Third Party Logistics in Thailand – From the Users' Perspective

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Summary:
The practice of outsourcing logistics services is spreading with the increase in globalization and the increasing emphasis on core competence. This so-called third party logistics (3PL) includes various logistics services such as transportation, inventory management, distribution, warehousing services, customs and kitting. Previous studies have shown widespread adoption of 3PL in the USA and Western Europe. The goal of this paper is to explore 3PL in a developing country, Thailand, particularly from a user's perspective. A survey of 3PL users was conducted in Thailand. Results show that 3PL is gaining acceptance in Thailand, and that users are generally satisfied with the service.

Keywords:
Outsourcing, Logistics Services, Third Party Logistics, Survey

1 Introduction

The concept of supply chain management encompasses holistic integration of multiple upstream and downstream processes in the provision of goods and services. While the terms “supply chain management” and “logistics management” are often used interchangeably, the latter is generally understood to have a narrower focus – the internal integration of processes within a firm. Logistics management has significant impacts on the costs and customer satisfaction of manufacturing firms. It may even give an organization competitive advantages in the market. Third party logistics (3PL) is the employment of outside companies whose expertise is in the logistics area of handling a firm’s logistical processes. With the increasing emphasis on downsizing and outsourcing in today’s global economy, 3PL is being embraced by many firms. These outside companies are called 3PL providers. By outsourcing logistics functions to 3PL providers, companies can focus on their core activities and leave logistics functions to 3PL providers to manage.

There are several advantages cited for companies using 3PL. First, 3PL enables user firms to gain competitive advantages (Daugherty et al., 1995). Second, 3PL providers have the expertise to do their job more effectively (Troyer et al., 1995; Richardson, 1993; Byrne, 1993; Dillon, 1989). Third, 3PL providers have better processes and resources to handle operations (Byrne, 1993; Richardson, 1990; Bask, 2001). Lastly, 3PL can assist user firms to save on their logistics costs (Kasilingam, 1998).

3PL has been widely used in the USA, European countries and Australia (Lie 1992; Lieb et al., 1993; Millen et al., 1997). Recently, 3PL has begun spreading to some Asian countries that have, gradually, been shifting to an industrialized and manufacturing based economy in recent decades. The increase in international trade in these countries has led to an increase in demand for logistics services. Thailand is one of the new industrial developing countries (NIC) and is one of the five “tigers” of the Southeast Asia region. Also, the export potential in Thailand is strong and will continue to grow in the future. Therefore, the 3PL industry is expected to play a significant role in this developing country. Nevertheless, there is not much research that has been conducted about 3PL in the Southeast Asia region. The aim of this paper is to investigate 3PL in Thailand, particularly from the users’ perspective. The research reported in this paper seeks to determine the extent of the use of 3PL in Thailand, and to evaluate the performance of Thai 3PL in terms of their service quality.

To answer these research questions, a survey of Thai businesses was conducted by distributing questionnaires. We report on the results of this survey, and begin with a review of the relevant literature in the next section. Section 3 presents the research question and the methodology. In Section 4 we discuss the findings of the research. Finally, Section 5 presents concluding remarks.

2 Literature Review

Lieb (1992) defines 3PL as involving "…the use of external companies to perform logistics functions that have traditionally been performed within an organization. The functions performed by the third party can encompass the entire logistics process or selected activities within that process." 3PL providers add value to their customers by providing services that range from transportation activities to integrated warehousing, distribution, forwarding, packaging, customs handling, kitting, and information management activities. As the adoption of outsourcing of logistics functions has increased, so has the research on this phenomenon.

2.1 Reasons for Outsourcing Logistics Activities

Many researchers have explored the reasons for the growth in 3PL. Due to expansion of global markets, each firm has to develop and provide better products and services while reducing operating costs to allow them to gain competitive advantage. Most authors appear to agree that the main driving force behind outsourcing is the globalization of business (Byrne, 1993).

Another frequently cited reason for the growth in 3PL is the increasing focus on core competencies, and the consequent outsourcing of all none-core services to outside partners (Troyer & Cooper, 1995). 3PL providers have the ability to provide their clients with expertise and experience that would be difficult to acquire, or costly to have in-house (Byrne, 1993; Dillon, 1989). According to Richardson (1993), expertise gained from working with other clients allows user firms to benchmark against other companies and may lead to opportunities to lower costs and improve customer service.

