“Logistic Outsourcing Process in SMEs”

Case Studies of Four Taiwanese SMEs

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Summary

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School of Business and Economics at Linnaeus University

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Background:
According to experts logistics outsourcing is a process and companies should develop their understanding about it as a process. Literature suggests a systematic and strategic approach for this process and also presents different models and aspects to improve logistics outsourcing as a process. But some scholars reveal a gap in literature regarding logistics outsourcing process in SMEs. They suggest in the discussion regarding logistics outsourcing as a process SMEs are totally ignored and there is a need to conduct research on this topic with perspective of SMEs. They also suggest the practices of SMEs in logistics outsourcing process are different from suggested process in literature.

Research Questions:

Q.1: According to the literature, how should companies develop and perform logistics outsourcing process?

Q.2: How does the logistics outsourcing process in SMEs differ from the process suggested in the literature?

Q.3: Why do the practices of SMEs regarding logistics outsourcing process differ from the process suggested in the literature?
Purpose of the Study:

The purpose of this study is to reduce the gap in literature regarding logistics outsourcing in SMEs by studying their logistics outsourcing process to identify and understand the differences in their practices as compare to suggested process in literature.

Methodology:

This thesis is written from a positivistic perspective with a deductive approach. For this thesis multiple-case studies are employed by using qualitative research method. For empirical data collection semi-structured interviews are used and pattern matching is used as analysis method.

Conclusion:

Taiwanese SMEs do not have very structured and systematic process for logistics outsourcing which is exactly opposite to the suggested process by literature. These SMEs are also performing some suggested aspects of logistics outsourcing process but not as recommended in literature and these aspects are also not integrated as a process. According to our findings, lack of understanding about logistics outsourcing as a process, limitation of resources and lack of interest of top management are main reasons for these differences in the practices of SMEs regarding logistics outsourcing process from the suggested process in literature. We also find that the reviewed literature and suggested models of logistics outsourcing process are focusing on strategic partnership between 3PLs and companies but the partnership between SMEs and their logistics services providers is more tactical in nature. This is also a possible reason of this difference.
Acknowledgement

Our profound gratitude goes to God Almighty, most gracious, most merciful, who gives us wisdom, knowledge and understanding to live our lives as human being.

After that we would like to thank all four Taiwanese companies (PAHSCO; La Luz Industrial Corp.; PEZ Crown International Corp. and J&W Parts Industrial Company) and their employees who participated in our investigations. Without their contributions this thesis would not possible. We would also like to thank our tutor Dr. Helena Forslund and examiner Dr. Åsa Gustafsson who guided us during this whole process of thesis writing and made it possible for us to complete our research work in the best way.

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_____________________________________

Hoyu Chao and Mansoor Ali Shah
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1. Introduction

This chapter provides brief background knowledge and problem discussion about our selected topic: logistics outsourcing process, which leads to our research questions and purpose of the research. Delimitation and disposition of research is also included in the end of this chapter.

1.1 Background:

In today’s business world, outsourcing is one of the most unique decisions for a company to make. Outsourcing not only provides solution for a number of problems that companies are facing in current business environment but outsourcing, itself, a very difficult challenge to accomplish. Outsourcing, if done properly, reduces the work load and improves the efficiency and effectiveness of different function in an organization. Cost reduction and customer satisfaction are also possible benefits that can be achieved by outsourcing (Tompkins et al., 2005). In literature, outsourcing is focused in many areas such as strategic management, information systems, human resource management, manufacturing, and also in logistics (Mello et al., 2008). Now, the outsourcing of logistics activities to Logistics Services Providers (3PLs) or Third Party Logistics (3PL) companies has become a common practice in current business world. A number of studies (e.g. Richards, 2009; Biederman, 2009, Langley, 2009) provide empirical evidence of increasing trend of logistics outsourcing and use of 3PLs, all around the world. Studies (e.g. Biederman, 2009) also show that the volume of first-time users of 3PL has been increased in last few years.

The literature reveals a number of reasons of logistics outsourcing such as: need to concentrate on company’s core competencies; cost reduction; development of supply chain partnerships; restructuring of the company; success of other firms who are using contract logistics; globalization; improvement of services and efficient operations; changes in logistics management; market and product line expansions; increasing customer demands; mergers and acquisitions; new markets; customer’s use of Just-In-Time or Quick Response (QR); labor costs/problems etc. (Christopher,
1985; Andersson, 1995; Razzaque and Sheng; 1998; Mello et al., 2008, Bing and Zhongying, 2009). Different companies try to achieve different results through outsourcing. A current survey (Richards, 2009) ranks the main objective of logistics outsourcing in this sequence: Access to greater expertise; Cost reduction; Flexibility; Concentration on core competency; Low capital expenditure; Variable costs; Less risk; Access to new technology; Effective resource management; Improved service; Consolidation; More professional (Richards, 2009).

1.2 Problem Discussion:

For a company to outsource its logistics function is a very important strategic decision that can help company to create greater competitiveness (Zhang and Sun, 2008). But it is not necessary that logistics outsourcing is appropriate for every company. Companies should not enter into outsourcing because it is in trend or their competitors are doing it (Lynch, 2001). Logistics could only be outsourced to the specialist (i.e. 3PL) if this company can outperform an in-house operation (Andersson, 1995). A strong and mature partnership between a company and its 3PL partner(s) defiantly possess the ability to enhance the benefits of outsourcing but the failure in this partnership can have very negative influence and irreparable damage on company's business ad reputation (Isiklar et al., 2007).

In our work we have extensively used terms “aspects, phases and steps” of logistics outsourcing as interchangeable. Actually, logistics outsourcing is not a single step of transferring the responsibilities of any in-house logistics function or a part of function to a 3PL service provider but it is a continuous process, including different aspects, phases or steps (Sink and Langley, 1997; Razzaque and Sheng, 1998; Mello et al., 2008). In this process some steps are performed less frequently (such as: selection of 3PLs and contract designing and negotiation) but some need continuous assistance from company (such as relation building; performance measurement; review and continuous improvement) to achieve desired results. Therefore, it has become very important for a company to understand different aspects/steps of outsourcing to
understand the logistics outsourcing as a process and develops a proper outsourcing strategy to get the desired result from outsourcing (Mello et al., 2008).

Scientific literature has identified different important aspects such as motivation for outsourcing, evaluation and selection of 3PLs, contract design, relation building and integration etc. that companies should include in their logistics outsourcing process. Different scholars (e.g. Sink and Langley, 1997; Bagchi and Virum, 1998; Mello et al., 2008) also suggest complete models or processes for logistics outsourcing by including all necessary aspect as a guideline so companies can perform this process in a much efficient and effective way. Studies (e.g. Sink and Langley, 1997; Bagchi and Virum, 1998; Mello et al., 2008) also provide empirical evidence that companies are successfully developing and implementing performing logistics outsourcing as a process and getting positive result from it. But, according to Arbaugh (2003), in these studies only larger companies are focused and our knowledge about practice and behavior of small and medium size enterprises (SMEs) regarding logistics outsourcing is very limited. Holter et al (2006 & 2008) also support this statement and suggest that as very limited research has been done on logistics outsourcing with the focus of SMEs, there is a great need of research on this topic. They also argue that the models and processes, suggested in literature, are developed and discussed with the focus of larger organizations and it is hard for small and medium size companies (SMEs), because the objectives, situations and problems of SMEs are very different from large organizations and cannot be understand and solved by using same approach or processes of outsourcing which are suitable for large firms. On other hand, studies (e.g. Anonymous, 2008) reveal that as compared to SMEs, large and best-in-class companies are succeeded in logistics outsourcing and more likely to get more out from their logistics partnerships because of their ability to develop better logistics strategy and better able to evaluate the capabilities of their 3PLs when

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1Different countries has different definition of SMEs. As we are using empirical data from Taiwanese SMEs, we are using definition provided by Small and Medium Enterprise Administration (SMEA), Ministry of Economic Affairs, Taiwan. According to them a company in manufacturing industry with a paid-in capital of NT$80 million (US$2.42 million) or less, and a company in service industry with sales revenue of NT$100 million (US$3.03 million) or less in the last year, is a SME.
selecting partners. Mello et al., (2008) suggest that larger companies are performing logistics outsourcing in a systematic way and, still, many small, privately owned companies do not consider many important aspects in logistics outsourcing because of their less structured and unsystematic outsourcing process (Mello et al., 2008). Foster (1994) also shows some concerns about logistics outsourcing in SMEs and suggests SMEs should adopt more strategic approach and try prepare themselves for logistics outsourcing (Foster, 1994).

This lack of attention on SMEs in logistics outsourcing related literature motivated us to select logistics outsourcing in SMEs as our topic for research. And to reduce this literature gap, we decided to study logistics outsourcing process in SMEs to see how and why the practices of SMEs regarding logistics outsourcing process differ from suggested process by literature, as several scholars has shown their concerns about logistics outsourcing process in SMEs. For this purpose we have studied logistics outsourcing practices of four Taiwanese SMEs to evaluate their logistics outsourcing as a process by comparing them with the suggested processes in literature. Although the sample size is small and the results may not have statistical significance, we believe the study captures some important trends regarding logistics outsourcing process in SMEs.

1.3 Research Questions:

Q.1: According to the literature, how should companies develop and perform logistics outsourcing process?

Q.2: How does the logistics outsourcing process in SMEs differ from the process suggested in the literature?

Q.3: Why do the practices of SMEs regarding logistics outsourcing process differ from the process suggested in the literature?
1.4 Purpose of the Study:

The purpose of this study is to reduce the gap in literature regarding logistics outsourcing in SMEs by studying their logistics outsourcing process to identify and understand the differences in their practices as compared to suggested process in literature.

1.5 Delimitations:

The scope of this study is limited to identify and understand the differences in practices of SMEs regarding logistics outsourcing process from literature. Needed improvement or suggestion for improvements is not covered in this study. Geographically, we have delimited empirical data collection to Taiwan and logistics outsourcing process inside the Taiwan are only focused in our selected Taiwanese SMEs.

1.6 Disposition:

Following figure presents disposition of our thesis. Disposition of this thesis is little different for the standard thesis. In this thesis analytical part is divided into two different chapters (Theoretical Analysis and Empirical Analysis) according to the requirement of this thesis. Detail discussion about this structural change can be seen in Methodology part under the heading 2.8 Structure of Thesis.

![Figure 1: The Disposition for This Research](image)

Source: Authors
2. **Methodology**

   This chapter describes the scientific approaches of the thesis. It provides brief discussion about our selected scientific perspective, research approach, research method and strategy, data collection and data analysis method. Structure, and the credibility and reliability of this thesis is also discussed at the end of this chapter.

According to Ghauri and Gronhaug (2005) research is a process of planning, executing and investigating in orders to find the answers of specific questions. However to get the expectable and reliable answers of focused question, research needs to be conducted in a systematic manner (Ghauri and Gronhaug, 2005). This systematic manner can be developed by defining the research methodology with the reasons of selection so the reader can see the work in the same perspective as researcher has performed and also understand the logic of work and finding. For this reason, we are describing the possible scientific perspective, research approach and methodology for research and our selected one with the reason so reader can understand our point of view and logic behind our work can understand our finding.

![Figure 2: Overview of Methodology for This Research](Source: Authors)
2.1 **Scientific Perspective: Positivistic and Hermeneutic**

Scientific perspective, which is described as the scientific paradigm by Gummesson (2000) represents people’s value, judgment, norms, standards, frames of reference, perspectives, ideologies, myth, theories, and approved procedures that govern their thinking and action (Gummesson, 2000). In literature two main scientific perspectives or paradigms, Positivistic and Hermeneutic, are described. Both approaches are opposite to each other and define two different ways of looking upon a research methodology.

According to Gratton and Jones (2004) the positivistic paradigm refers to the school of thought that the only ‘true’ or valid form of knowledge is the one which is “scientific”, objective and tangible in nature (Gratton and Jones, 2004). Furthermore, Gummesson (2000) explains that the positivistic approach is based on theories and works on description and explanation. Theories give a strong framework based on discussions and deductions. The research is looking for a rational, reasonable and logical approach. It is used through a cause and effect relationship. The assumption of this approach is that only the knowledge that is obtained through measurement and objective identification can be regarded as a truth (Gummesson, 2000). The hermeneutic paradigm is more based on a personal interpretative process to understand reality. Concepts such as feelings, emotions and so on are the basis of this paradigm. They are ‘measured’ using words, statement and other non-numerical measures, collecting data from the viewpoint of the participant. The data is then interpreted by the researcher, who attempts to uncover meanings, values, explanations, etc. (Gratton and Jones, 2004). Moreover, hermeneutics are more contexts directed and when interpret they often try to go further than what is apparent and noticeable, undertaking the effort to “read between the lines”.

For this thesis positivistic perspective has used as scientific perspective. The theoretical framework for this research to evaluate our empirical findings is developed by theoretical models and other discussion about different aspects of logistics outsourcing process from literature.
2.2 **Research Approach: Deductive and Inductive**

According to the research methodology literature, there are two commonly used research approaches: the deductive and the inductive approach. In deductive approach, research process begins with the development of a theoretical hypothesis, followed by information collection and a research strategy is developed to test the hypothesis. The conclusion is drawn out from logical reasoning (Saunders et al., 2003). Within the deductive approach, facts are gathered to confirm or disprove the hypothesis that has been deducted from earlier theories or propositions. Gummesson (2000) suggests the deductive approach is mainly used for testing existing theories.

