
ANALYSIS OF THE RISK MANAGEMENT THIRD-PARTY LOGISTICS IN CHINA



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ABSTRACT

As the market competition continues to deepen and intensify, the enterprises to establish a key of competitive advantages has been turned from reducing material consumption and improving labor productivity to building efficient logistics system. With the further economic development, the enterprise put forward ever-increasing demands for the development of logistics. One's own or collaborative logistics ways may not be able to fulfill some enterprises's requirements, the enterprises that have new logistics demands are increasing as well, which are the motivation to promote logistics outsourcing. Simultaneously, with the development of modern traffic network, transport and high technology, also make the logistics enterprises have been rapid progress, so more and more enterprises' logistics outsourcing operations will be possible.

Firstly, this thesis gives a brief review of relevant existing research results, on such a basis that it will seek to research whether and what kinds of risks exist in 3PL subcontracting and the effective approaches to deter and control thus risks in China. To sum up, the research objectives of the paper mainly include the following aspects:

- To achieve a general overview of 3PL development in China
- To obtain a deep understanding on risk and 3PL risk management
- To explore the importance and approaches to manage risks
- To identify various risks existed in 3PL risks
- To research the root causes of these 3PL risks
- To find out effective and efficient risk management methods

Keywords Risk, Subcontracting, Outsource, 3PL

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1 INTRODUCTION

1.1 Research background

In the 21st century, accompanying the substitute of the competitive relationship by the win-win relationship along supply chains and the formation of specialized management theory, there has come the issue of logistics subcontracting. Logistics subcontracting has become a development tendency in modern times. Most leaders believe 3PL subcontracting enables companies to focus on their own core competences and optimise the process of logistics along their supply chains (Simchi-Levi et al., 2003). Hence, more and more interest and emphasis have been put on 3PL subcontracting to enhance their supply chain performance management and obtain advantages that are more competitive.

According to the report of IDC (2005) EU logistics markets on average has grown 3.3% annually. According to research, in 2005 logistics subcontracting market was 53.9 billion US dollars. In 2007, the value of global logistics subcontracting services market increased to 276.5 billion US dollars.

The report from the China's National Bureau of Statistics (2009), there were more than 1 million logistics enterprises in China in 2006. The 3PL providers as coordinators of corporation operation, integrators of logistics and contractors of logistics outsourcing have become mainstream modern logistics. Striving to develop 3PL is an important way to promote China's economy quality, since 1990s China's 3PL has made considerable headway (CFLP 2007).

As illustrated in the table 1, in 2007 most of China's corporations adopted 3PL service to improve logistics efficiency.

Table 1

Quantity of corporation use 3PL service	1	2-3	4-10	10+
Percentage	3%	31%	45%	19%

Source: CAWS (2007)

With 3PL's popularized in China, a series of serious problems have emerged imposing a heavy and potential loss to the whole system, including corporations, 3PL providers and whole supply chain, hence, it is highly essential to ascertain, deter and control these problems in subtracting.

, An investigation, carried out in China since several years on 3PLs by Zhao et al. (2007) states that empirical studies are still in their infancy and immature. Plus its vitality and necessity to mature, the research of 3PL subcontracting risk management in China is worthy of investigation.

1.2 Research objectives

This study will seek to research what kinds of risks exist in 3PL subcontracting and the effective approaches to prevent and control thus risks in China. The scope of this study will focus on 3PL subcontracting problems management in China's SMEs.

The detailed research objectives aim:

- To achieve a general overview of 3PL development in China
- To obtain a deep understanding on risk and 3PL risk management
- To explore the importance and approaches to manage risks
- To identify various risks existed in 3PL subcontracting
- To research the root causes of these 3PL risks
- To find out effective and efficient risk management methods

1.3 Outline structure of this research

The structure of this study is revealed as follows:

Chapter 2 – this chapter will critically review existent literature in 3PL risk and risk management fields. It identifies the definition and characteristics of risks in a general perspective then deepens the understanding in the approaches in risk management and 3PL risk management. Basic risk management procedures are provided. It is summarised that ineffective management, loss of control, loss of client focuses, lack of clarification, lack of cost control, lack of cost control, lack of trust and double outsourcing are main factors of 3PL risks. A framework of 3PL risk management and control is formulated as well. This chapter plays an important role as theoretical framework in this study.