Often the 3PL providers have not only the expertise but also the requisite resources to handle logistics operations for their clients. Most 3PL providers have better processes and knowledge in their core areas compared to their user firms. As a result, providers can deliver a high quality operation including maintaining and developing their systems. They have the ability to adapt quickly to business forces and/or changes, which leads to faster delivery and less damage (Byrne, 1993).

A major benefit of 3PL is the cost savings provided by them. Kasilingam (1998) clarifies some reasons why outsourcers can operate some functions cheaper than in-house operation. 3PL providers can combine business from several companies and offer frequent pick ups and deliveries. Moreover, companies are able to reduce capital investment in facilities and equipment. Survey research conducted by Lieb et al. (1993) reported that some current users have logistics costs up to 30 - 40 percent lower than previously.

3PL is even seen as contributing to competitive advantage, adding more value to products, enhancing customer services, and assisting to access new markets (Daugherty & Pittman, 1995).

2.2 Selection of 3PL Providers

Another avenue of research in this field has been the selection of 3PL providers by the user firms. Research conducted by Lieb et al. (1993) shows that reputation, experience and price are considered the most important factors in the selection process. Therefore, he suggests that user firms need to trade off between service and cost. If companies want to employ 3PL providers having a high reputation and quality, they should prepare for high costs. Byrne (1993) revealed that reputation is on the top of participants' lists of third party selection factors. Byrne (1993) also adds compatibility in approach, attitude and culture, financial strength, flexibility, and customer references.

Harrington (2000) and Bradley (1994b) found that reputation and business expertise were the second factors in their study. The pricing factor was the first determinant for participants to pick a 3PL provider. Other factors that have been mentioned by Harrington (2000) and Bradley (1994c) in selecting 3PL providers are cost/inventory savings, product/business expertise, and technological capability. Sink et al. (1996) noted that credibility and trust were the imperatives in the selection of third party providers.

2.3 Critical Success Factors of 3PL

What are the factors that need to be considered during and after the implementation of the outsourcing process? This question has concerned quite a few investigators. Boyson et al. (1999) surveyed logistics professionals to investigate how companies plan and operate 3PL relationships. They concluded that, in the opinion of the professionals, the prerequisites for a successful 3PL operation are: non-biased identification of 3PL providers, evaluation of costs and improvements, sound contracts, centralized control, and proper monitoring of the 3PL operations.

Bowman (1995) has stressed the importance of communication and coordination between logistics users and providers. Richardson (1990) and Maltz (1995) agree on the importance of educating management on the benefits of contract logistics, which is one factor that helps outsourcing be successful. Management needs to be convinced of the necessity of outsourcing and view it as a strategic activity. Companies need to select third party logistics providers wisely and maintain control while building trust and respect (Richardson, 1994). Trust is fundamental in long term relationships. Mutual trust is a crucial aspect of successful outsourcing because users have to give enough relevant information to enable the service provider to reduce total logistics costs (Bowman, 1995). Additionally, McKeon

(1991) stressed the importance of understanding each other's cultures and organizational structure.

2.4 Impacts of the Use of 3PL Providers on User Firms

Many researchers agree that outsourcing has had strong positive impacts on costs, system performance, response time, enhanced flexibility, and customer satisfaction (Sohail & Sohal., 2003; Lieb, 1992; Bhatnagar et al., 1999). Also, the use of outsourcing has a high positive impact on employee morale. Researchers have also cited some reasons that discourage the use of 3PL. Lieb & Randall (1996) conducted research into the risk of using 3PL services. Survey respondents identified three common concerns about the use of 3PL providers. First, they are afraid of losing control to service providers (Bowman, 1995; Byrne, 1993). Second, management often lacks confidence to use a 3PL firm to deliver products or services to their customers. There is uncertainty about whether third party capabilities are adequate to meet user's expectations. Third, they question the true costs of using third party providers. Other concerns are: 3PL providers do not meet their customers' expectations (Lieb et al., 1996), lack of advanced technology (Byrne, 1993), unreliable promises of providers, inability to respond to changing requirements, and lack of understanding of buyers' business goals (Bradley, 1995).