On the other hand, the inductive approach is opposite to the deductive approach. It is based on empirical evidences and finding these empirical evidences is considered to be one of the first steps in scientific methods where the researchers observe facts to generate a theory which is consistent with the facts (Ghauri & Grønhaug, 2005). By applying this approach the researcher collects data and develops theory as a result of the data analysis (Saunders et al., 2003). According to Gummesson (2000) this approach primarily generates new theories.

![Comparison of Deductive and Inductive Approach](source: Ghauri & Gronhaug, 2005)

For this research, our chosen research approach is defiantly the deductive approach. Our research process is start from theoretical evaluation to find a gap in the focused topic and on the bases of existing theory we have developed our theoretical
framework. The theory of this research is analyzed and discussed the result of the interviews in a certain extent that helps us response to our research questions.

2.3 Research Method: Qualitative and Quantitative

In the research methodology literature, research methods are divided into qualitative and quantitative research. Qualitative methods aim at capturing qualities that are neither quantifiable nor reducible to numbers, such as feeling, thoughts, and experiences etc. In other words, qualitative researches rely heavily on verbal data and subjective analysis and have little use of numbers and statistics. On the other hand, the use of numerical measurements and analysis is referred to as a quantitative approach, which means a research that involves measurable quantities (Gratton and Jones, 2004).

According to Partington (2002) most quantitative research involves a questionnaire or a survey and always involves the numerical analysis of data and, on other hand, in qualitative research method the research data is collected in the form of words (by interviews and conversations) and observations instead of numbers. The basis for analysis is the interpretation of this data instead of statistical manipulation (Partington, 2002). Looking at data produced in the process of qualitative research we can draw some important distinctions between them and those which result from quantitative work (Saunders et al., 2000). For instance, the quantitative approach is objective in its nature and focuses on measuring a phenomenon, whereas the qualitative approach tends to be subjective in nature and engages examination and reflection based on perceptions (Hussey and Hussey, 1997).

For our thesis we have selected the qualitative method as research method. In our opinion, the choice of the research method mainly depends on the purpose of the research and research questions. For this research our purpose is to evaluate the logistics outsourcing process of Taiwanese SMEs and the main sources of empirical data in our paper is interviews, including phone interviews, internet-based conversation and communication through e-mails, that can only be interpret and analyses by using qualitative approach. The qualitative approach also allowed us the
flexibility and responsive interaction, which provided us opportunity to cover the focused topic from a variety of angles.

2.4 Research Strategy: Multiple-Case Studies

According to Yin (2003) a case study is one of five different research strategies (the survey, experiment, the archival analysis, the history, case study) that a researcher can adopt when conducting a study. Yin (2003) explains that when a researcher follows this strategy, he asks questions start with “how” or “why”, concerning present events about which he has no or very little knowledge. He defines case study in the following way: “A case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context are not clearly evident” (Yin, 2003, pp.13). Saunders et al (2000) believe that a case study is a valuable way of exploring contemporary theory. Yin (1993) suggests that this method is appropriate to use when researcher “desire to define topic broadly not narrowly; cover contextual conditions and not just the phenomenon of study; and rely on multiple and not singular source of evidence” (Yin, 1993, pp.xi).

Yin (1993) describes that case study research can be Exploratory, Descriptive or Explanatory. An exploratory case study defines the questions and hypotheses or determines the feasibility of the desired research procedure. A descriptive case study presents a complete description of an event or issue within its context. An explanatory case study presents the date based on cause-effects relationship i.e. explains which causes produce or can produce which effects. Furthermore he described that these all three types can be based on single- or multiple-case studies. In single-case study, researcher only focuses and study on a specific case (e.g. single organization, one industry, one country). In multiple-case studies, researcher can focus more than one case in his research but the logic to bring these cases together should be a replication rather than sampling logic. This means researcher can include two or more cases in his study if he predicts that he can get almost similar result i.e. replication, because more replication in cases provides robust result for research.
For this thesis, we are using descriptive, multiple-case studies. We are evaluating four SMEs from Taiwan on our developed theoretical framework to study the logistics outsourcing process. Our selection to do descriptive and multiple-case studies is based on our intention to generate more authentic results from this study.

2.5 Probability and Non-Probability Selection

For any research only limited representative or sample subjects are selected. This phenomenon leads to literature framework that investigates how to select representatives or respondents for a research. In literature this phenomenon is defined as probability and non-probability selection.

Probability sampling is characterized by the fact that sample is selected by chance, population members have a known, and sometimes equal probability of being selected (Bradley, 1999). The probability selection methods which are mostly used include Simple Random, Systematic, and Stratified. Non-probability sampling uses human intervention. Non-probability techniques include quota sampling (used very commonly in UK personal interviewing), judgment (or purposive) sampling and convenience sampling (Bradley, 1999). One might also add plausibility sampling - "a sample selected because it appears plausible that the members are representative of a wider population, without any real evidence" (Talmage, 1988, p.82).

<table>
<thead>
<tr>
<th>Probability</th>
<th>Non-Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple random</td>
<td>Quota</td>
</tr>
<tr>
<td>Systematic</td>
<td>Convenience</td>
</tr>
<tr>
<td>Stratified</td>
<td>Judgement</td>
</tr>
<tr>
<td></td>
<td>Plausibility</td>
</tr>
</tbody>
</table>

*Table 1: Reasons of Probability and Non-probability Selection*

*Source: Bradley (1999)*

In this thesis, we used the non-probability selection to interview the companies that have outsourced the logistic activity (as outsourcing transportation and warehousing
service) to logistics service providers or third party logistics providers. Our selection of companies is based on convenience. As our convenience, we checked our accessibility and possibility of communication in Taiwanese companies before to use them as our case study. And of course, this selection process is not totally based on our convenience; we also used two main criteria to select these companies as our case studies. First of all, company must be an small and medium-sized enterprises (SMEs) according to the following definition provided by Small and Medium Enterprise Administration (SMEA), Ministry of Economic Affairs, Taiwan and secondly, one 3PL must be used by companies to perform their at least one logistics function/activity and companies must have at least one year experience of using 3PLs for their any logistics function/activity.

**Definition of SMEs in Taiwan:**

“A SME shall refer to an enterprise that has completed company registration or business registration in accordance which the requirements of the law and which conform to the following criteria:

1. In the manufacturing, construction, mining and quarrying industries, a paid-in capital of NT$80 million (US$2.42 million) or less.

2. In the agriculture, forestry and fisheries, water, electricity and gas, commercial, transportation, warehousing and communications, finance, insurance and real estate, industrial and commercial services or social and personal services industries, sales revenue of NT$100 million (US$3.03 million) or less in the last year.” (SMEA, 2005)

2.6 **Data Collection in Case Study**

The quality and reliability of research is very much based on the quality of data which is used to supports the facts and finding of the research. It is important to use reliable and suitable data to write a well-structured and thoughtful thesis. There are two different types of data: the primary or the empirical data and the secondary or theoretical data. Empirical data collection is based on first-hand, original and new
information that you usually get from an interview partner, answers of surveys or observation. Secondary/theoretical is already collected data that can be existing literature in the form of published books and articles, or it can be collected data for any other purpose but useful for our work. Many academics suggest that all researches start with finding the secondary data sources if possible (Ghauri & Gronhaug, 2005).

According to Yin (2003), there are six sources of evidence commonly used to collect data to do case studies: documentation, archival records, interviews, direct observation, and participant-observation, and physical artifacts (Yin, 2003). Further he suggests that interviews are important sources of information in case studies. Ghauri & Grønhaug (2005) support this fact and add that interviews are a way of collecting primary data and therefore a source of primary data. According to Saunders et al. (2003) one of the most popular ways to distinguish between interview types is to look at the degree of their formality and structure and by doing so dividing them into structured, semi-structured and unstructured interviews.

2.6.1 Theoretical Data Collection

In our research we have used secondary data collection in our theory chapter to develop a theoretical framework for our research. Finding the specific information regarding to the outsourcing, logistics outsourcing and aspects of outsourcing, we have used sources from text books and scientific articles to support the analysis and conclusion in this thesis. Limited secondary data is also used in our empirical chapter in the part of company introduction.

2.6.2 Empirical Data Collection

In our work mainly interviews are used to collect primary or empirical data. We conducted semi-structured interviews from four Taiwanese small and medium size companies that have outsourced at least one logistics activity to 3PL to gather information related to our research topic. The main purpose of using semi-structured interviews is to get empirical information without limitation so we would be able to
get deep understanding the process of logistics outsourcing practiced by SMEs in Taiwan. Following is the list of collected interviews:

<table>
<thead>
<tr>
<th>Company</th>
<th>Contact person</th>
<th>Job position</th>
<th>Type of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAHSCO</td>
<td>Kathy Chang</td>
<td>Vice president Sales and marketing</td>
<td>E-mails Phone</td>
</tr>
<tr>
<td></td>
<td>Nadia Tung</td>
<td>Sales Manager</td>
<td>Video conversation Phone</td>
</tr>
<tr>
<td>La Luz</td>
<td>Hsiao-poYen</td>
<td>Sales/Export Manager</td>
<td>Video conversation Phone,E-mails</td>
</tr>
<tr>
<td>PEZ Crown</td>
<td>Chia-chieh Li</td>
<td>General Manager</td>
<td>E-mails Phone</td>
</tr>
<tr>
<td></td>
<td>Wei-hsin, Ko</td>
<td>Logistics Manager</td>
<td>Video conversation Phone,E-mails</td>
</tr>
<tr>
<td>J &amp; W</td>
<td>Chung-jie Fang</td>
<td>Owner/CEO</td>
<td>Phone,E-mails</td>
</tr>
<tr>
<td></td>
<td>Pei-yi Chen</td>
<td>Logistics manager</td>
<td>Phone Video conversation</td>
</tr>
</tbody>
</table>

**Table 2: List of Collected Interviews**

**Source:** Authors

### 2.7 Analysis Method

We used pattern matching as the analysis method for this research. As we have mentioned earlier that we are using multiple-case studies to conduct this research and according to Yin (1993) multiple-case studies is used to make finding of research more authentic by show replication of same results/ behavior in different cases.

In our research we have used same approach. We actually developed a standard logistics outsourcing process on the bases of reviewed literature and this standard process is used to evaluate the practices of four Taiwanese SMEs regarding logistics outsourcing process by matching the pattern.
2.8 Structure of Thesis

The structure of this thesis is little different from standard format. Usually in research report, questions are answered in analysis part, after the presentation of theory and empirical finding. But in this report, our first research question is answered right after the chapter: *Theory* and before the chapter: *Empirical Finding* and *Empirical Analysis*. Because of two reasons, the answer of our first research question before the chapter: *Empirical Finding* and *Empirical Analysis*, was necessary. First, the answer of this question is used as a guideline to study the logistics outsourcing process of Taiwanese SMEs and as a bench-mark logistics outsourcing process to compare the empirical finding to get the answer of our second research question. Secondly, we have performed our research in this sequence and we feel it is necessary to present it in same sequence so reader can follow the flow of the research as we have performed and can understand our logic and finding of research.

2.9 Scientific Credibility

According to Yin (2003) the quality of a study should be tested and he suggests four tests which will judge the quality of a study i.e. construct validity, external validity, internal validity and reliability (Yin, 2003).

2.9.1 Validity

In general validity means that a theory or model gives a true description of reality (Gummesson, 2000). There are three types of validity discussed in literature: construct validity, external validity, and internal validity.

- **Construct Validity**

Construct validity is that how to translate the theoretical framework into operational and measurable questions and variables. Construct validity is also verified by having key informants review drafts of the study. Furthermore, the multiple sources of evidence should be used to ensure validity according to Yin (2003).
We created our theoretical chapter to describe the outsourcing, logistics outsourcing, aspects of outsourcing, and logistics outsourcing process of SMEs companies through existing theories and textbooks. We formed our interview questions based on this theoretical framework which is the base of our empirical part.

- **External Validity**

The external validity is considered as high if the results can be used and implied at other cases with similar circumstances. Case studies do, however, rely on analytical generalization and the result from the empirical findings is striving to be generalized to some broader theory (Yin, 2003).

We made theory chapter from the secondary data. This case study can be generalized to theoretical framework. However, companies in Taiwan might have the same logistics outsourcing process. Therefore, our research focused on the Taiwanese SMEs companies to discover some relevant points to understand logistics outsourcing practice in Taiwan.

The purpose of our research is to evaluate the logistics outsourcing practice of Taiwanese SMEs by developing a theoretical framework on the basis of scientific literature.

- **Internal Validity**

Internal validity can be achieved through the specification of units of analysis, the development of a priori rival theories, and collection and analysis of data to test these rivals (Yin, 1993).