Chapter 3 – the chapter discusses different research paradigms and introduces the research philosophy, research strategy, and research methods, for this study always talk about the reasons supported for the research methodology selection. The method of data analysis is introduced as well. At the end of this chapter, research validity, reliability, and generalisability also ethics issues are explained and analysed.

Chapter 4 – this chapter describes, analyses, and discusses the findings by this research. The 3PL subcontracting risks are identified and practical methods to evaluate and control risks in case company. Discussion is carried out by comparing existent theory and practical findings.

Chapter 5 – in this chapter, the key findings are showed. Recommendations are given with managerial implications in 3PL subcontracting risk management. Finally, the limitations of this study and suggestions for further study are explained.

2 LITERATURE REVIEW

2.1 Introduction

This chapter, according to the objectives, firstly identifies the definition of risk and risk management in a general manner and then explore the cause factors of 3PL risks and potential effects of such risks in a detailed manner. Due to highly linkage to the logistics business environment of China, the general conditions and special characteristics of 3PL development will be evaluated. Finally, it will seek out methods to manage and control 3PL risks.

2.2 The definition of risk

Currently, academia has no standard definition of “risk” since people have different understandings of risk, or, they research “risk” from different viewpoints (Ojasalo, 2009) In order to start this research with clear understanding of this topic, it is of great importance to begin with the definition of risk. The review hereby sums up some main perspectives according to the scholars’ different understandings to “risk”.

2.2.1 Risk is the indeterminacy of the possible outcome of a thing

Kendrick (2003) called risk as indeterminacy; Heldman (2005) defined risk as the variation of the outcome under some specific suppositions; it is thought that risk is a thing’s indefinability, which can be detected by variance of the earning distribution. Meh (2008) believed that risk is the indeterminacy of a company’s earning. Through systematic study of the risk, Lambert et al. (2008) define risk as “the so-called risk is the objective reflection of uncertainty of not occurring incident.” Meanwhile, Markowitz and Sharp used variance of yield rate to measure the risk of investment securities and through quantify the risk, they changed the mass’s perception to risk. Since it is convenient to calculate variance, such kind of risk definition received prevailing application in practice.

2.2.2 Risk is the indeterminacy of loss

Virine and Trumper (2007) defined risk as the indeterminacy of loss. Uncertainty brings risk Hillson (2007) believed risk meant the indeterminacy of future loss. Proske (2008) defined risk as the chance of adverse incident. This viewpoint was also categorized into subjectivity theory and objectivity theory. Subjective theory believed the indeterminacy is subjective, individual and psychological perspective, and is a man’s subjective estimation to an objective thing instead of the objective evaluation and measurement. Indeterminacy includes the indeterminacy of the occurrence of a thing, the indeterminacy of time, the indeterminacy of the situation and the indeterminacy of severity of the thing. The objectivity theory was posed upon the objective existence of risk and based on observation to the

risk incidents, and was defined according to mathematics and statistics. Objectivity theory believed risk can be measured by objective items. For example, Dhaene et al. (2006) defined risk as the objective probability that can be measured; Knight (2009) believed risk can be measured too.

2.2.3 Utilize the randomness characteristic of indeterminacy to define “risk”

According to Huang (1999) the indeterminacy of risk includes two kinds' fuzziness and randomness. The indeterminacy of fuzziness mainly depends on the innate fuzzy attribute of risk itself, and should be described and researched by fuzzy mathematics. Whilst, the indeterminacy of randomness is mainly due to the influence from various kinds of random factors from the exterior environment and should be described and researched by probability theory and statistics. Aubert et al. (2003) said "risk refers to the uncertainty faced by economic actors, either directly or indirectly impact on the economic activities and can not be fully accurately analyzed, it contains a variety of unforeseen factors; and the risk depends not only on uncertainties in the size of the uncertainty, but also depends on the nature of income function (Johnson, 2009).