2.5 Measurement of Logistics Service

Beamon (1999) presented a framework for measuring performance of a supply chain that included measures of resource usage, supply chain outcomes, and flexibility. However, this framework was geared not particularly towards logistics service measurement, but towards general supply chain performance. Lai et al. (2002) devised a construct for measuring transport logistics performance, which included service effectiveness measures for the shippers and the consignees as well as performance efficiency measures for the transport providers. The first two service measures were derived from the reliability and responsibility dimensions of the SERVQUAL instrument of Parasuraman et al. (1988). These two dimensions can be used to measure 3PL services. However, the measures in Lai et al. (2002) are concerned with perceptions of the service, rather than with the expectation-perception gap as suggested in Parasuraman et al. (1988). Whereas Parasuraman et al. (1988) measure the expectation-perception gap on predefined attributes of service, Mentzer et al. (1997) advocate starting from the logistics service values desired by the logistics customers and identifying the logistics service attributes directly through the customers.

2.6 Regional Studies of the 3PL Industry

Many authors have investigated the use of 3PL services in particular regions around the world and made comparisons across the regions. Lieb (1992) studied the use of 3PL services in the USA. Respondents in this research were asked to indicate the level of satisfaction they felt with 3PL's performance, and generally reported positive experiences. He concluded that third party participation in this region had been accepted because many manufacturers are increasingly focusing on reducing logistics costs, fostering productivity increases and improving service quality. Lieb et al. (1993) have compared practices and experiences of long term users of third party logistics services across the USA and Western Europe. Results showed that European manufacturers are more committed to the use of third party providers than their counterparts in the US. There are three main differences between the continents. First, European manufacturers use 3PL for both domestic and international transactions. Second, European companies allocate more of their total logistics budget to these firms and use more services than large US manufacturers. Third, European manufacturers will make long-term contracts with the third party which improves the working relationship. Dapiran et al. (1996) researched 3PL usage by large Australian firms. Millen et al. (1997) compared Australian 3PL usage against American and Western European practices. Randall (1991) reported on 3PL in Europe.

Researchers have also examined the use of 3PL in developing countries. Goh & Pinaikul (1998) reported on the general state of affairs regarding logistics management in Thailand. They reported deficiencies in information systems, road infrastructure, and logistics expertise. Similarly, Kim (1996) has reported on logistics management in Korea. Sohail & Sohal (2003) conducted an empirical research study about the usage of 3PL providers in Malaysia. Results indicated that logistics service providers play an important role in Malaysian industry. It shows that many Malaysian firms are utilizing the services of contract logistics providers, and have been doing so for quite a few years. These companies do not rely solely on one contract logistics provider. However, they prefer to use many logistics providers to enhance their services. Bhatnagar et al. (1999) conducted similar research on Singapore firms. They found that Singapore companies are satisfied with 3PL providers' performance and believe that 3PL have been a positive development within their organizations. Major benefits realized by user firms were cost reductions and improved quality of service.

3 Research Question and Methodology

The review of literature above shows that logistics management currently plays a significant role in many industries. The 3PL industry has been widely researched in the USA, Europe and Australia, and it has been found that they flourish in these environments. The authors note that European countries are leaders in the 3PL industry because they were early users of 3PL services. Further, 3PL is spreading to countries in Asia. After the economic crisis in the late 1990s, many Asian countries such as Singapore, Malaysia and Thailand have gradually transformed into an industrialized, manufacturing based economy. Many firms are employing new logistics techniques to improve their productivity and performance. Thus, logistics operations have started to play an important role in this region. However, there are few researchers whose research is specifically focused on logistics in Southeast Asia. There is scant research examining particularly the experience of logistics user firms toward 3PL. This paper reports on a research aiming to fill this gap. The objectives of the research reported in this paper were:

- To examine the significance of the role played by 3PL in Thai manufacturing.
- To evaluate the performance of Thai 3PL in term of service quality.
- To investigate the impact of 3PL in Thai manufacturing operations.
- To examine prospects of 3PL in a Thai organizational context.