As above description of internal validity, we tried to compare theoretical framework with empirical finding to see the difference. We conduct the deductive approach in this research. Hence, the logistics outsourcing process has been generalized in the theory chapter prior to empirical data collection in order to make sure the final conclusion and build up internal validity.
2.9.2 Reliability

According to Yin (2003) reliability demonstrates the operations of a study, such as the data collection procedures – can be repeated, with the same results. If the study can be recreated by following the same procedures as described in the protocol or database, it has a high reliability (Yin, 2003).

The purpose of the reliability in this thesis is to gather the same information that can be reached the same empirical finding and conclusion with other researchers in a case study. We used scientific articles and textbooks in the theoretical framework in order to confirm the reliability and updated information. We also contacted SMEs companies in Taiwan by video conversation, phone and e-mail to ensure the quality of data.

![Figure 4: Scientific Credibility of This Research](image)

Source: Authors
3. Theory

This chapter is used to develop the theoretical framework in order to answer the questions of this research. The theoretical framework is used for both, theoretical analysis to answer the first research question and empirical analysis to answer the second and third questions of this research. This chapter starts by describing logistics outsourcing and, drivers and types of logistics outsourcing and followed by details discussion about logistics outsourcing as a process. In this decision different models and aspects of logistics outsourcing process are discussed. This chapter ends on conceptual model for this research.

Following figure presents the structure of theoretical framework developed in this chapter. It also shows how this theoretical framework is connected with different research questions in order to answers them:

![Figure 5: Theoretical Framework for This Research](Image)

**Source**: Authors

3.1 Logistics Outsourcing:

Logistics is a one of the common functions that companies usually outsourced. Hilletoft and Hilmola (2010) suggest that the outsourcing of logistics has received considerable attention in literature. They also refer from literature that logistics
outsourcing involves the use of external specialized companies – third party logistics (3PL) companies – to perform entire logistics function or selected part within that function, which have been performed by the company internally. It can be traditional logistics functions such as in- and outbound transportation, warehousing as well as other services such as reverse logistics and information systems. But still, 3PL typically specialize in integrated transportation and warehousing services that can be scaled and modified according to customer’s requirements in much efficient manner with higher quality (Hilletofth and Hilmola, 2010).

In literature different terms are used for logistics outsourcing such as logistics alliance, logistics partnership, contract services, 3PL buying etc and different scholars define logistics outsourcing in different ways. For example Andersson (1997, p. 22) provides a very basic definition of logistics outsourcing: “a generic term for buying logistics services (e.g. transportation and warehousing services), in any kind of relationship with a producer of logistics services”. And according to Lieb (1992, pp. 29) logistics outsourcing is “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.”

But the bottom line of all definition is same i.e. use of external specialized logistics services providing companies to make logistics function more beneficial and competitive for company.

### 3.2 Third Party Logistics (3PL) Providers:

In logistics and supply chain management related literature, 3PL provider is defined in numbers of ways but researchers (e.g. Marasco, 2008, Van Laarhoven et al., 2000) generally agree that there is no single widely accepted definition for 3PL. Van Laarhoven et al. (2000) define a 3PL as a company who at least provides transportation management and warehousing. Coyle et al. (2003, p. 425) suggest that 3PL involves an external organization “that performs all or part of a company’s logistics functions”. Buxbaum (1994) suggests companies should select 3PL providers
by matching the needs of their companies with the essential competencies of the potential logistics service providers (Buxbaum, 1994).

Andersson (1995) suggest that term “third party logistics” is “very fuzzy” and the meaning of this term can varies with the context and country. He preferred following definition provided by Virum (1993, p.123):

“The services offered by a middleman in the logistics channel that has specialized in providing, by contract, for a given time period, all or a considerable number of the logistics activities for other firms” (Virum, 1993).

He further explains that 3PLs is “consists of a long term relationship between two parties which regard each other as partners. The logistics solution is worked out in co-operation specifically for each shipper. The goal for the relationship should be to develop into strategic alliances with win-win for both parties” (Virum, 1993).

3.3 Types of Logistics Outsourcing Partnership:

Brown and Wilson (2005) define three levels of general outsourcing practices: Tactical, Strategic and Transformational Outsourcing. Zhang & Sun (2008) also suggest almost same three types (Transactional, strategic and transformational Partnership) but they have discussed these types specifically for logistics outsourcing. Following is the scope and key factors of each type of partnership, provided by Brown and Wilson (2005) and Zhang & Sun (2008):

3.3.1 Transactional/Tactical Partnership:

According to Brown and Wilson (2005) outsourcing was started as a tactical tool and still is being used as same but not always. Usually, tactical outsourcing is used to resolve the specific existing problems such as “the lack of financial resources to make a capital investment, inadequate internal managerial competence, and an absence of talent or a desire to reduce headcount”. Often companies use outsourcing as a direct way to address existing problems (Brown and Wilson, 2005).
Zhang & Sun (2008) refer Tactical Partnership as transactional partnership and suggest in this type of partnership outsourcing companies try to generate cost savings, preventing future investments or reducing headcount. This partnership might be a short term partnership, on the bases of task essentiality, with no intention of strategic relationship with the providers. They suggest that companies engage in transactional partnership based their decisions on the costs associated with transactional task, it is lower externally or internally. Simply companies behave as an opportunist and as long the companies’ needs for cost reduction and higher work quality are satisfied there will be no tendency to engage into deeper relationship-oriented partnership. The cost and quality of service are of the most important factors in the selection of 3PL is this partnership because cost reduction and higher work quality are the only purposes of this kind of partnership (Zhang & Sun, 2008).

3.3.2 Strategic Partnership:

According to Brown and Wilson (2005) the successes in tactical outsourcing actually made executives realize that outsourcing could be utilized to achieve strategic objectives of the company. Strategic outsourcing is about the building long-term relationships and creating win-win situation for both parties. In a strategic outsourcing companies focus on long-term objectives and instead to working with economical or large number of services providers, companies select best-in-class services and develop close relation with their partners. According to Zhang & Sun (2008) strategic partnership is principally motivated by the need to focus on core business so companies use 3PLs for non-core activities in order to develop current and future competencies. Through strategic partnership, companies are benefited by the resources of their providers without investing in possessing. The wide experience of 3PL also support in organizational learning that help companies to do their business in new way. They suggest that for strategic partnership range of services provided, experience in required services, and information technology capability are the key factors for the selection.
3.3.3 **Transformational Partnership:**

Brown and Wilson (2005) refer transformational outsourcing as the third generation of outsourcing. Companies use this type when they want to redefine their businesses. In current business environment, for economical survival, companies need to transform themselves according to the changing demands of customers and also keep redefining their markets and businesses by availing new opportunities in the world of business. Transformational outsourcing can be the most effective tool to bring this level of changes in businesses and those, who take the advantages of this type of partnership, know that the real power of this type of outsourcing is the innovation that specialist service providers bring in their business (Brown and Wilson, 2005).

Zhang & Sun (2008) also suggest that Transformational partnership implies need of a rapid improvement in enterprise-level performance of company. The motivation is to use outsourcing for the purpose of redefining existing businesses and the providers may be considered as allies in the battle for market share and competitive advantage as allies possess valuable resources and capabilities. For transformational partnership, the outsourcing company is dependent on third-party providers to supply critical resources and redefine existing businesses, which also means high risks to the company. According to them the key factors in the selection of a 3PL should include compatibility with the users, quality of management, information sharing and mutual trust, and financial performance (Zhang & Sun, 2008).

![Figure 6: Types and Scope of Logistics Outsourcing Partnership](Zhang & Sun (2008, p.2))
3.4 Logistics Outsourcing Process:

A number of scholars (e.g. Richardson, 1990; Bagchi and Virum, 1998; Razzaque and Sheng, 1998, Mello et al., 2008 etc.) have suggested that outsourcing of logistics is a process and suggest that by implementing, and managing logistics outsourcing as a process companies can get more befits from it. According to Mello et al., (2008) companies are using creative solutions to manage and mitigate the risks of operating in today's dynamic marketplace and using 3PLs to perform logistics function is one of the strategies that have become increasingly popular. He suggest that, more than ever, understanding of the logistics outsourcing process is important to fully capturing the role and value of logistics in corporate strategy and competition. According to Sink and Langley (1997) outsourcing is a group effort to improve the strategic focus of the firm through process redesign and it is more permanent change.

Logistics outsourcing process is combination of different aspect and as a process companies need to consider different aspects related to logistics outsourcing. In literature, these aspects (factors, steps, phases, etc.) of logistics outsourcing, which can help a company in developing and implementing an effective outsourcing process, are discussed in different ways. Some scholar has developed conceptual models for logistics outsourcing by including all needed aspects in it so companies can increase the efficiency and effectiveness of their logistics outsourcing. Some scholars have just focused one or few aspects in their work instead for full process what they find more important for outsourcing.

3.4.1 Models of Logistics Outsourcing Process:

In literature different scolders has defined different models to improve the outsourcing process of a company but only three models actually directly address the logistics outsourcing process, which are presented by Sink and Langley (1997), Bagchi and Virum (1998) and Mello et al., (2008)
Sink and Langley (1997) presented very simple and but very comprehensive model of logistics outsourcing process. They referred their model as *A Conceptual Model of the Third-Party Logistics Buying Process* and their model is based on deep literature review and empirical finding of their case studies and survey. They presented following five-step managerial framework for buying third-party logistics services:

**Figure 7: Third-Party Logistics Buying Process**

**Source:** *Sink and Langley (1997, p.175)*
Step 1: Identify Need to Outsource Logistics:

According to them the process of using 3PL start with the recognition of outsourcing as an option to solve a problem or a chance to avail an opportunity. They suggest that first company should check whether logistics outsourcing is a feasible alternative or not. According to this task should be done by a “change agent” who can be an internal employee or external consultants. If it is feasible and approved by top management, they suggest developing a cross-functional team which also includes managers for different levels to buy 3PL’s services, including line managers as staff of this level works more closely with 3PLs.

Step 2: Develop Feasible Alternative:

In this phase cross-functional buying team needs to convert broadly define subjective purpose of outsourcing (such as world-class distribution channel or cost reduction and improved services) into highly specific objectives (like overnight delivery, 10% cost reduction or on time delivery etc.) and confirm the validity of logistics outsourcing, which involves a make-or-buy analysis by including all relevant costs. But it is very difficult to identify the total logistics cost as these expenses are spread throughout the organization. Therefore buying team has to dig deeper to confirm that logistics outsourcing is a feasible alternative. External expertise can be engaged to check the feasibility of outsourcing because companies not only need internal information to make this decision but also external information about 3PLs to make this make-or-buy decision.

Step 3: Evaluate and Select Supplier:

Next step in their model is evaluation and selection of 3PL. For this, first, company needs to establish selection criteria. Traditionally, quality, cost, capacity and delivery capability are criteria to evaluate 3PL but now, references of current customers, cultural compatibility, financial strength, the management expertise, operation and price flexibility, information system capabilities play main role in evaluation. This evaluation criterion is based on the objective of outsourcing. The selection of 3PL involves a high degree of communication and interactions so confidence and trust can
be build between both parties because these two factors also play a major role in the final selection of 3PL. General contract period with 3PL is 1 to 3 years, but can be longer required if 3PL offer any IT support or make major investment in assets.

**Step 4: Implement Service:**

Normally, the implementation of service begins at the due date and time, specified in the formal contract. The implementation requires a structured approach and a formal plan is needed to develop by both parties for effective logistics outsourcing. This formal transition plan should include all necessary details such as chain of command in both organizations, details of assets to be employed and shred, processes to be developed, handling of data, timing of changeover events and training of management representative of 3PL and buyer to make sure both parties have same understanding about this process. In this phase proper communication and open dialogues are needed to accomplish a successful implementation.

**Step 5: Ongoing Service Assessment:**

According to Sink and Langley (1997) the final step of this process i.e. ongoing services assessment, continuous as long as the logistics alliance is effective between both parties. Actually the outcome of this phase determine whether the buying company will seek another solution, replace current 3PL, bring service back to in-house or renew the agreement. They suggest that assessment methods must include both qualitative and quantitative measures. Timely cost reviews and customers service level are very good measures of this assessment. They also suggest that the quality of every aspect should be evaluated and results of review should be shared with service provider on continuous bases. They also favor the implementation of continuous improvement concept and suggest company should accommodate 3PLs concerns regarding alternate scheduling, system revision, or infrastructural modifications if these are mutually beneficial. Furthermore, the recommend accepted performances should be acknowledged and above-average performance should receive special recognitions.
A Logistics Alliance Process Model by Bagchi and Virum (1998)

The model suggested by Bagchi and Virum (1998) it is very similar to the one, which is suggested by the Sink and Langley (1997). They have just divided it in total eight steps and these eight steps are also divided in to three phases: Need Awareness, Planning and Management and Evaluation according to nature of steps:

**Figure 8: Logistics Alliance Process Model**

*Source: Bagchi and Virum (1998, p. 209)*
Step 1: Establish Objectives and Selection Criteria:

According to Bagchi and Virum (1998) clear set of objective are necessary for a company to move in the right direction. They suggest that companies should define their most aggressive logistics management goals and then try to achieve it by outsourcing if needed. The objectives must be based on realistic needs and wants of the company and selection criteria is also decided on the bases of objectives.