According to the randomness of indeterminacy, Kallman (2005) posed approaches to measure the degree of some potential risk. That is the ratio of "mean error of actual loss and anticipated loss" to "the mathematical anticipated loss" under some specific conditions and timing. It shows the estimation of various degrees of potential loss (Proske, 2008).

To sum up, the definition of risk is that it originates from indeterminacy, which might cause loss and various kinds of random factors, which could lead to indeterminacy in risks. "At present, on a more consistent view of risk is: Risk is the uncertainty in a number of people under the influence of purposeful behavior, Compared with expectations in terms of the interests of the possibility of loss. With a simple word, risk refers to the possibility of future as a result of various factors leading to uncertainty of future losses (Grant et al., 2006). Because this research is discussed around the risks in 3PL, according to the natures of risk, the research focus will be cover kinds of factors leads to 3PL risks, and how loss has been caused.

2.3 Risk management

A good risk management helps reduce the probability of wrong decision and helps avoid potential loss, and helps increase the asset-value of the company. Currently, risk management already becomes a relatively independent and functional managerial field in the company's management. In literature, there are several approaches, which are closely related to effective risk management.

2.3.1 Contract management

When a company is confronted with an open market, with an open season of laws and regulations, and with innovated products, the changes and fluctuations become more and the operational risk is enhanced accordingly (Ballot, 2007). An inability to meet fixed obligations or fulfill investment plans. Some constraints are probably especially severe in emerging markets, where within-business-group internal capital markets might provide the best solution.

2.3.2 Risk sharing

Risk sharing may exist if firms maximize the joint utility of their corporate constituents, including employees, financial institutions, stockholders, and management (Aoki 1984, 1988). Some of these constituencies, who cannot diversify their human capital, such as managers and employees, are naturally risk averse and the smoothing of negative outcomes can enhance their utility (see also Bertrand 2004 on risk-sharing contracts between firms and employees). If risk sharing reduces the required compensation for hired managers, it may be beneficial to shareholders as well (Hermalin and Katz 2000). In addition, risk sharing reflected in intervention in times of distress can be economically efficient if it conserves human capital that would otherwise be dissipated.

In terms of the company's operation and development goal, risk management also has a great significance with operation and strategic management.

2.3.3 Risk management procedures

The basic procedures of risk management are, risk awareness, risk testing, and risk assess, risk control and managerial effect evaluation etc. (Dorfman, 2007)

Risk awareness: risk awareness means that an economic union or an individual judge and summarize the faced and potential risks and identify the risks' attributes. However, awareness of risk is different; for do not have a commonly accepted definition (Bowersox & Closs., 2004).

Risk testing: risk testing means that based on risk awareness, the researcher utilizes probability theory and statistics to analyze the massive collected data and estimate and anticipate the probability of loss and relevant loss degree. Risk testing includes loss frequency and loss degree.

Risk management method is divided into control and financing. "Control" aims to reduce the loss degree and change different conditions that might lead to incidents and larger loss. "Financing" means the financing arrangement before the loss occurrence.

Risk managerial effect evaluation: it means that the researcher analyzes and compares the outcome with the expectation to judge the evaluation's rationality, adaptability and profitability (White, 2009).

In addition, the risk management goals and procedures could be composed by two parts: risk management goal before occurrence of loss and risk management goal after the loss. The former aims to reduce or avoid the chance of risk incidents, including saving operational cost and anxiety. The latter one aims to recover the situation after loss occurrence. It includes maintaining the enterprise's on-going survival, on-going production and service, stable income, sustainable production growth and social liability. The two goals integrate effectively to form a completed and systematic set of risk management goal (Hubbard, 2009).

2.4 Risk in 3PL

Nowadays, 3PL has gained a great deal of attention not only in academic research fields but also in practical operations. The concept of 3PL has been developed from the need to extend transportation services by transportation companies to its customers. Basically, 3PL might be defined as outsourcing of transport and logistics activities to outside companies that are neither consignors nor consignees. Usually there is outsourced more than one activity, including storage, warehousing, and transportation. 3PL came into existence during the deregulation of freight transport industry in the 1980s, and has progressed in the 1990s along with the development of information technologies (Skjoett-larsen, 2000; Lumsden, 2003).