These questions are of an exploratory nature, intending to elicit generalizations that would apply to the population in question – Thai business organizations. There are two potential methodologies that could be adopted for this study. These are: survey research and case study research. Survey research methodology involves the collection of information from a large group of entities by selecting a sample from the target population. Data is collected by using questionnaires and interviews. The case study methodology allows researchers to investigate contemporary phenomenon within a real-life context, focusing on understanding the dynamics present within a single setting and gaining more insight into the unique situation based on a particular context. Both methods have their distinct characteristics and research purposes. However, a survey methodology appears more suitable than the case study methodology in answering the above research questions. Case study methodology was not deemed appropriate because this research did not seek to understand the dynamics present in particular contexts. Instead, this research sought to examine the overall picture of 3PL in Thailand. Thus, every Thai firm should have had a chance to participate. Survey methodology is also more appropriate since the topic matter being investigated is not strictly behavioral and therefore cannot/need not be observed.

For these reasons, a survey methodology was followed in this study. The list of respondents was drawn from the Stock Exchange of Thailand. These listed firms are indicative of the most progressive firms in Thailand, and have their headquarters located in Bangkok. The "nth" (every 3rd) name sampling technique was used for random selection. The survey questionnaires were sent by mail to respondent firms. The questions contained within were based on the above research questions and focused directly on the topic specified in this research. The respondents were required to indicate their level of agreement with a particular statement using 5-point Likert scales. Furthermore, open-ended questions were also provided in order to allow managers to express their thoughts. The questionnaires were designed in English, but were translated into Thai for Thai organizations. Reminder postcards were sent to non-respondents as a follow-up to the first questionnaires. Out of a total of 200 firms, 52 (26%) questionnaires were returned, but only 48 (24%) questionnaires were usable.

The responding firms were in various lines of business as follows:

Lines of Business	Count	Percentage
Packaging Manufacturing	4	8.3
Textiles	6	12.5
Chemicals	2	4.2
Agribusiness	7	14.6
Food & Beverage	4	8.3
Electrical Product	3	6.3
Import-Export	7	14.6
Others (e.g. Pulp & Paper business, automotive products, retail store)	14	29.2

Table 1: The Characteristics of the Responding Firms

These responding firms reported annual sales ranging from $20 million to more than $80 billion, with over 39.5% having revenues of at least $10 billion.

4 Findings and Discussion

4.1 The Role of 3PL in Thai Manufacturing

Third party logistics have started to play a significant role in Thai organizations as a whole. Among our respondents, the number of current users is 54.2%, while 45.8% are non-user firms. These figures indicate that many companies have realized the importance of employing third party logistics providers and using them in a strategy to gain competitive advantage. Of those firms currently outsourcing logistics functions, 80.8% indicated that their firms have been using third party logistics for more than 2 years. This represents a significant amount of experience with third party logistics among Thai companies.

Most of the respondents (70.8%) indicated that they employ only 1-3 providers. Twenty-five percent employ 4-6 providers and only 4.2% employ more than 6 providers. It appears that many companies employ a small number of logistics providers because they want to have a close relationship with their logistics providers. As Goh & Pinaikul (1998) mentioned, Thai firms are more concerned with having a close relationship with their suppliers, which enables them to have a good understanding of organizational structure, better communication, information sharing, and reduction of logistics costs. This result differs from the result of Sohail & Sohal (2003), who found that Malaysian companies do not rely on one or two logistics providers. They appear to prefer employing many logistics providers to enhance their services.

To determine why user companies employed third party logistics providers, respondents were asked to identify their reasons for outsourcing logistics functions. Table 2 presents the reasons given for contracting out logistics functions. Respondents rated the methods using a 5-point Likert scale from strongly disagree (1) to strongly agree (5). The combined percentages of respondents who agreed or strongly agreed with the reasons are shown in the table.

The most important strategic reasons for user firms to be interested in outsourcing their logistics activities are obtaining competitive advantages, and receiving customized services. Gaining the use of sophisticated technology and using the expertise of third party logistics providers are other strong reasons why companies outsource logistics functions. Unlike previous studies, the ability to focus on core activities is not very high on the list. Saving money (funding) is also not considered a prime reason. Globalization, another reason frequently cited in the literature, is not rated highly by our respondents.