Outsourcing is usually a long term decision so company not only needs a 3PL as partner who can fulfill their need but also it should be reliable so company can trust on it. They also suggest that the objectives and criteria setting should be a group activities and different functions and level may include in it.

Step 2: Identify Qualified Providers:

Once objectives are set and selection criteria is established, next step for company is to identify different 3PL who qualify to the established criteria. Different logistics associations, industry publication and other resources can be useful for this purpose.

Step 3: Articulate Needs and Wants:

In next step they suggest that company should prepare a list of general information such as product line, shipping volume, geographic areas and industries to be served and growth forecasts. In this list more specific information should also be included such as level of services expected, level of integration with provider, IT system of company, other value-added services expected from 3PL. This list should also include information about all qualified logistics providers like their customer base, references, reputation in the market place, expectation from partnerships, quality of services, financial condition etc.

Step 4: Evaluation Bidders and Select Partner:

Prices can be very important factor in selecting a 3PL but it should not be the sole selection criteria. Evaluation should be based on the all the established criteria and bidder’s responses. Site visit and interviews can be helpful in selection process and
qualitative tool such as Analytic Hierarchy Process can also be. At this stage possible relationship and level of integration with 3PL should be focus in final decision.

**Step 5: Develop an Integration Plan:**

Next step is creating integration plan because in logistics process integration is necessary as many players involve in logistics pipeline. Logistics alliance can be successful if 3PL able to integrate its operation with the company's operation. Although a logistics information system can provide a framework and the means to achieve integration but this framework is useless until coordination between the employees is not developed. Both partners should develop an understanding that they are together for the long term and going to share success and failure together.

**Step 6: Create a Win-Win Relationship:**

They also suggest it necessary that a win-win situation should be created for both parties by sharing expectations, providing necessary assistance, continuous monitoring and improving relationship, and by regular feedback between partners. They believe continuous communication at different level is the key of successful relationship between parties. 3PL's working class employees usually spend great amount of time with company, these employees is a very important factor in the success of partnership so it should be take care properly.

**Step 7: Measure and Analyze Performance:**

Performance measurement and analysis is necessary to compare the expected with the actual performance. Bagchi and Virum (1998) suggest selection of right and vital performance measures is more important instead of choosing many. They also suggest that customer's expectation must be agreed upon jointly and management of this step jointly is also essential. Performance measures actually leads to analysis of derivations and this analysis leads to final step of this process.

**Step 8: Redefine Goals and Objectives:**

They suggest that continuous improvement should be emphasis throughout the process so the whole process can be undated with the changes of requirements and
purpose of alliance. Goals should be redefined periodically according to the changes in marketplace and on the bases of relationship development. Renegotiation and renewal of agreement is also the part of this step.


The model presented by Mello et al., (2008) is very different for other model because of the approach they use to develop it but the five steps they suggest for logistics outsourcing strategy process are not very different from other models. They actually use multiple-case studies and during their study they not only study the logistics outsourcing process of companies but also studied the effects/input of four factors: Cognitive, Experiential, Personal and Cultural, in the development of this process.

![Figure 9](image-url)
**Step 1: Recognition:**

According to Mello et al. (2008) recognition of 3PL as an alternative to in-house performance of logistics services is the necessary first step of logistics outsourcing process. Company can get this recognition from different sources such as from personal sources of management, previous experience of managers in logistics outsourcing, information from various sources, and experience of outsourcing other business activities to solve the problems. For in their research they also find out that printed literature e.g. trade journals and professional meetings e.g. seminars also a main source recognition of logistics outsourcing and also recognition about the different type of activities can be outsourced. But problems and new opportunities are also very important recognition factors.

**Step 2: Motivation:**

According to them motivation combining with recognition leads company towards practicing logistics outsourcing. A number of reasons can be the motivation of logistics outsourcing such a business condition or problem; needed improvement in logistics functions; cost reduction; poor financial performance; to reduce headcount or operating expenses; service improvement; inadequate in-house capacity; non-core activity; lack of expertise etc. They also suggest other, more personal and qualitative nature motivation like “ease of doing business” issues and "headaches going away." Generally motivations to outsource revolve around logistics-related performance problems, costs, customer service, or core competency considerations.

**Step 3: Outsourcing:**

In this step Mello et al. (2008) cover whole process after recognition and motivation of outsourcing i.e. developing selection criteria, evaluation, selection of provider, and implementation of outsourcing. In their study they find very different approaches of outsourcing very structured, incremental and experimental one. They find some companies, usually large firms, first develop complete corporate outsourcing policy i.e. well defined set of steps involving identification of activities to be outsourced and selection of providers based on carefully thought-out selection criteria, and then
follow it strictly step by step. Other companies use incremental approach but in systematic way and develop whole process step by step after analyzing the reaction of first step in very structured and systematic way. They find that by using these approaches companies can develop a good logistics outsourcing process and study (Anonymous, 2008) also support their finding buy showing that usually larger and best-in-class companies, who develop proper strategies able to get better result from logistics outsourcing. But they also reveal that all companies do not use very systematic approaches, usually smaller and privately owned one. They suggest quantitative analysis should be used to select provider and usually, cost is the main criteria to select 3PL.

**Step 4: Confidence-Building:**

According to Mello et al. (2008) once one or more logistics activities or functions are outsourced, next step is confidence building between both participating companies. Continuous communication and openness is the best way of relationship building but the performance of 3PL provides is a main factor in confidence-building. They find in their study that in the beginning companies try to get a comfort level with outsourcing and once they get comfortable with their service providers, companies increase their partnership by giving more responsibilities to their partners. Relation building is a time taking process. Something it takes years to company completely outsourcing their logistics activities because of lack of confidence. As a partner companies expect a good inter-personal communication and problem solving attitude. They identify lack of information and understanding about customer's business and clients create a bad situation for 3PL because at very limited information they except to provided required services and quote their cost services that sometime impossible to achieve or at least impossible to achieve at quoted cost.

**Step 5: Expansion/Contraction:**

The next step involves possible expansion, maintenance partnership at same level, reducing or even eliminate 3PL. They find different factors that can influence companies in making decisions regarding future use of 3PL. They suggest that the
companies, who have more systematic structure, relay on corporate policies regarding performance level of 3PL in the area of cost and services to make their future decision about outsourcing. But companies with no proper outsourcing strategy based their decision on previous outsourcing trials and future opportunities instead of corporate policy. They also suggest different personal and cultural factors also affect future decisions about 3PL’s role such as the way company want accommodate their clients, the way company tread their employees, historical commitments and relation with their customers etc, job security, personal feeling of logistics manages towards control on logistics activities.

**3.4.2 Discussion about Logistics Outsourcing Process in Literature:**

In literature, logistics outsourcing process is not only discussed as models but different scholars have also discussed different aspects or step of logistics outsourcing process separately to make it more effective. We have summarized these discussions in following headings:

- **Consideration for Logistics Outsourcing:**

  Lynch (2001) suggests that companies should not outsource logistics because of trend or successes of companies who have outsourced logistics function or if their competitors are using logistics outsourcing. He suggests a proper evaluation of different option before to execute outsourcing is necessary. Boguslauskas and Kvedaravičienė (2008) explain that companies need to have a proper strategic outsourcing plan and company should make it according to the needs of their companies. They argued that companies outsourcing strategy should be align with company's business strategy.

  Razzaque and Sheng (1998) provided an extensive literature review regarding outsourcing of logistics functions. Razzaque and Sheng (1998) refer from literature that logistics outsourcing is make-or-buy decision and factors related to quality, capacity, labor, scheduling and skill are very important in this make-or-buy decision. Companies also need to measure the benefits of outsourcing according to some
criteria, such as, return on assets and include the risk factor in outsourcing decision. Other aspects need to be considered include corporate objectives; strengths and strategy; social, political and environmental concerns; secrecy and market conditions. Razzaque and Sheng (1998) also recommend a cross-functional team to evaluate and review third parties to make selection process effective. With the reference of literature, Razzaque and Sheng (1998) a list of important criteria that are commonly used in the evaluation of third parties:

- Price / cost
- Reliability; Reputation and Supplier certification
- Speed and Service quality
- Location, e.g. near manufacturing facilities.
- Opportunities to develop long-term relationships
- Ability to provide highly detailed logistics data preceding during and following shipments.
- Business arrangements, e.g. incentives for performance, replacement of equipment, etc.
- Business experience, e.g. how long in the third-party business, depth of management experience, the strength of operating management, the quality of the work force, etc.
- Capabilities/competency, e.g. ability to meet the firm’s need, provides a variety of services, wide geographic coverage and utilizes specialized equipment.
- Compatibility of third party’s technology and the firm’s requirements.
- Financial stability/strength.
- High and improving standards, e.g. having a formal quality process.
- Management structure.
- Support services, e.g. availability of assets and human resources, information and communications systems, etc.
- Systems flexibility and capacity (Razzaque and Sheng, 1998, pp.99)
According to Trunick (1989) in an outsourcing decision the company should be cleared about its reasons, measurable objectives and requirements. Furthermore, it is also very important to consider whether the firm plans to be a service leader or costs leader to compete in market. He suggests that the company must ask whether it needs someone who just takeover a part of functions, such as warehousing or transportation, or to overhaul complete operation. It is essential that the strength of 3PL match with weaknesses of the firm (Trunick, 1989).

- **Logistics Outsourcing Contract:**

Bing and Zhongying (2009) and, Spilko and Colagelo (2005) discuss about outsourcing contract. Outsourcing contract is very important step to be focused after selection of 3PL. Although in different models contracting of outsourcing is not including as separate step but it is very important and very strategic aspect of outsourcing process. Companies should be very careful in negotiating final contract because it is not only the legal binding between both parties (Spilko and Colangelo, 2005) but it is also a great opportunity for company to maximize the benefits of outsourcing by negotiating best price for best level of services (Heinritz et al., 1991). This also decides the nature of partnership and play very important role in the future relation by clarify roles and responsibilities of both parties.

Clifford F. Lynch (*logistics consultant and expert*) reflects on the importance of contract with a service provider “a detailed contract that covers all of your logistics requirements and contains provisions for handling exceptions will prevent headaches and unexpected costs.” He also pointed that study show that more than 50 present of all 3PL partnership fails within five years so incase of conflict there should be contractual provision for termination of the contract (Mongelluzzo, 2007, p. 50). Razzaque and Sheng (1998) defines outsourcing is a specifically designed contractual relationship that is dependent on the supplier meeting the buyer’s defined performance goals (Razzaque and Sheng, 1998). Halldo´rsson and Skjøtt-Larsen (2006) suggests with the perspective of governance structures that needs should be specified through a contract or a “letter of intent” in 3PL arrangements.
According to Tompkins et al. (2005) it is essential for a company to include an experienced legal counsel in their outsourcing team if they want to make this outsourcing venture successful. They suggest that many company do not understand this important aspect and enter into the contracting and negotiation process with 3PL without any legal audience, this is a recipe of disaster. They also argue that an experienced legal consul with knowledge of company’s business and with understanding of the motives behind this decision can guide company successfully through contract negotiation process without poisoning the relationship (Tompkins et al., 2005). Some key ingredients in a logistics contract are competitive rates, equipment needs, service standards, extraordinary items, e.g. special handling for products, escape clause to terminate contract, provision for performance reviews, provision for reports, options to extend the length of the contract term or increased pricing and insurance requirements (Richardson, 1993b). Spilko and Colangelo (2005) have also suggested few very critical details that should be considered for any outsourcing contact such as: what services and level of services 3PL is going to perform; flexibility to change in services is required; pricing issues; limitation on liability and exclusion; subcontracting issues; dispute resolution, exit and termination of contract.

- **Partnership and Relationship Building:**

Trunick (1989) suggests communication between logistics users and providers is essential co-ordination of internal corporate functions and outsourced logistics. Firms need to communicate clearly to 3PLs their role and responsibilities as well as their expectations and requirements. According to Shanahan (2004) both, shipper and providers, have realized that they need each other and they can work together perfectly. Now both side need to focus on keeping their relationship fully functional and profitable and key to create such a relationship is communicating and trust. Furthermore, he argues that communication is just not matter after the relationship when contract is signed but it should start as soon as shipper recognized the need of 3PL. It will not only help company in selection process but also help them to develop
trust between parties. He also suggests continuous communication at different level between both parties is essential specially beginning of agreement (Shanahan, 2004).

Gooley (1994a) suggests five principles for successful partnerships:

1) Concentrate business with relatively few partners. By doing so, the buyer gets better pricing and better service.
2) Carry out joint improvement efforts with partners – identify operational and service areas that need improvement.
3) Institute a formal system for measuring partners’ performance – help to verify provider’s compliance with the service contract’s terms, and to help identify trouble spots.
4) Employ a two-way feedback system. Partnerships thrive on communication that allows both parties to discuss problems and decide on plans of action.
5) Let partner performance determine routing choices and rate level (Gooley, 1994).