2.4.1 General introduction of 3PL

Third-party logistics generates based on the sub-contract of manufacturing and service business. With the global market Growing logistics it requests more services, a growing number of third-party logistics providers seek cooperating and coalition partners (Bowersox & Closs, 2004). Co-operation partners in some cases can be other third-party logistics providers, as well as including a range of suppliers, such as freight forwarders, cargo handling operators, warehouse managers, software providers and financial service providers and so on (Hammer & Champy, 2005). The 2004 survey shows among 21 third-party logistics providers, there are 16 at the same time at least has one partner (Christopher, 2005). So far, the majority of third-party logistics providers have multiple partners. Third-party logistics subcontract is a form of cooperation and alliance (Christopher, 2004). According to different service functions provided by The Third-party logistics sub-contractors, it can be sub-divided into (Russell, 2004) transport sub-contractors, storage sub-contractors, freight forwarding sub-contractors.

There are strong reasons supporting 3PL outsourcing

- Superior quality
- Better timeliness

- Lower cost

2.4.2 3PL risks

It is normally believed that risks exist everywhere. To be dynamic in supply chain management, 3PL does have risks as well. Third-party logistics provider for the process of subcontract is beyond the control of uncertainty, which leads to the emergence of the subcontract risk. This shows that the risk of third-party logistics refers to the sub-contractors because of the environment and conditions of uncertainty, the most subcontract results and third-party logistics providers have deviated from the expectations and it brings for third-party logistics providers the possibility of loss (DM Lambert, JR Stock, 2003).

According to Hammer and Champy (2005), 3PL risk is objective. The existence of risks in 3PL has also been proven by other researchers. The objectivity of the risk refers to the existence of risk does not depend on the people's will, regardless of whether the risk subjects can aware of the existence of risk, risk in certain circumstances must occur (Thomas, 2007).

Fowler (2004) analyses the risks in third-party logistics, which can be broadly divided into political risks, financial risks, capacity risk, and collaboration risk.

It is also found that 3PL risk and profits have the nature of symmetry. In the view of Choy et al. (2007) as for risk subjects, the subcontract risks and benefits are on equal footing, that is, income is for the price of a certain degree of risk. Third-party logistics providers in order to obtain a certain amount of revenue are necessary to assume the corresponding risks (Hult et al., 2004). So does client firms.

In addition, the 3PL risks are highly changeable. In different circumstances, the risk of 3PL could change. As 3PL service providers and the environment itself changes, 3PL risks would change (Liu et al., 2008).

2.4.3 Cause factors of 3PL risks

Because 3PL operation holds the nature of volatility, whether make-or-buy such logistics service and how to carry out 3PL outsourcing is of great managerial implications (Burt et al., 2003). Before making such decisions, it requires investigation not merely on cost but also in potential risk factors. In the research of Burt et al. (2003), it is found that there are several factors as following, which may lead to 3PL risks.

- Ineffective management

According to Burt et al. (2005), 3PL risks might be caused by ineffective management in logistics outsourcing services. The 3PL service providers might not perform the operation better than the client company itself, due to ineffective management capability (Vasiliauskas &

Jakubauskas, 2007). An external 3PL service provider might not be sensitive and does not understand client organization's need as deep as itself. Careless 3PL service subcontracting would cost more than keeping in-house. It is possible to avoid such problem by developing careful prequalification to providers on efficiency, effectiveness, and total capabilities and carry out service level agreements clearly.

