supply chain demands exceeding its capability to deliver. ($X = 3.84$). Hence, the implement of 4PL can help to fulfill that demand. Factor that they give less important level is lacking technology capabilities to integrate across its supply chain processes ($X = 2.33$). The reason is the same as automotive respondents which is they think that technology can improve, training and development in the future.

Thirdly, the researcher was analysis the results of respondent's perception toward expected benefits and obstacles in using 4PL providers. The result is shows that respondents mostly think that 4PL will generate benefit to cost (37.6%), efficiency improvement (29.45%), administration (16.94%) and point of contact (16.53%) respectively. For obstacle, the result is shows that main obstacle for using 4PL from respondents attitude is the lack of management confidence that outside party will deliver the same high level services as the company provided (18.56%).

5.2 Research Findings from Hypothesis Test

For hypothesis test, it will be used to explain the phenomenon on the reasoned proposals suggesting a possible correlation between the multiple phenomena (Schick, Theodore and Vaughn, Lewis, 2002). In this research, the researcher found that there are difference factors for selecting 4PL service provider between automotive and consumer product industry and the two means of factor in selecting 4PL service provider are difference, except factor 3-4 and factor 7-8, which can be explained as following.

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
1.Lacking the technology capabilities to integrate across its supply chain processes	2.44	This reflects the fact that most companies are looking to outsource non specialist to service providers and they can acquire new technology to support supply chain function.
2.The need of supply chain integration, focusing on core competency	4.05	

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
2.The need of supply chain integration, focusing on core competency	4.05	This reflects the fact that most companies are looking to outsource non specialist to service providers and they can acquire new technology to support supply chain function.
3.Lacking the technology capabilities to integrate across your logistics service providers	2.25	

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
4. 3PL's lacking of the strategic expertise and IT resources required to operate across the entire supply chain and to truly integrate supply chain processes	2.25	This can show that users prefer to communicate with only one party for immediate action.
5. Using multiple 3PLs's in the same time	2.96	

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
5. Using multiple 3PLs's in the same time	2.96	This reflects that users would like simply management in their supply chain and would not like to spend more time for managing high complexity level of supply chain area.
6. Struggling to manage increasing levels of supply chain complexity	3.48	

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
6. Struggling to manage increasing levels of supply chain complexity	3.48	This can be opportunity for service providers companies to show up their potential and advantage to their customers.
7. The availability of specialized companies in supply chain competencies	3.75	

Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
8. Customers' supply chain demands exceeding its capability to deliver	3.82	Service providers can notice that users are interested in service abilities as their customers have more demand in supply chain.
9. Growing complexity of 3PL contracts	3.06	
Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
9. Growing complexity of 3PL contracts	3.06	3PL can apply this factor to improve their abilities and competency since customers agree that they have limited potential.
10. 3PL's reaching their limit of what they can do to improve the supply chain performance and the cannot deliver continuous and ongoing savings	3.54	
Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
10. 3PL's reaching their limit of what they can do to improve the supply chain performance and the cannot deliver continuous and ongoing savings	3.54	3PL can apply this factor to improve their abilities and competency since customers agree that they have limited potential.
11. Considering the supply chain critical to its success but not every supply chain process a corer competency	2.63	
Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
11. Considering the supply chain critical to its success but not every supply chain process a corer competency	2.63	This fact show the need in asset utilization for supply chain area which customers agree that they can utilize their assets by using service providers.
12. Making better use of the capital dedicated to supply chain assets	3.60	
Factor considered in selecting 4PL providers	\bar{X}	Researcher Comment
12. Making better use of the capital dedicated to supply chain assets	3.60	This fact show the need in asset utilization for supply chain area which customers agree that they can utilize their assets by using service providers.
13. The economic downturn pressures	3.18	

5.3 Research Findings from Depth Interview

From depth interview, the researcher was interviewed 6 professionals who respond in logistics function. The result was shows as Table 5.1 below.