Gentry (1993) suggest that although every outsourcing partnership is unique but all are developed to attain the common goals of superior quality performance, cooperating on cost reduction, minimization of risks, and sharing expertise and new technology. He implies, especially in strategic alliance, the level of commitment between the buying and selling firms to jointly improve quality and productivity to reduce overall costs is much higher. Both parties in strategic partnerships utilize joint problem-solving efforts to develop mutual responses to changes in the marketplace (Gentry, 1993). With literature reference, Hilmola and Hilletofth (2010) suggest 3PL can be engaged in various relationships – on operative, tactic, or strategic level – with differing customers, even with customer’s customers and suppliers. The scope, content and duration of these business-to-business relationships vary customer to customers and if the relationship is seems to be long term it can involves exchange of technology, knowledge, or information. But irrespective of the scope, content and duration, openness and trust are important to make the relationships successful for every type of relationship (Hilmola and Hilletofth, 2010).
• **Performance Measurement:**

According to Wilding and Juriado (2004) measuring the performance of third parties provides valuable information about the changes that outsourcing has brought in logistics system of company, in terms of cost, service etc. It is also critical to develop and manage the partnership with the 3PLs. In their study they have identified following performance measures companies are using for logistics functions:

<table>
<thead>
<tr>
<th>Clusters of Performance Measures</th>
<th>Actual Performance Measures Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery timeliness</td>
<td>Delivery timeliness, delivery punctuality, delivery accuracy, delivery quality, schedule adherence, delivery failures, delivery performance</td>
</tr>
<tr>
<td>Cost</td>
<td>Costs per unit. Full visibility of costs, cost control, financial bonus penalty system</td>
</tr>
<tr>
<td>Quality</td>
<td>Includes broadly defined measures such as service level, quality of orders, overall quality, fleet quality</td>
</tr>
<tr>
<td>Inventory management</td>
<td>Stock turnover, shortage claims, throughput, stock accuracy, inventory difference</td>
</tr>
<tr>
<td>Picking accuracy</td>
<td>Picking accuracy, picking quality</td>
</tr>
<tr>
<td>Responsiveness and flexibility</td>
<td>Reactivity, response to queries, administration, customer service, flexibility to fluctuation capacity</td>
</tr>
<tr>
<td>Error and damage assessment</td>
<td>Present of damage, error rate</td>
</tr>
<tr>
<td>Lead-time</td>
<td>Re-supply speed, inbound lead-time</td>
</tr>
<tr>
<td>Receiving/unloading and dispatch /loading</td>
<td>Dispatch punctuality, unload/load time</td>
</tr>
<tr>
<td>Documentation</td>
<td>Receipt accuracy</td>
</tr>
<tr>
<td>Variation in actual and expected performance</td>
<td>Comparison of performance and expectation</td>
</tr>
<tr>
<td>Other</td>
<td>Product temperature, scanning accuracy, vehicle utilization, staff and customer satisfaction, unit per man hour</td>
</tr>
</tbody>
</table>

*Table 3: Use of Performance Measures*

*Source: Wilding and Juriado (2003, p.642)*

3.5 **Logistics Outsourcing and SMEs**

Despite of having so much published literature on the topics of outsourcing and logistics outsourcing process, it is very surprising that very limited literature has
been written with the focus of SMEs. Arbaugh (2003) propose a very interesting reason of this lack of research i.e. too much emphasize on studying the behavior of large firms in the process of logistics outsourcing. He suggests SMEs are involved in these studies but as the supplier or supporting firms rather than as a separate firm seeking to outsource their own activities. He also reveals that in SMEs outsourcing decision is very much based upon the preference of owner/CEO of company whether they like to do outsourcing or not (Arbaugh, 2003).

Van den Berg (2009) provides some inside about the past trend and changing in overall outsourcing practices for SMEs. According to him, in the past suppliers of outsourced services were looking for large contracts to achieve economies of scale and so they can keep their services cost as lowest as possible. But the old model of large traditional outsourcing companies were not allowing them to serve SMEs cost effectively, even though they did have the scale and capacity. While using smaller service providers, SMEs were not getting the scale and high enough quality which was a big obstacle for fast growing sophisticated SMEs. For average small and medium sized company outsourcing was pursuing a complicated outsourcing strategy without enough gain and they were also in the wrong impression that the cost would be prohibitive (Van den Berg, 2009).

Holter et al. (2008) also identify lack of competence from SMEs side that reduces the quality of logistics outsourcing process. He suggests due to lack of subsequent purchasing power, in many cases, SMEs are treated as “order takers” rather than “order makers” by 3PL. That is an obstacle in obtaining good service for a competitive price. Although, large companies also face these problems related to transport cost, reliability and service from 3PL like SMEs, however, larger companies usually have more leverage than SMEs to rectify this situation with their 3PL. He also suggests that depending on intensity, SMEs can be attractive for large 3PLs but usually they acquire low volume services. Utilization of outdated procedures and infrastructure, specially for information system is another problems and further more lack of capital to do needed change makes it more difficult for hi-class 3PLs to focus on SMEs. Foster (1994) advices small firms to be more careful in logistics outsourcing and first, they
should try prepare them. He also suggests to small companies to adopt more strategic view on logistics outsourcing i.e. as a potential source for competitive advantage (Foster, 1994).

But now, according to Van den Berg (2009) time is changing. Advancement in IT and communication technologies is creating possibilities for high quality outsourced services providers to accommodate the SME how willing to exploit the opportunity. It has become clear to SMEs that they can gain similar benefits from outsourcing as their larger counterparts: lower cost; competitive advantages; and the ability to focus their energies on core activities such as business growth. In fact, an increasing number of SMEs are realizing that by using selected high quality outsourced service providers you can create a business with a much flexible cost structure, with a broader range and depth of skills, that can easily cope with business growth or contraction (Van den Berg, 2009).

Mello et al., (2008) provide most relevant but very limited information about the logistics outsourcing process in SMEs. They suggest that some companies, usually smaller, privately own companies, use experimental approach and outsource their logistics function in unstructured and unsystematic manner. These companies do not establish any policy toward outsourcing and without a clear-cut policy may not perform it as a process as suggested in different models.

3.6  Conceptual Model for this Research:

Here we are presentation the conceptual model for our research. This conceptual model describes relation between theory and empirical finding. It also describes how these theory and empirical findings are used to answer our research question which are derived from the purpose of this research. Following is the visual presentation of our conceptual model:
Figure 10: Conceptual Model for this Research

Source: Authors
4 Theoretical Analysis

This chapter is providing the answer of our first research question in the light of developed theoretical framework. This question is explaining who companies should develop and implement logistics outsourcing process, with the reference of literature. The answer of this question is also used as a guideline to collect our empirical data by study the logistics outsourcing process of Taiwanese SMEs and as a standard logistics outsourcing process to compare the empirical finding to get the answer of our second research question.

Following figure shows the analytical framework for our first research question:

**Figure 11: The Analytical Framework for Research Question: 1**

*Source: Authors*

4.1 Research Question 1:

**Q.1: According to the literature, how should companies develop and perform logistics outsourcing process?**

Scholars (e.g. Sink and Langley, 1997; Razzaque and Sheng, 1998; Mello et al., 2008) suggest that logistics outsourcing is not a single step of transferring responsibility of in-house logistics activity to a 3PL, but it is a continuous process. They also emphasize that logistics outsourcing should be considered and implemented as a process to achieve desired results from logistics outsourcing.
According to Mello et al., (2008) companies need to understand logistics outsourcing as a process before to implement it as a process. They suggest understanding about different aspects included in this process, how these aspects should be perform and how these aspects should be integrated as a process can help companies to develop and implement logistics outsourcing as a process. Boguslauskas and Kvedaravičienė (2008) suggest companies should make a strategic outsourcing plan and implement it systematically. Mello et al., (2008) also show positive effects of using a structured and systematic approach by developing a proper policy any follow it throughout logistics outsourcing process. Study (Anonymous, 2008) also support their finding and suggest usually larger and best-in-class companies get more out of logistics outsourcing because of their ability to develop and follow a proper outsourcing strategy. Mello et al., (2008) suggest that suggested models of logistics outsourcing can be very useful for companies to develop proper outsourcing policy and implement it as a process.

The literature and suggested models of logistics outsourcing offer valuable insight about how firms should precede logistics outsourcing process or improve already preceded one. Basically suggested models provide a logical and orderly approach for companies interested in outsourcing logistics functions or improves their existing logistics outsourcing process (Mello et al., 2008). As a process, literature suggests different aspects to be considered in logistics outsourcing process and literature also guild how these aspects should be performed as a process. On the bases of reviewed literature we able to identify following aspects those companies should consider to develop and implement logistics outsourcing as a process to achieve desired results from logistics outsourcing:

1. Identify Need of Logistics Outsourcing
2. Objectives of Logistics Outsourcing
3. Evaluation and Selection of 3PL
4. Outsourcing Contract
5. Performance Measurement
6. Relationship Building with 3PL
4.1.1 Identify Need of Logistics Outsourcing:

Identifying the need of logistics outsourcing is one of the most important aspects companies need to consider. According to Sink and Langley (1997) and Mello et al. (2008) the process of using 3PL start with the recognition of outsourcing as an option to solve a problem or a chance to avail an opportunity. They suggest that first company should check whether logistics outsourcing is a feasible alternative or not, because once logistics function is outsourced it can be very costly for them to bring it in-house again. In literature outsourcing decision is frequently referred as classical “make or buy” decision i.e. what is more beneficial for company, producing something in-house or buy it from outside market (Razzaque and Sheng, 1998). Experts (e.g. Lynch, 2001) suggest that companies should not go for logistics outsourcing because it in trend or companies who have outsourced their logistics function are doing good...
or competitor are using logistics outsourcing to compete. Companies should be hundred percent sure that they need logistics outsourcing.

4.1.2 Objectives of Logistics Outsourcing:

Once company decided to buy logistics services, the objectives of logistics outsourcing should be defined clearly. According to Bagchi and Virum (1998) clear and realistic objective of outsourcing are necessary for a company to move in the right direction. According to Sink and Langley (1997) companies should define subjective purpose of outsourcing (such as world-class distribution channel or cost reduction and improved services) into specific and measurable objectives (like overnight delivery, 10% cost reduction or on time delivery etc.). Trunick (1989) also suggests measurable objectives and requirements for logistics outsourcing. Andersson (1997) has identified “well-defined requirements and measures” as one of the most important success factors of logistics outsourcing. Sink and Langley (1997) also suggest that objectives of logistics should be developed as a team-effort by including management of different concern department. According to Zhang & Sun (2008) the objectives of outsourcing also decided which type of partnership companies looking for, tactical, strategic or transformational, with their 3PL, as the selection criteria for 3PL vary according to type of partnership (see 3.1).

4.1.3 Evaluation and Selection of 3PL

Once company identifies the objectives of logistics outsourcing, evaluation of 3PLs for selection is the next step. For this, first, company needs to establish selection criteria, based on the objective of outsourcing (Sink and Langley, 1997). According to Sink and Langley (1997) and Razzaque and Sheng (1998) in evaluation and selection of 3PL, companies should include all departments to establish the objectives and selection criteria which are directly or indirectly affecting by outsourcing decision and final selection of 3PLs as a partner also be decided by cross-functional team. According to Bagchi and Virum (1998) selection of 3PL is a long-term decision and lack of concentration on this aspect, can hooked-up company with an unreliable and interrupted service provider for a long time period. To avoid this risk, company needs
a systematic evaluation of multiple factors and in-depth analyses of the business environment before to select a logistics partner. That can consume considerable time and effort to go into the evaluation but it is worth to spend for a long-term comfort. Razzaque and Sheng (1998) provide a list of commonly used criteria used to evaluate and select the 3PL (see 3.5.2).

### 4.1.4 Outsourcing Contract:

Outsourcing contract is the next step to be focused after selection of 3PL. Although in different models, which are discussed in literature review, contracting of outsourcing is not including as separate step but it is very important and very strategic aspect of logistics outsourcing process. According to Spilko and Colangelo (2005) companies should be very careful in negotiating final contract because it is a legal binding between both parties. But it is also a great opportunity for companies to maximize the benefits of outsourcing by negotiating best price for best level of services (Heinritz et al., 1991). According experts (e.g. Tompkins et al., 2005; Mongelluzzo, 2007) a detailed contract that includes all logistics requirements and provisions to handle exceptions will prevent headaches and unexpected costs for companies. The critical details that should be included in contract are: prices and cost details; servicers and level of services; flexibility to change in services; equipment needs or IT support; limitation on liability and exclusion; subcontracting issues; dispute resolution, exit and termination of contract (Spilko and Colangelo, 2005). According to Sink and Langley (1997) general contract period with 3PL is 1 to 3 years, but can be longer required if 3PL offer any IT support or make major investment in assets.

### 4.1.5 Relationship Building with 3PL:

Trust and confidence between parties, company and 3PL provider, is mutually beneficial and continuous communication at different level is the key to create such a trust and confidence. According to Bagchi and Virum (1998) firms need to communicate clearly to 3PLs their role and responsibilities as well as their expectations and requirements build good relations with their 3PL. Both parties should try to build a win-win relationship by sharing expectations, providing
necessary assistance, continuous monitoring and improvement of relations, and regular feedback. Mello et al. (2008) suggest continuous communication and openness is the best way of relationship building but the performance of 3PL is a main factor in confidence-building. They also suggest relation building is a time taking process. In the beginning companies try to get a comfort level with outsourcing and with their service providers then companies increase their partnership by giving more responsibilities to their partners.