Reasons for Employing 3PL	**Agree / Strongly Agree**
Gaining the competitive advantage	88%
Receiving customised service	85%
Gaining the use of sophisticated technology	85%
Using the expertise of a third party	81%
Ability to focus on your core activities.	81%
Coping with reductions in the resources (i.e. funding)	77%
Reducing inventory	73%
Becoming more active in international shipping	66%
Penetrating markets	58%

Table 2: Reasons for Contracting out Logistics Functions

4.2 Performance of Thai 3PL in Regard to Service Quality

The survey showed that firms used 3PL providers for a wide variety of logistics services. The majority of user firms buy multiple services from 3PL providers. The range of those services is shown in Table 3. Transportation is the most frequently outsourced logistics function at 56.8%. It is also the most frequently outsourced logistics function in the USA (Harrington, 2000). This was followed by packaging (18.2%), and warehousing operation (11.4%). The functions that are least outsourced include inventory management, information systems and other services (such as customs formalities).

Services	Count	Percentage
Transportation	25	56.8
Packaging	8	18.2
Warehousing Operations	5	11.4
Inventory Management	4	9.1
Information Systems	1	2.3
Others (customs formalities)	1	2.3

Table 3: Services Employed by 3PL Users

Natejumnong et al. (2002), in his study of Thai 3PL providers indicated that most outsourced logistics contracts focused on physical processes such as storage, materials handling, cycle counting, picking and packing, dispatching, customer delivery, and returns collection. Thai 3PL providers are able to offer many logistics services such as: warehousing, cargo handling, inventory management, relocating services, freight handling, etc. Bhatnagar et al. (1999) found that the activities contracted out most frequently by firms in neighboring Singapore were: shipment consolidation, order fulfillment, carrier selection, freight payment, and rate negotiation. However, in our study, transportation stands out as the primary service used by 3PL users, followed by packaging. Warehousing is a distant third service contracted out. This is perhaps indicative of the state of development of the Thai 3PL industry, where a few primary logistics services are popular, and more sophisticated and integrative services have yet to gain widespread acceptance.

In the follow-up question, respondents were asked to indicate the level of their satisfaction with the 3PL services (1 = strongly disagree; 5 = strongly agree). The result is presented in Table 4.

Service Attribute	Agree / Strongly Agree
Your 3PL providers are approachable and easy to contact	88%
When your 3PL providers promise to do something by a certain time, they do so.	85%
Your 3PL providers are flexible.	85%
You have a high level of satisfaction with the 3PL's services.	81%
Your 3PL providers provide a prompt service when your firm needs their help.	81%
Your 3PL providers have the required skills and knowledge to perform the service.	77%
You are satisfied with the quality of service for the money invested.	73%
Usage of third party logistics providers has a positive impact on your firm's development.	66%
You have high level of satisfaction with the 3PL's technology.	58%

Table 4: Satisfaction Ratings of 3PL Services

The result of the surveys demonstrated that respondents were satisfied with their logistics providers' services. As can be seen, more than 80% of the respondents agree that 3PL providers are easy to communicate with, do what they said they would do, and are flexible. Respondents appear satisfied with the services rendered by the 3PL providers. It shows that Thai 3PL providers provide good service quality to user firms. However, the level of satisfaction with the 3PL's technology was not very high (58%). Thus, Thai 3PL providers need to be concerned in this regard.

4.3 Impact of 3PL on Thai Manufacturing Firms Using 3PL

Respondents were asked to rate the impacts of outsourcing on their firm. The results are summarized in Table 5. It is apparent that user firms believe that 3PL does have a strong positive impact on their businesses.

Impact Attribute	Agree / Strongly Agree
It provides better delivery.	88%
Your firm has been able to focus on the core business.	77%
It has increased your firm's productivity and efficiency.	70%
It has improved your service quality level.	66%
It has given access to up date technology and special expertise from the 3PL.	66%
It has reduced logistics costs.	62%
It has enhanced your firms' flexibility.	62%
It has increased customer's satisfaction.	58%
Your firm can utilize the space better.	54%
It has improved internal logistics performance.	54%
Your firm has been able to offer new services	50%
It has given access to new markets.	43%
It has increased the number of employee lay-offs.	39%
Its capabilities are inadequate to meet customer's expectations.	27%
Your firm has lost profits to 3PL.	16%
Your firm has lost the direct control of logistics activities to 3PL.	15%