- Loss of control
Outsourcing the logistics process to an external provider might cause loss of control (Burt et al., 2003). Overdependency and inadequate involvement might cause potential risks. A company might lose key information to manage the business effectively.
- Loss of client focus
Reasons to outsourcing logistics service differ from one company to another. It is often realised that there is interest conflict and missed match in business plan and strategy between 3PL providers and client organisations.
- Lack of clarify
Failure to clarify the obligations and responsibilities leads to 3PL risks in future. It is stressed that a clearly specified agreement could prevent this problem.
- Lack of cost control
Although most of logistics outsourcing starts from cost saving consideration, many potential risks are still produced by lack of cost control (Giannakis & Croom, 2006). Especially when there is without appropriate incentive in contract, the 3PL providers could not be motivated to promise the same level of quality with less cost.
- Lack of trust
If the trust between the two parties is not high, it will bring risks and cause high failure rate of 3PL Cooperation. Trust between the two sides can complete a particular behavior (Knight, 2009). In the market, information asymmetries, incomplete contracts and other reasons, the third-party logistics providers have adverse selection, so does it has moral hazard. Because of the existence of doubts about the credibility of 3PL service providers, in the cooperation process, client firms have to increase input costs of supervision to avoid the risk of the occurrence, potential profits and cost saving are reduced. Because of the existence of supervision, it means that there is not enough trust, and trust with the infection to enhance the supervision will reduce the trust of third-party logistics providers, (Xu, 2003). The results make the mutual trust lose, and undermine the cooperation between two sides, and even affect the extent of the efforts, even reduce the level of service or delay in delivery, which eventually lead to the failure of 3PL cooperation (Bowersox, 2003).
- Double outsourcing

In present, the practice of double outsourcing is not rare but quite common. It is much more important to obtain expected outcomes rather than who fulfill it. Under such conditions, problems often occur. The agreement between 3PL providers and client organisation does not tie down the subcontractors (Williamson, 2005). Utilising logistics outsourcing provider's subcontractors might leave problems to client firms to control over (Wang et al., 2008).

2.4.4 Effects of 3PL risks

As was pointed out, risks bring loss due to uncertainty and the existence of risks in 3PL is objective. What kinds of loss or effects might be produced by 3PL risks is worthy researching.

Reject from internal staffs: according to Lang and Ding (2008), logistics subcontract can influence corporation's internal operation process, all of business flow will be changed when the corporation apply the logistics subcontract, stuffs may reject this change and influence daily operation.

Customer satisfactory reduced: from view of Kersten and Blecker (2006), the corporation cannot obtain valuable information from customer and improve products if it rely on third party logistics provider and cannot control it. In doing so, third party logistics provider losing control can be due to the corporation core business meeting barriers and customer satisfaction will be reduced.

The corporation suffers loss: the third party logistics provider may think the corporation lacks technology and skill in logistics, and improve the price on subcontract or provide inferior service, (Huang and Li, 2009).

2.4.5 3PL risk management

Risk management of third-party logistics has broad and narrow meaning of the points.

The Narrow 3PL risk management includes third-party logistics providers' internal operational risks and the core aspects to avoid the disposal risks, which are to identify and control risks. How to prevent and control risk are the key issues when any businesses face risks and loss pressure they must be addressed (Lynch, 2004).

Broader 3PL risk management of third-party logistics refers to the third-party logistics providers and client organizations through the potential accidents or loss identification, measurement, analysis and control use economic and rational approach to deal with all risks together as well as the loss in logistics outsourcing process in order to achieve maximum safety and security (Lisa, 2009). It is through the whole process of outsourcing and is a scientific management method; the risk management process could be divided into five steps: risk identification, risk prediction, the risk

management measures and decision-making to take the best means, implementation impact assessment of choice of means (Taniguchi et al., 2004).

As for the risks of double outsourcing, it is normally related to virtual logistics enterprises. This refers to a number of complementary resources and technical members of the enterprises, in order to achieve the logistics resources and risks sharing, complementary advantages such as the characteristics of strategic objectives (Xu et al., 2006), while maintaining the independence of their own conditions, to establish the dynamics and relatively stable partnership. Third-party logistics subcontract itself is a form of co-operation of virtual logistics enterprises (Fandel & Reese, 2005). In the cooperation process, the third-party logistics providers are mainly responsible for the projects of subcontract, and for sub-contractors to carry out the role of guidance and supervision (Martin Christopher, 2004).