Table 5.1: Comparison of results from 6 professionals

Company	1	2	3	4	5	6
The most important factors in selecting 4PL provider						
▪ Using multiple 3PLs's in the same time	✓		✓			
▪ The economic downturn pressures					✓	
▪ The need of supply chain integration, focusing on core competency						✓
▪ Lacking the technology capabilities to integrate across its logistics processes		✓				
▪ Considering the supply chain critical to its success but not every supply chain process a corer competency				✓		
The least important factors in selecting 4PL provider						
▪ The need of supply chain integration, focusing on core competency	✓					
▪ Lacking the technology capabilities to integrate cross its supply chain processes		✓			✓	✓
▪ The economic downturn pressures			✓			
▪ Making better use of the capital dedicated to supply chain assets				✓		
Expected Benefits from 4PL services						
▪ Cost		✓				
▪ Point of contract	✓		✓			
▪ Administration						
▪ Efficiency improvement				✓	✓	✓
Obsfaeles of using 4PL services						
▪ Loss of control to an outside party		✓	✓	✓	✓	✓
▪ Difficulty of assessing the financial savings to be gained through outsourcing	✓					

Source: The result from depth interview result

5.4 Research Results Conclusion

In conclusion, the researcher will conclude this research results by answering of 4 research questions in chapter 1 as following.

Question 1: What are the most important factors used in selecting 4PL providers?

From questionnaire, it shows that 'The need of supply chain integration, focusing on core competency' is the most important factors selecting 4PL providers. This factor is nearly the same as depth interview results, which shows that mostly professionals think 'Using multiple 3PL in the same time' is most important factors in selecting 4PL providers. This can imply that logistics service users would not like to spend their time in logistics and supply chain function in many aspects such as communication or even its strategy building and they prefer to integrate their supply chain and logistics area to be more synergy.

Question 2: Do the companies in different industries use difference factor in selecting 4PL providers?

In this research, the researcher found that there are differences in selecting 4PL providers between automotive and consumer product industry and the two means of factor in selecting 4PL provider are not equal. It implies that the companies in different industries use difference factors in selecting 4PL providers. Thus, 4PL should consider their customer's industry when proposed their services.

Question 3: What are the major benefits that customer expected from using a 4PL provider?

From questionnaire, it shows that respondents expect 4PL will generate benefit to cost (37.6 %), efficiency improvement (29.45%), administration (16.94%) and point of contact (16.53%) respectively. The result is nearly depth interview results, which show that mostly respondents expected of efficiency improvement of the company.

Question 4: What are the obstacles that companies could encounter when they use 4PL service?

For obstacle, the questionnaire result is shows that main obstacle for using 4PL from respondents attitude is the lack of management confidence that outside party will deliver the same high level services as the company provided (18.56%). This is the same result from depth interview, which shows they are afraid of the loss of control to an outside party.

5.5 Research Recommendation

The scope and role of logistics have changed dramatically over recent years. In the past, logistics has played a supportive role to primary functions such as marketing and manufacturing. Nowadays the scope of logistics has expanded beyond its traditional coverage of transportation and warehousing activities to include purchasing, distribution, inventory management, packaging, manufacturing, and even customer service (Titone, 1996; Bowersox and Closs, 1996). More importantly, logistics has evolved from a passive, cost absorbing function to become a critical factor of competitive advantage (Bowersox and Closs, 1996; Bowersox and Daugherty, 1995; Christopher, 1993). According to Bowersox and Closs (1996), firms with world-class logistical competency can gain competitive advantage by providing customers with superior service. The growing prominence of logistics as a competitive weapon stems from the worldwide trend of companies going global to access new foreign markets, realize greater production and sourcing efficiencies, and tap technological competencies beyond their own geographical borders (Bovet, 1991; Cooper, 1993; Fawcett et al., 1993). The fall of trade barriers, and the advent of advanced information and telecommunication technologies have also opened new global markets and opportunities for companies which have to rely on logistics to move their products and materials to meet production requirements and customer demand (Lamb, 1995; Gooley, 1994).