Relationship building also directly related to the nature of partnership company want to develop with 3PL. In tactical partnership companies try to develop trust and confidence by sharing information but the process of confidence building and level of information share will be very different if company is intended to develop strategic partnership (Zhang & Sun, 2008; Hilmola and Hilletofth, 2010).

4.1.6 Performance Measurement:

Scholars (e.g. Bagchi and Virum, 1998; Wilding and Juriado, 2004) suggest companies should continuously measure the performance of 3PL by comparing expected with actual performance so it can be controlled and improved. The performance measurement also provides valuable information about the changes that outsourcing has brought in logistics system of company, in terms of cost, service quality etc. and it is also critical to develop the partnership with the 3PLs (Wilding and Juriado, 2004).

Bagchi and Virum (1998) suggest that it is very important for companies to select few right and performance vital measures rather than many trivial one, because it is a time and cost consuming process. Different performance measure are used (see 3.4.2, Table: 3) by companies but, according to Sink and Langley (1997), cost and quality of services are two most common and authentic performance measures. They suggest that assessment methods must include both qualitative and quantitative measures and they also favor the joint management of this aspect to develop and follow the same standards of performance measurement and also to create consensus on the result of this process. Future of outsourcing is very much depend upon the outcome of this phase, whether the company need to seek an alternate solution, replace the
3PL provider, bring the services back in-house, or renew the logistics outsourcing contract so companies should take it very serious (Sink and Langley, 1997).

4.1.7 **Ongoing Review and Continuous Improvement:**

This aspect provides needed changes and improvement in outsourcing strategy and in overall process of outsourcing. Nowadays, business environment possess high level of uncertainty. Business and business practices are changing rapidly that bring new opportunities and new requirements. So it is necessary that objectives of outsourcing strategy should be reviewed and redefined periodically to reflect the changes in marketplace requirements of company (Bagchi and Virum, 1998). Acquired services from 3PL also require reconsideration on the bases of gained experience and developed relationship with passage of time. Sink and Langley (1997) suggest continuous improvement can help company to improve throughout process of outsourcing by improving commutation and relationship with 3PL, by identifying the needed improvement in infrastructure, information system capabilities or any other activity related to outsourcing.
5  Empirical Finding

In this chapter our collected empirical data regarding logistics outsourcing process of all four selected Taiwanese SMEs is presented. First, empirical findings for each SME are separately discussed and in the end of chapter, key empirical findings of all SMEs are presented in comparative table. The answer of our first research question is used as a guideline to collect our empirical data for this chapter. All information provided in this chapter is from the interview respondents if nothing else is mentioned.

The purpose of this chapter is to present gathered empirical data to understand the practice of logistics outsourcing process in the four SMEs companies in Taiwan. We conducted semi-structured interviews (Appendix A) with representatives of our four selected companies to collect this empirical finding. Following figure presents the structure of empirical findings. It also shows use of these empirical finding in different research questions in order to answers them:

![Figure 12: Structure of Empirical Finding for This Research](image)

**Source:** Authors
5.1 Pacific Hospital Supply Corporation (PAHSCO):

5.1.1 Company Introduction:

Pacific Hospital Supply Corporation (PAHSCO) was founded in 1977 in Taiwan. It is a medical and health care products manufacturing company. PAHSCO’s products are divided into central medical piping system, operation theatre, Oxygen/Suction therapy equipment, and disposable medical supply products and range of products are offered in each product line. PAHSCO running its own brand and the low manufacturing cost is the key factor of their successes. Today PAHSCO has boasted its product varieties over 600 models and exports to more than 80 countries (PAHSCO, 2010). According to one of company representatives PAHSCO exports more than 80% production abroad and less than 20% they use for local supply.

5.1.2 Scope of 3PL:

PAHSCO is dealing with high number of orders with different products requirements as they running more than 600 product models from all around the world. The product quantities in orders also vary from very small to very large. To cope with this challenge PAHSCO have implemented the automatic warehousing system in 2007 so the pace and volume of orders can be managed more efficiently and effectively and intelligently they are using 3PLs to deliver their customers’ orders, both, domestically and internationally. Interestingly, PAHSCO does not have any logistics/transportation/export manager or department. Therefore mode of delivery and use of 3PL is controlled and decided by international and domestic sales division and they are performing this job with the help of their selected 3PLs.

PAHSCO is using three different channels of distribution to deliver orders to its customer and for each channel different type of 3PLs with different expertise are used. For domestic transportation i.e. delivery of products to local customer or drop the consignment to port for export, PAHSCO is using two transportation companies: Kelly and Tung-Lo Transport Company. For the large quantity of exported products, PAHSCO is using two freight forward companies: Trans-power International Logistics
Company and JAS Logistics Company. And for small quantity, small dimension products and sample products, DHL is assigned to send these products to the overseas clients. Operation through transportation companies and DHL is very straight forward but freight forward companies: Trans-power International Logistics Company and JAS Logistics Company help PAHSCO in number of ways. They contact with shipping companies for price inquire and to book the space on behalf of PAHSCO. They also take the responsibility of documentation and custom clearance on behalf of PAHSCO.

![Logistics Operation of PAHSCO](Figure 13)

**Figure 13: Logistics Operation of PAHSCO**

**Source:** Authors

### 5.1.3 Logistics Outsourcing as a Process:

Management of PAHSCO does understand the concept of logistics outsourcing but they do not understand logistics outsourcing as a process neither they are performing logistics outsourcings as a process. PAHSCO do not have any outsourcing strategy or policy and they have outsourced their transportation function as a single step and aspects they are supposed to perform after outsourcing, either they are not performing or if they are performing, these are not as suggested in literature.

PAHSCO clearly knows the reason to use 3PLs i.e. they do not want to invest in transportation related expanses i.e. cost vehicles and their maintenances, manpower
to run in-house transportation department etc. Cost consideration and lack of expertise are also very important factors in this decision. As low cost products are the main reason of success for PAHSCO and same objective they are trying to achieve by logistics outsourcing. For this, they are using two transport and two freight forward companies at the same time so the competitive environment can be created between companies and in the result much lower price services can be achieved. PAHSCO also considers good delivery services as an objective of logistics outsourcing. PAHSCO is behaving as an opportunist and they do not have any intention to create any strategic partnership with any four 3PLs therefore they do not have any type of long-term working contract with either of 3PLs but they do have signed a common type of contract with both transportation companies to get compensate if any damage happens during the delivery. With freight forwarder they do not have this contract as they will get compensation from shipping company in case of any damage during the transit. However, with DHL they have one year contract and they renew it each year because as a DHL’s contract client they can get discounted rate and other cost benefits.

According to one representative, selection of current 3PL is made by tope management without any formal investigation and cost of service and location of 3PL was the deciding factor in this selection. PAHSCO has not signed any long term contract but has been working relationship of PAHSCO with all 3PLs is very good. According to PAHSCO, they believe keeping a long-term and good cooperation relationship rather than signing an agreement and more than ten year working relation with all 3PLs is the prove of this statement. As, all four 3PLs are doing business with PAHSCO for more than ten years therefore PAHSCO always gets the best prices from these 3PLs. Another benefit of this longer working relation is that all 3PLs exactly know what PAHSCO wants 3PLs also have very good product information due to this time period and they know all the customers of PAHSCO. This competitive environment also keeps all 3PLs motivated to provide best services not only in terms of cost but also in terms of services.
For PAHSCO cost of services and on time delivery is the most important performance measurement. They do not formally check the cost of service but they always compare the prices of their 3PLs and use provider who is cheaper. They have very good performance measurement system to check and control on time delivery. Finally, 3PL’s ability of solving contingency is also very important consideration for PAHSCO.

5.2 La Luz Industrial Corp. Taiwan:

5.2.1 Company Introduction:
La Luz Industrial Corp. Taiwan is subsidiary company of La Luz Corporation and run as an independent company under its management. The head quarter of La Luz is in South America and they have manufacturing companies in Taiwan and China. La Luz Corporation was formed by Carlos, James & Lu in 1977 and they manufacture different type of casual sportwear. They are known because of their creativity in using high functional and environment friendly fabrics and fiber for their sportswear such as organic cotton, recycled polyester, quick dry and moisture transferring fabric and ultraviolet protective textile. In Taiwan, La Luz manufactures only different type of cloths, fabrics and fibers then they send it to La Luz China as a raw material where this raw material converts into finished goods.

5.2.2 Scope of 3PL:
Logistics operation of La Luz is quite simple and they have made it much easier and cost efficient by outsourcing it completely to a single logistics provider. La Luz Taiwan manufactures and store different type of fabric, polyester and fibers in in-house warehouses and supply to La Luz, China for stitching according to order requirement through seaway. La Luz has kept warehousing and storage system in-house and all other logistics activities have outsourced to Chinese Maritime Transport (CMT) Company. CMT services La Luz to manage all activity of export including transportation of consignment from warehouse to port, booking shipping space, all export documentation and custom clearance, as it is shown in Figure.14:
5.2.3 Logistics Outsourcing as a Process:

La Luz has very limited knowledge about logistics outsourcing and absolutely no knowledge about logistics outsourcing as a process because for their logistics function they totally rely on CMT. CMT is one of the leading logistics service providers in Taiwan and China. La Luz and CMT have been working together for more than 30 year together. CMT is the only logistics provider they have ever used and even they have never try to change CMT with any other 3PLs neither they have ever seriously evaluate any other 3PLs for this purpose. But they do keep them update with the prices of CMT services so they can negotiate if they find it high as compare to market. La Luz does not have logistics or transportation department but they have one sales plus export manager who looks after all dealing with CMT. According to him when La Luz was started in 1977 they could not afford a proper transportation department because of financial limitation so they started to use CMT. At that time CMT is one of their few choices and because of all service they were required, CMT were offering at lowest costs so they select CMT. He claims that when La Luz were able to afford they calculated the costs of building logistics department but they find it more expensive than using 3PL and because their current function was running very smoothly so they decided instead of developing a new department they should more focus on improving their warehouse technology because they store a large batch of materials.

**Figure 14:** Logistics Operation of La Luz Industrial Corp. Taiwan

**Source:** Authors
in it. He also accept that they may get much costs prices 3PLs due to their high volume export but the service level and more importantly trust and affiliation they have with CMT they will not able to get with any other company.

Interestingly, La Luz has no outsourcing or long term contact with CMT without any legal agreement. CMT arranges everything from custom clearance, booking shipping space and transportation services from warehouse to port. According to La Luz high quality services, good communication, trust and loyalty are the bases of their long term relation with CMT. La Luz believes that CMT always arrange most economic and efficient transport route for their shipment with low price. La Luz is concerned about the quick respond. Due to La Luz export goods to China twice a week, so it is very important to increase speed of delivery and booking shipping space. CMT can instantly respond to La Luz requirement and take over everything. La Luz closely works with CMT to develop export schedule and take the advice with CMT as an expert. Formally, do not do performance measurement of 3PL but for them on time delivery is the most important measurement and they also keep a check on costs of services if they find it over they usually communicate with CMT and get it adjusted. La Luz is very satisfied with the services they are getting from CMT; hence, they are willing to continuous this long-term relationship with CMT.

5.3 PEZ Crown International Corporation:

5.3.1 Company Introduction:

PEZ Crown International Corporation was started in 1990, in Taiwan now it has its head quarter in Taiwan and branch offices in Japan, Hong Kong and more than 100 affiliated manufacturers in China and South-east Asia. PEZ Crown started their business from importing different low cost consumer electronics products in Taiwan and distributes these products direct to small retails. Now they are not only successful in their starting business in Taiwan but they have also achieved a high level of success at international level. Now PEZ Crown is dealing in “3C” (Consumer Electronics, Computers, and Communications) products and they not only supplying
these products to local Taiwanese retailers but also providing services in B2B trade. They represent their customers i.e. small manufacturing companies, in U.S.A., Japan, European countries and Middle-Eastern countries to purchase the “3C” products from China and other Asian countries and they also take the responsibility for quality control and consistent supply, on time delivery and competitive prices.

In our research, we are just focusing on PEZ Crown’s business inside Taiwan i.e. import different 3C products in Taiwan and supply it to different retails store and small retail shops.

5.3.2 Scope of 3PL:

PEZ Crown imports 3C products from overseas countries by air and seaway and supply to different retail stores and shops. PEZ Crown’s logistics operation is managed by their logistics department which is consisting of three employees. PEZ Crown owns a warehouse and transportation vans and small trucks for distribution but for in-bound deliveries of imported products they are using services of a high standard logistics services provider: YES Logistics Co. Ltd. YES Logistics not only provides transportation services from seaport and airport to PEZ Crown’s warehouse but YES Logistics also responsible for custom clearance.

![Figure 15: Logistics Operation of PEZ Crown International Corporation](source: Authors)

5.3.3 Logistics Outsourcing Process:

PEZ Crown is well aware about their business as well as logistics requirement to make it successful. Their logistics department mainly helps them to design cost
effective distribution routes to supply products. Strategically PEZ Crown has owned only small vans and small trucks which they required for sales and supplies of products. As they sales small quantities to high numbers of retail and stores so it is more cost effective for them to use their own transportation for out-bound delivers. However, lack of knowledgeable employees to deal with import procedure like custom clearance and absence of large trucks to carry goods from airport or port to their warehouse make PEZ Crown to assigned in-bound logistics activity to Yes Logistics.