2.5 3PL in China

In China, 3PL transforms and develops around the customers as the central value quickly in recent years. Due to various factors, there are special natures of 3PL operation in China.

2.5.1 Lack of large-scale and strong third-party logistics providers in China

Chinese 3PL's strength is still in small-scale and the total cost of logistics outsourcing is high. A single sub-service functions, types and Narrow scope, the services is relatively low technological level, and only 30% of third-party logistics providers choose sub-contractors to assist the logistics business (Hao, 2003). The overall trend of the development of modern logistics is toward large-scale, large-scale development to achieve economies of scale, lower total cost of logistics, and enhanced competitive capacity (Bayles, 2009). From the scope to functions of 3PL services in China, there is large gap compared to developed countries.

The focuses of the majority of Chinese 3PL providers are concentrated on the performance of transportation, warehousing and other general services, the consideration on the flow of processing, information management, customs clearance and other operational aspects of logistics value-added proportions are quite few (Lai et al., 2008). In China, 3PL service providers have single function, because the majority of companies only focus in a specific logistics services. Although many traditional large-scale logistics enterprises have been transformed into third-party logistics providers, but the transportation and storage are still the dominant part of the business and other features of third-party logistics services are still not perfect (Hao, 2003). In addition, the rapid development of information technology in recent years, logistics service logistics information for both the demand for attention. However, the whole of China's enterprises, information is in a late start, the low level of information technology, the logistics infor-

mation in the acquisition, analysis, processing, utilisation of capacity is not strong, which lead with customers, 3PL providers in the process of co-operation, can not fully share information resources and can not form interdependent partnership (Choy et al., 2006).

2.5.2 With the help of 3PL subcontracting

It is found that in China the demand side reduces the logistics service providers. 3PL providers adapt to the demand, are more inclined to sign logistics service contracts with customers, and make their commitment to the logistics services (Virilio & Camiller, 2009).

Due to the demand side of the logistics, in order to reduce transaction costs, 3PL providers in order to strengthen the management and logistics business monitoring, tend to employ more and more logistics sub-contractors (Wei Shi Lim, 2003), which causes third-party logistics providers to have an increasing tendency to provide an integrated service. With the increasingly fierce market competition, enterprises' production and operation have gradually from the mass marketing with fewer species and high-volume characteristics shift to differences marketing stage with multi-species and small-volume characteristics which emphasize on market-oriented (Xie & Xu , 2005). This requires that third-party logistics providers meet market demand with the personalized services (Rushton et al., 2000). At the same time, as the internal logistics integration between enterprises, logistics' facilities and equipment have improved, the management level has been improved, and many third-party logistics providers increasingly have to provide "one-stop place" seriazation services (Dekker et al., 2004). In the communication and collaboration with customers, the customers, the third-party logistics providers increasingly need to strengthen the strategic level of dialogue with customers understanding of customer operations, and the implementation of joint innovation, further improve service standards and operational efficiency. This has promoted the emergence and development of sub-contractors (Knight, 2009).

In the new logistics market environment of China, third-party logistics providers in order to select stronger sub-contractors, reduce transaction costs, access to high-quality logistics services, they avoid communicating with many logistics sub-contractors, but only with specific sub-contractors to sign Logistics sub-contract in order to ensure stable and efficient and controllable logistics services (Crainic & Laporte, 1998). In addition, the two sides in accordance with the experience guard against errors, which happen easily in co-operation process of subcontract logistics services, and list a fairly detailed list and set standard model and provisions of contract (Lambert et al., 2008).

Therefore, some third-party logistics providers, which have an advanced concept of logistics services, closely around the value of customer-centric transform and develop themselves, and actively develop the cooperation with subcontractors.