Table 5: Impact of 3PL on User Firms

Companies using 3PL services experience many benefits. The most significant impact appears to be that using 3PL enabled the respondents to achieve better delivery and to focus on their core business. The user firms also believed that using 3PL improved their productivity and efficiency, improved their service quality, gained access to up-to-date technology and enhanced their flexibility. Sixteen (50% agree, 12% strongly agree) of the 26 user firms indicated that 3PL helped them reduce their logistics costs. Respondents reported positive impacts with respect to improved customer satisfaction and internal logistics performance. Some Thai firms are also able to reduce the number of full time logistics employees by using 3PL providers.

Thai firms do not appear to be concerned about losing control of some aspects of their business to 3PL providers (42% disagree, 12% strongly disagree). This differs from the results of Lieb & Randall (1996), who mentioned that one of the common concerns about the use of 3PL is losing control to service providers. Only 16% believe that their company has lost profits on account of using 3PL services, so this does not appear to be a concern.

4.4 Acceptance of 3PL by Thai Organizations

As pointed out before, among our respondents, the number of current 3PL users is 54.2%, while 45.8% are non-user firms. This alone indicates substantial acceptance of 3PL among Thai firms.

User firms were asked to predict the trend of 3PL in the future. They believed that 3PL business will have high growth (57.7%), or moderate growth (34.6%), and slight or no growth (7.6%). Thus the user firms were optimistic about the growth of 3PL services in Thailand.

Among the 22 non-user respondents, 19 (86.4%) respondents are aware of 3PL, while only 3 of them have never heard of it. Almost half of non-user firms are big companies, which have annual sales of more than 1,000 million Baht. They indicated little interest in 3PL. Among the non-users, only 13.6% intend to use 3PL in the near future.

Thus our finding is that large companies do not generally employ 3PL. Many of these large companies do not employ 3PL because they are big enough to have their own logistics department (37% of the non-users), and apparently don't want to give up the control. Most companies who employ 3PL are medium to small companies. These firms apparently do not want to invest money in a logistics department, and would rather employ an outside company with expertise in logistics. This differs from the result of Natejumnong et al. (2002), who found that large companies had experience in utilizing 3PL.

4.5 Findings Summary

Although more than half of the respondents are current users, 3PL in Thailand is still far behind when compared with 3PL in the USA and European countries. Both these regions have been using 3PL for many years. 3PL in these two regions is in the maturity stage while 3PL in Thailand is in the emerging industry stage. 3PL has begun to take an important part in many businesses in Thailand within the last few years.

The most frequent services employed by the respondents are transportation, packaging and warehousing operations. Inventory management and information systems are the least popular services for Thai firms. We found that 3PL providers in Thailand have provided good services to customers, with the majority of respondents being satisfied with the services they received.

Furthermore, current users accepted that 3PL allows them to gain many benefits and believe that 3PL has more positive impacts than negative. With a high level of satisfaction, a large number of user firms are likely to increase the use of 3PL in the near future. In our judgment, 3PL has a bright future in Thailand.

5 Conclusion

The objective of this study was to investigate the experiences of logistics user firms toward the development and implementation of 3PL in Thailand. The study took a unique user's perspective.

It is apparent from the study that 3PL has been accepted by Thai organizations, with more than half of the respondents using 3PL. Most of the current users have been utilizing third party logistics for over 2 years. The study provided evidence that the most frequently used services are transportation, packaging and warehousing operations. In contrast, inventory management and information systems are the least popular services for Thai firms. In addition, the majority of Thai organizations indicated that 3PL providers in Thailand provided a good service to customers, and most respondents are satisfied with the services they receive.

Current users reported many benefits from using 3PL. They believe that 3PL has more positive impacts than negative. The analysis of the experience of Thai organizations in their usage of 3PL activities has revealed that the 3PL industry has a potential for further development in Thailand. Many respondents intend to increase their use of 3PL in the near future. They believe the 3PL industry will have a prosperous future, although there are many local firms that do not employ third party logistics providers.

Future research might focus on decision making processes for selecting 3PL providers. This could include the factors involved in the selection of the 3PL providers. Another avenue for research is the extent of the technology and expertise provided by 3PL and the user perceptions in this regard.

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