Selection of YES Logistics is made by upper management, without any formal evaluation. Yes Logistics is well reputed, large logistics service provider but the select of Yes Logistics is not entirely based on the reputation and services quality. But PEZ Crown is using Yes Logistics on the bases of services cost. YES Logistics is providing the same required services at lower price than other compared logistics companies. PEZ Crown is working with YES Logistics since last 12 years and since last 5 years PEZ Crown has started to signed one year contract with YES Logistics. During the contract, YES Logistics cannot increase the price even if petrol price increase or due to any unpredictable factor. Performance measurement of YES Logistics is mainly based on price of their services. PEZ Crown is also impressed with quick response and service level of YES Logistics.

5.4 J&W Parts Industrial Company:

5.4.1 Company Introduction:

J&W Parts Industrial Company was founded in 1997 in Taiwan. J&W is a trading company and export car components to Middle East and European countries. The clients of J&W include different automotive manufacturing companies, automotive spare-part dealers and also big spare-part retailers. J&W actually work as a middle man. They take big volume orders of different spare part from different clients, pass these orders to different Taiwanese factories and get it done according to clients’ specification and deliver them according to their requirement. Usually J&W take orders of standard components like side mirrors, light covers, bumpers etc. get it
manufactured in large volume and deliver it in small quantities according to the requirement of clients.

5.4.2 Scope of 3PL:

J&W receive order from overseas client, pass it to Taiwanese factories to get it manufactured and receive finished products, store these finished car components in J&W’s owned warehouse and export these car component to its overseas clients according to their needs. J&W has a small logistics department, only two employees who take care of all logistics function with the help of their sales team. For transportation J&W use both in-house resources as well as 3PL. J&W owned one truck which is only used to transport shipment from warehouse to port. Usually manufacturing companies take to responsibility to delivery finished good to J&W’s warehouse but in some case J&W take this responsibility. To collect and deliver finished products from manufactures factories to J&W’s warehouse and some time direct to the port, in case of late delivery, J&W use a 3PL, T-Join Transportation Co. Ltd. The use of 3PL is not very extensive but J&W give good business to T-Join.

Figure 16: Logistics Operation of J&W Parts Industrial Company

Source: Authors

J&W's logistics department take the full responsibility of export of goods. They do price inquires from sipping companies and book shipping space, do export documentation and fulfill all custom requirement on Taiwanese port. J&W always use
Maersk Line as shipping company, unless any client asks to use specific shipping company to their delivery.

5.4.3 Logistics Outsourcing as a Process:

Basically J&W has a very effective in-house logistics system and they have proper logistics strategy to control the quality of transportation and warehousing system. They have custom clearance experts, good warehousing system with capacity of large quantity of goods. They book shipping space and negotiate price with shipping company directly. But when it comes to transportation network they have strategically outsourced in-bound delivery to 3PL: T-Join Transportation Company. T-Join is considered as a big, high class logistics service provider in Taiwan.

For J&W the selection of logistics partner is not mainly based on cost of the services but quality of service and reliability is also very important for them. In the past J&W have used different small and medium size transportation companies due to inconsistency and poor services they have assigned this job to T-Join after comparing the costs and quality of service with other logistics services provider and since last 8 years T-Join is working with J&W as logistics partner. On the other hand, for shipping J&W always prefers to use Maersk Line even if the shipping price is little higher than others shipping companies J&W has been working with Maersk Line since they have started their business and they believe that Maersk Line has best service quality and safety of carrying with the reasonable costs.

J&W has very good working relation with both logistics partners: T-Join and Maersk Line. With T-Join, they have one year contract and they renew it each year after have an internal departmental meeting to review last year performance. The contract includes all general clauses like date of validity, responsibilities of both parties, termination before end date etc. But J&W consider it a formality not a mode of security. Although, with Maersk Line, they have been working since last 13 years, they do not have any formal agreement, in case of damages, J&W can ask shipping
company to compensate for the loss according the maritime laws of carrier’s limited liability.

J&W try to avoid damages to products in every possible way because they deal in a large number of high values, fragile nature products. As J&W also supplying car components to direct manufacturing companies and most of the companies use Just-in-Time techniques so on time delivery is also very important factor for J&W to consider in their logistics process. That is why they have selected best logistics partners to make sure safety and on time delivery of products and they are also using these two aspect for performance measurement.
5.5 **Comparison of Empirical Finding:**

Following two tables present the comparison of empirical finding of all four SMEs. First table is the comparison of general information and second table provides the comparison of empirical data related to logistics outsourcing process in SMEs:

<table>
<thead>
<tr>
<th>Nature of Business</th>
<th>PASHCO</th>
<th>La Luz, Taiwan</th>
<th>PEZ Crown</th>
<th>J&amp;W Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities Outsourced</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of 3PL Use</td>
<td>Four 3PLs</td>
<td>One 3PL</td>
<td>One 3PL</td>
<td>One 3PL</td>
</tr>
<tr>
<td>Transportation/Logistics Department</td>
<td>No Transportation / Logistics Dept.</td>
<td>No Transportation / Logistics Dept.</td>
<td>Small Logistics Department</td>
<td>Small Logistics Department</td>
</tr>
</tbody>
</table>

**Table 5 Comparative Table for General Information**

*Source: Authors*
<table>
<thead>
<tr>
<th></th>
<th>PHSCO</th>
<th>La Luz, Taiwan</th>
<th>PEZ Crown</th>
<th>PEZ Crown</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outsourcing Strategy / Policy</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Understanding of Logistics Outsourcing Process</strong></td>
<td>No understanding</td>
<td>No understanding</td>
<td>Limited understanding</td>
<td>Limited understanding</td>
</tr>
<tr>
<td><strong>Use of Logistics Outsourcing as a Process</strong></td>
<td>Not Using</td>
<td>Not using</td>
<td>Not using</td>
<td>Not using</td>
</tr>
<tr>
<td><strong>Aspects of Logistics:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Identify Need of Logistics Outsourcing</td>
<td>To solve problem</td>
<td>To solve problem</td>
<td>To solve problem</td>
<td>To solve problem</td>
</tr>
<tr>
<td></td>
<td>• Lack of resources</td>
<td>• Lack of resources</td>
<td>• Cost consideration</td>
<td>• Lack of resources</td>
</tr>
<tr>
<td></td>
<td>• Lack of expertise</td>
<td>• Lack of expertise</td>
<td>• Cost consideration</td>
<td>• Lack of expertise</td>
</tr>
<tr>
<td></td>
<td>• Cost consideration</td>
<td>• Cost consideration</td>
<td>• Cost consideration</td>
<td>• Cost consideration</td>
</tr>
<tr>
<td>2. Objectives of Logistics Outsourcing</td>
<td>Subjective/Non-measurable Objective</td>
<td>Subjective/Non-measurable Objective</td>
<td>Subjective/Non-measurable Objective</td>
<td>Subjective/Non-measurable Objective</td>
</tr>
<tr>
<td></td>
<td>• Minimum cost of transportation</td>
<td>• Minimum cost of transportation</td>
<td>• Minimum cost of transportation</td>
<td>• Minimum cost of transportation</td>
</tr>
<tr>
<td></td>
<td>• Good quality services</td>
<td>• Good quality services</td>
<td>• Good quality services</td>
<td>• Good quality services</td>
</tr>
<tr>
<td>3. Evaluation and Selection of 3PL</td>
<td>No formal evaluation/ No participation of different department</td>
<td>No Evaluation/ Past working relation</td>
<td>No formal evaluation / No participation of different department</td>
<td>Formal evaluation / No participation of different department</td>
</tr>
<tr>
<td></td>
<td>• Cost of services</td>
<td>• Location of 3PL</td>
<td>• Cost of services</td>
<td>• Service quality</td>
</tr>
<tr>
<td></td>
<td>• Location of 3PL</td>
<td></td>
<td>• Cost of services</td>
<td>• Reliability</td>
</tr>
<tr>
<td>4. Outsourcing Contract</td>
<td>No/ one year contract</td>
<td>No contract</td>
<td>One year contract</td>
<td>One year contract</td>
</tr>
<tr>
<td></td>
<td>• General contracts</td>
<td></td>
<td>General contract</td>
<td></td>
</tr>
<tr>
<td>5. Performance Measurement</td>
<td>Cost of services</td>
<td>No Performance Measurement Formally</td>
<td>Cost of services</td>
<td>On time delivery</td>
</tr>
<tr>
<td></td>
<td>• On time delivery</td>
<td>• Cost of services</td>
<td>• On time delivery</td>
<td>• Safety of Products</td>
</tr>
<tr>
<td></td>
<td>• Tactical partnership</td>
<td>• Tactical partnership</td>
<td>• Tactical partnership</td>
<td>• Tactical partnership</td>
</tr>
<tr>
<td>7. Ongoing Review and Continuous Improvement</td>
<td>Do not perform this aspect</td>
<td>Do not perform this aspect</td>
<td>Do not perform this aspect</td>
<td>Do not perform this aspect</td>
</tr>
</tbody>
</table>

**Table 6: Comparative Table for Logistics Outsourcing Process**

**Source:** Authors

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6 Empirical Analysis

In this chapter our remaining two research questions will be answered. These research questions are linking with our empirical findings and theoretical framework is also used analysis of these questions.

Following figure shows the analytical framework for our second research question. To answer our second research question, we have used the answer of our first question as a standard logistics outsourcing process:

![Analytical Framework for Research Question: 2](Figure 17: The Analytical Framework for Research Question: 2)

Source: Authors

6.1 Research Question 2:

Q.2: How does the logistics outsourcing process in SMEs differ from the process suggested in the literature?

According to our finding Taiwanese SMEs do not have any proper strategy or policy for outsourcing but they do understand the concept of logistics outsourcing and using 3PL in very effective way to fulfill their requirement. However, regarding logistics outsourcing as a process, these SMEs have no or very limited knowledge and understanding, and none of these SMEs performing logistics outsourcing as a process. These SMEs do consider some suggested aspects of logistics outsourcing process but
these aspects are not performed as it is suggested in literature. In SMEs these aspects are separately performed by different departments and are not integrated with each other as it should be, to develop a logistics outsourcing process. For example upper management decide what to outsource and to whom outsource, accounts and finance department evaluate and control the cost of outsourcing and sales people check the performance of 3PLs. Following is details of different aspects of logistics outsourcing perform by Taiwanese SMEs and their difference for suggested:

### 6.1.1 Identify Need of Logistics Outsourcing:

In our cases all SMEs are using logistics outsourcing to solve their problems. We identify two main problems that made SMEs to use outsourcing: limited resources and lack of expertise in logistics functions. Both are classical reason for logistics outsourcing. As literature suggests, SMEs are fully aware about their need of logistics outsourcing but for them it is not classical "make or buy" decision because their financial limitation usually do not allow them to consider keeping outsourced function in-house as an option.

### 6.1.2 Objectives of Logistics Outsourcing:

All SMEs have two very traditional objectives of logistics outsourcing: reduction of logistics cost and best services. For example PACH is cost saver and trying to reduce their cost as much as possible, on other hand J&W looking for best services at minimum prices because of their business requirement. Other two SMEs, PEZ Crown and La Luz, are looking for both objectives at a time.

According to literature companies should define their subjective purpose of outsourcing into clear and measurable objectives but in our case studies all SMEs have subjective purpose/goals of outsourcing such as minimize the cost or best services and because of these subjective goals these SMEs have weak criteria to evaluate the performance of their service providers.
6.1.3 Evaluation and Selection of 3PL:

According to literature this aspect is considered when company first time goes for outsourcing or renews the contract with 3PL. Literature suggest company should develop a cross-functional team to make selection criteria and evaluation of 3PL should be done on the basis of these criteria.

Interestingly, this is the least considered aspect of logistics outsourcing because of long term working relationship of SMEs with their 3PLs. Our three selected SMEs: PAHSCO, PEZ Crown and La Luz are still working with their first time selected 3PLs. In all three SMEs this decision were made by top management directly and their just used general evaluation and selection criteria such as cost, quality of services, reputation etc. without formal evaluation and selection process. However, J&W have used this aspect according to literature by including different manages in evaluation and selection process when they were selecting their current 3PL and they also discuss performance of their 3PL before renewing contract each year.

6.1.4 Outsourcing Contract:

None of SMEs involve in long-term contract with their 3PLs. La Luz has no contract with its 3PL and, PAHSCO and PEZ Crown just have one year general contract that they renew each year. However J&W is using much detailed contract including all general clauses like date of validity, responsibilities of both parties, termination before end date etc. they also renew it each year after have an internal departmental meeting. But J&W also consider it a formality not a mode of security.

6.1.5 Relationship Building with 3PL:

All SMEs have very good working relationship with their 3PLs. They have confidence and trust on each other and regularly communicate at different level and jointly work to improve the performance of logistics function and solve the problems if they have any. But their needs and objective of outsourcing; and the duration and nature of contract clearly show the level of their relationship is more tactical rather than
strategic partnership. In this relationship SMEs are dominate party and trying to maximize the benefits in this relationship.