For logistics providers, the companies that have achieved differentiation are more profitable than companies that have pursued a pure cost strategy. To attain cost advantages, the pure cost companies might have limited themselves to offering only basic and standard services. However this stance presents a lower barrier to entry, and is subject to more competition. The higher business performance and higher market share growth of pure differentiators over pure cost companies might be attributed to

the changing requirements of logistics users such as manufacturing enterprises whose requirements are moving beyond basic and cheap services to high performance services that generate superior customer service levels. Hence, users prefer logistics providers that offer specialized and higher value adding services, and are willing to pay more for them. The implication for pure cost companies is that they must review their current competitive strategy and decide if they want to continue to compete in the low cost segment with relatively lower financial rewards. If they desire higher business performance, they should focus on developing competencies to design and offer new differentiating service products and move away from their low cost orientation.

Technology is one of the most mentioned factors for improvement of logistic service. Currently there is a low adoption rate for the more advanced IT such as AS/RS, DRP, voice input interfaces, and satellite and fiber optics communications technology. The low adoption rates of these advanced technologies might be due to their high costs, and difficulty in justifying these IT financially. Generally the most profitable companies are those that are the heaviest users of IT. An implication is that there are ample opportunities for logistics providers to adopt and exploit IT. Given the high agreement among all strategic types on the critical importance of IT, we can expect a higher IT adoption rate in the future as more and more companies will turn to IT to gain competitive strength. Another implication is that IT adoption can improve competitive position and hence companies that have not explored seriously the strategic role of IT should do quickly. The future will belong to those companies that are successful in harnessing the power of IT for competitive use. This is the leading to new logistic service provider, which is called "Forth party logistic provider" or 4PLs which provides service as same as 3PLs but improving in IT ability, for example, the power to design, build and run comprehensive optimized supply chain solutions (Bumstead and Cannons, 2002).

The result from this research shows that there are positive attitude toward 4PL logistic service provider since mostly respondents know exactly the benefit of it but the problems that they concern in using 4PLs is the loss of control to an outside party. For this problem, it is occurring because mostly respondent think that the big change in company will lead to sophisticate and resistant from their customers and employees. New technology provides need time to training and studying, this may lead to uncertainly and low self confident in company's employees. This is the

personality style of Thai people, they are late adopters who will questioned for all new things, especially, technology concerned which Thai people are weak in this area. When occurring of new things they will fear of loosing controlling power over the situation and people. However, moving to 4PLs service provider is in need in order to gain competitive advantage over others companies. In this point, the researcher recommends that the company should providing their employees (1) User-friendly technology programs such as touch screen, Thai language program, (2) Training courses to their employees such as course of IT, supply chain management or providing an expert in 4PLs to exchange knowledge with them, (3) Company's knowledge center such as library, an exhibition related to 4PLs. For company customer, to provide of information in order to make their awareness in 4PLs is in need. The company may give them company's newsletter, below the line advertising or service testing to them.

5.6 The Limitation of Research

This research is limited to the two types of companies who now using insourcing or 3PL service provider, which are consumer product industry and automotive industry in Bangkok, Thailand. Therefore, the results from this research are not guaranteed against the negative results operation of all logistics industry in other countries because of the different place, different people attitude or different social norms may yield to different outcome result.

5.7 The Recommendation for Further Research

For future plan of 4PLs, the researcher suggests to emphasize on qualitative research such as ethnographic delphi or focus group interview methodology from both logistics service providers and their customers in order to understand more deeply about their attitudes and suggestions. The supporting in financial and technology knowledge is required from Thai government to higher standard of Thai logistics service provider industry.

As the result shown that there are differences in both industries, the researcher suggests to apply for other industries which have close industry's characteristic to figure out how difference of factors in selecting 4PL between industries with have same characteristic.

Furthermore, cost analysis can be included against each factor in selecting 4PL and logistics services provided. This can provide both service providers and users in the guideline of budget preparation and decision making.