**6.1.6 Performance Measurement:**

The main objectives of all SEMs are low cost logistics function and high service level, therefore all SMEs use almost similar performance measure to evaluate the performance of their 3PLs: price of their services and on-time delivery. However for PEZ Crown quick response and for J&W safe delivery of goods are also important performance measures. But as literature suggests companies should develop standards to evaluate actual performance of 3PLs, none of SMEs have standards to evaluate performance of SMEs. Usually price difference from past invoices and complaints from customers are used to check the performance of 3PLs.

As literature suggest that future of outsourcing depends upon the outcome of this aspect, whether the company need to seek an alternate solution, replace the 3PL provider, bring the services back in-house, or renew the logistics outsourcing contract but in selected SMEs performance measurement is only use for controlling purpose.

**6.1.7 Ongoing Review and Continuous Improvement:**

According to literature ongoing review provides needed changes and improvement in outsourcing strategy and in overall process of outsourcing. But in our case studies no SMEs conduct review with the intention of needed changes or improvement. If they face any problem in their current operation then changes are brought in current system.
Following figure shows the analytical framework for our third research question:

**Figure 18: The Analytical Framework for Research Question: 3**

**Source:** Authors

### 6.2 Research Question 3:

**Q.3: Why do the practices of SMEs regarding logistics outsourcing process differ from the process suggested in the literature?**

Our finding about practices of SMEs regarding logistics outsourcing process are not very different from that suggested by Mello et al., (2008). They suggest that some companies, usually smaller, privately own companies, don’t establish any policy toward outsourcing and without a clear-cut policy may not perform it as a process as suggested in different models and they described this approach as experimental and unsystematic manner of logistics outsourcing. But in the process of producing these results, we get a chance to understand the reasons of these results which is the main purpose of this research because these reasons are not clearly defined in the literature.

According to literature, logistics outsourcing is a complex process and companies need to implement logistics outsourcing as a process if they want best results from
logistics outsourcing. It varies how companies approach this process, and what factors influence their actions. But literature suggests companies should use a structured process by including all needed aspects to develop a good logistics outsourcing process. And studies show that companies do follow a structured approach by establishing an outsourcing policy and proceed to implement it throughout the process. Companies also take an incremental but systematic approach by initiating a trial outsourcing and then improve it step by step (Mello et al., 2008).

But in Taiwanese SMEs we can clearly see that they don’t have very structure process for logistics outsourcing and they are using experimental approach for logistics outsourcing. These SMEs are performing some of the suggested aspects of logistics outsourcing process according to their need but they are not performing these aspects as literature suggests and neither these aspects are integrated as a process.

What approach a company use, it depends on a number of factors such as understanding about outsourcing process, organizational cultural, management’s approach, resources availability, personal preferences, objective of outsourcing etc (Mello et al., 2008). According to our findings, lack of understanding about logistics outsourcing as a process, limitation of resources and lack of interest of top management are main reasons for not to have systematic process for logistics outsourcing in these SMEs as suggested in literature.

Literature clearly states that logistics outsourcing is a process, and it is needed to be understand as a process i.e. how it should be developed, managed, and evaluated as a process (e.g. Sink and Langley, 1997; Razzaque and Sheng, 1998; Mello et al., 2008) but our selected SMEs have no or very limited understanding about logistics outsourcing as a process. Our first two selected companies, PAHSCO and La Luz, have no knowledge and understanding about logistics outsourcing as a process and other two selected case studies: PEZ Crown and J&W, are much more aware about it as a process. The valid explanation of this difference of understanding is having a logistics department and the nature of their business. PAHSCO and La Luz both are manufacturing companies and they consider transportation part of logistics as a non-core function so they decided not to have a logistics department to save the excusive
expenses and have outsourced complete logistics function related to transportation to 3PLs and just focusing on warehouse as a core-function by keeping it in-house. On other hand PEZ Crown and J&W, both are lying in supplier and wholesalers categories and for them logistics is a core-function so both have a small logistics department. This department not only managing their in-house logistics activities but also controlling outsourced logistics activities. Secondly both companies are trying to keep their transportation function as much as possible in-house. They have just outsourced those parts of transportation which they cannot cost efficiently perform in-house or those they cannot afford to perform in-house.

According to our finding lack of resource is another barrier for SMEs in developing a structured process for logistics outsourcing. Companies need logistics experts and helping staff to develop and implement good logistics outsourcing process. To perform different aspects as suggested in literature companies need information and information gathering requires extra resources i.e. time, cost and headcounts that SMEs cannot afford. We can see in the cases of PEZ Crown and J&W, having a logistics department and logistics experts has increased the understanding of companies about logistics outsourcing as a process. Especially J&W is performing different aspects of this process in much better way such as evaluation and selection of 3PLs, outsourcing contract, and performance measurements. Both companies have very small logistics department, two and three employees, and they have other task to complete if these SMEs can hire more staff for this purpose they can improve their logistics outsourcing as a process.

We also find that lack of interest in improving logistics outsourcing is another reason of having unstructured process in SMEs. Top management of all SMEs is very satisfied with their current structure of logistics function and with the performance of their selected 3PLs. They don't feel that their logistics function needs any improvement or they need changers in their logistics outsourcing practices. This attitude is mainly developed because of lack of understanding and limited resources but it also refers toward the experimental approach that they are using to perform this process. These SMEs only try to do something different if they face any problem in their current
process, to solve the problem and that leads them towards improvement. For example, J&W was facing problems with its previous selected 3PLs in terms of performance because those 3PLs were selected on the criteria of low cost and near location. So they changed the selection and evaluation process according to their needs and related aspects, outsourcing contract and performance measurement are also changed toward improvement. In other cases these SMEs never face a big problem related to logistics outsourcing so they don’t feel any need of changes.

We also find another reason of difference in practices of SMEs in logistics outsourcing process and suggested models and literature, which is identified by Holter et al (2008) as suitability of these models for SMEs. In our literature review, we find that the focus of suggested models and reviewed literature regarding logistics outsourcing process is more towards strategic partnership in which companies are willing to develop long-term relation as a business partner rather than using 3PL as a supporter, and selection of partner is not only based on cost and services quality. But in our selected SMEs, we see more tactical partnership with their 3PLs. According to the criteria suggest by Brown and Wilson (2005) and Zhang & Sun (2008) regarding types of logistics outsourcing, the reason of outsourcing, objective of outsourcing, contract and relationship building, all aspects show that these SMEs are using 3PLs for tactical purposes not for strategic and these models and literature is suggesting companies to develop logistics outsourcing process with the intention of strategic relationship. It can be argued in the cases of PAHSCO and La Luz, that both SMEs have outsourced their complete transportation function to 3PLs and they have very good and long working relationship with these 3PLs so it should be considered as strategic partnership. But here, intention of these SMEs is not developing long-term relation and win-win situation for both parties; these SMEs have outsourced their whole transportation function to maximize the cost benefits. The nature of relationship does not depend upon the duration working relation and volume of outsourcing but it depends upon the reasons and objectives outsourcing. In the case of these SMEs, reasons (to solve the problems: lack of expertise and lack of resources) and objectives
(low cost logistic function and good services) of logistics outsourcing are tactical as suggested by Brown and Wilson (2005) and Zhang & Sun (2008).
7 Conclusion

In this chapter all three research questions of this thesis are concluded. Possible criticism and suggestions for future research are also included in this chapter.

7.1 Conclusions of Research Question:

Q.1: According to the literature, how should companies develop and perform logistics outsourcing process?

Different Scholars suggest that logistics outsourcing is a process and it should be implemented and evaluated as a process. They suggest that by considering it as a process companies can manage it better way and as result, can get better outcome from logistics outsourcing by increasing the efficiency of this process. Literature also refer it as a very important strategic decision and advice companies to make an outsourcing strategy, develop a policy and implement it step by step systematically.

As a process companies need to consider different aspects or steps for logistics outsourcing. Literature suggests different models for logistics outsourcing process by adding all needed aspects. Basically suggested models provide a general guideline in a logical and orderly approach, for companies interested in logistics outsourcing functions or want to improve their existing logistics outsourcing process. According to reviewed literature following are the most important steps or aspects companies should consider in their logistics outsourcing process:

1. Identify Need of Logistics Outsourcing
2. Objectives of Logistics Outsourcing
3. Evaluation and Selection of 3PL
4. Outsourcing Contract
5. Performance Measurement
6 Relationship Building with 3PL

7 Ongoing Review and Continuous Improvement

Q.2: How does the logistics outsourcing process in SMEs differ from the process suggested in the literature?

According to our finding SMEs do not develop very structured and systematic logistics outsourcing process as it is suggested in literature. These SMEs do consider some suggested aspects of logistics outsourcing process but these aspects are not performed as it is suggested in literature. In SMEs these aspects are separately performed by different departments and are not integrated with each other as it should be, to develop a logistics outsourcing process.

Q.3: Why do the practices of SMEs regarding logistics outsourcing process differ from the process suggested in the literature?

In our study we identified that SMEs do not have very structured process for logistics outsourcing and these SMEs do consider some suggested aspects of logistics outsourcing process but do not perform them as it is suggested in literature.

According to our findings, lack of understanding about logistics outsourcing as a process, limitation of resources and lack of interest of top management are main reasons differences in the practices of SMEs regarding logistics outsourcing process from the suggested process in literature. We also find that the reviewed literature and suggested models of logistics outsourcing process are focusing strategic partnership between 3PLs and companies but the partnership between SMEs and their logistics services providers is more tactical in nature. This is also a possible reason of this difference.

7.2 Possible Criticism:

External validity of this thesis can be questioned because of studying Taiwanese SMEs only. Our intention to conduct this thesis is to contribute regarding logistics outsourcing process in SMEs, in general but the finding of this thesis can be
considered limited to Taiwanese SMEs. Secondly because of small sample size the results may not be considered statistical significance.

7.3 Suggestions for Future Research:

We believe it is worth to extend this research at extensive level by including different regions and by increasing the sample size so the result of this thesis can be verified. Another possible future research topic, which we have touch, is to study the relation between logistics outsourcing process and tactical partnership i.e. is it beneficial for companies or not, to develop a logistics outsourcing process as suggested in the literature if they have tactical working relationship with their 3PLs.
References:


**Interview persons:**

**Pacific Hospital Supply Corp. (PAHSCO)**

Kathy, Chang, *(Vice president Sales and Marketing)*

Nadia, Tung, *(Sales Manager)*

**La Luz industrial Corp.**

Hsiao-Po, Yen, *(Sales/Export Manager)*

**PEZ Crown International Corp.**

Chia-Chieh, Li, *(General Manager)*

Wei,Hsin, Ko,*(Logistics Manager)*

**J & W Parts Industrial Co.**

Chung-Jie, Fang, *(Owner/CEO)*

Pei-Yi, Chen, *(Logistics Manager)*
Appendix A

**Interview Questions:**

1. Does your company use any 3PL?
2. How long your company has been using 3PL?
3. What you know about logistics outsourcing?
4. Which logistics activities do you outsource, why and to which extent?
5. What you know about logistics outsourcing process?
6. How would you describe your company’s outsourcing process?
7. Does your company have any strategy or policy for logistics outsourcing?
8. Does your company have a Logistics or Transportation Department?
9. What are the main motives for your company to use 3PL?
10. How your current 3PLs are selected?
11. Did other 3PLs were also evaluated during the selection process of current 3PLs?
12. What were the main reasons to select current 3PL on other 3PLs?
13. Which organizational levels were involved in decision making process regarding the usage and selection of current 3PL services?
14. Which departments were involved in the decision making process about usage and selection of 3PL company?
15. To what extent you use 3PL providers in your logistics function?
16. What logistics performance measures your company use to evaluating the performance of a 3PL service provider?
17. What major concerns and reservations do you have about using 3PL?
18. Do you have option to bring back outsourced logistics function in-house again if not satisfy with 3PL?
19. If no, what is the reason to not consider it as a possible option instead of renewing or new contract?
20. What is the impact of using 3PL on your company?
21. Which key-buying criteria do you employ when you choose a 3PL partner?
22. When do you prefer logistics in-sourcing to logistics out-sourcing?
23. How does 3PLs partnership assist you to improve your logistics networks’ performance?
24. Do you get any technical support or IT systems from your 3PLs to upgrade your information flow?
25. How do you measure your logistics networks' performance in terms of efficiency and effectiveness?
Appendix B

Organizational Structure of Taiwanese SMEs

Pacific Hospital Supply Corp. (PAHSCO)

PAHSCO was founded in 1977.

Number of employees: 464

Source: Website of Pacific Hospital Supply Corp. (PAHSCO)
La Luz Industrial Corporation Taiwan was founded in 1977.

Number of employees: 303

Source: Hsiao-Po, Yen, (Sales/Export Manager)
PEZ Crown International Corp

PEZ Crown International Corporation was founded in 1990.

Number of employees: 273

Source: Chia-Chieh, Li, (General Manager)
J&W Parts Industrial Company

J&W Parts Industrial Company was founded in 1997.

Number of employees: 137

Source: Pei-Yi, Chen, (Logistics Manager)