2.5.3 Low trust level

The trust between 3PL providers and client firms and even between 3PL providers and 3PL subcontractors are not high (Xu, 2003)

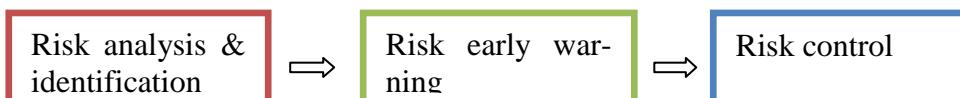
2.5.4 Dynamic external environment: both opportunity and challenge

Finally, because of accession to WTO, foreign third-party logistics enterprises are eager for China's logistics market, one after another enter China, China's third-party logistics providers are facing a serious challenge to foreign enterprises, China's third-party logistics providers will face two options, either by merger and acquisitions, will be eliminated in the competition; either from the supply, funds, large-scale networks into hand, integrate internal and external corporate resources to achieve a common win-win road (Luo, 2008).

2.6 3PL risk control and management

To carry out effectively manage 3PL in risks could not be separated from scientific and sound risk management process (Daganzo, 2005). The third party logistics risk management has been classified into risk analysis and identification, the risk early-warning and risk control three stages, as shown in figure 1 (Niu, 2008). Through effective risk identification and early warning of risks to achieve effective risk control and deal with the process of economic cooperation to maximize the realization of win-win situation (H Ballou, 2006). Because third-party logistics' development changes as the external environment changes, therefore the process of risk management should be viewed in a continuous cycle of development (Simchi-Levi et al., 2005).

Figure 1



2.6.1 Risk analysis and identification

Risk analysis and identification means the analysis of third-party uncertainty sources (Song, 2008), and then based on source of uncertainty to analyze their identification and classify third-party logistics s risk factors (Bottani & Rizzi, 2006). On this basis, for each risk factor's causes, the loss or the consequences caused by risk brought about, as well as third-party logistics providers' overall impact, so as to risk early warning as well as risk control to provide the basis (Lambert et al., 2008).

2.6.2 Risk early warning

Risk early warning refers to the third-party logistics providers through selecting the appropriate warning indicators to predict the logistics operation within the overall risk status and the degree of risk-based alerts to risk

managers (agencies) to respond appropriately to reduce the possibility of subcontracting of third-party logistics risks, as well as the risk of loss. Risk early warning is an important part of risk management (Deepen, 2007).

2.6.3 Risk control

Risk control refers because of risk analysis and identification, risk early warning to develop third-party logistics classification Control strategies and methods to deal with, and according to the key issues to take specific risk control measures and methods (Song, 2006). Risk control is the final part of risk management (Harrison & van Hoek, 2005).

2.7 Summary

Through literature review, it has been found that risk is loss by indeterminacy, which could be impacted by various factors. Contract management and risks sharing are effective approaches in risk management fields. The basic procedures of risk management are risk awareness, risk testing, and risk assess, risk control and managerial effect evaluation. The risks of 3PL are objective in practical operation, although 3PL are supported by many strong reasons. It is summarised that ineffective management, loss of control, loss of client focuses, lack of clarify, lack of cost control, lack of cost control, lack of trust and double outsourcing are main cause factors of 3PL risks. In China the development of 3PL just started and is still in its early stages, according to the limited scale, operation focuses and competition modes. There is also an obvious trend that 3PL in China often use the help of subcontractors. A framework of 3PL risk management and control is formulated as well. The literature review obtained as above would be used as theoretical framework to support this research.

3 RESEARCH METHODOLOGY

3.1 Introduction

According to the research objectives, this research is aimed to explore whether there is risk in third party logistics in China identify direct causes to such risks and find out practical approaches to manage and control these risks. This chapter will discuss the research methodology and research methods. Research philosophy will be determined at first then research strategy, methods for data collection and data analysis for this research would be explained. Considerations will also be made on research validity, reliability, generalisability. Research ethics would be ensured. After discussing research methodology and methods, the potential limitations embraced in this research will be pointed out.

3.2 Research methodology

“The theory of how research should be carried out, including the theory and philosophy on which research is based and the impacts of these for the method or approach adopted (Saunders & Lewis, 1997).” Because the thesis is based upon analyzing subcontract risk of the third party logistics in China, so to get information such as some figures and situations about TPL and its application is very important, the author will do some surveys in China for collecting data in this dissertation. This chapter is the research methodology in the whole dissertation. In order to get the correct data of relevant data and information, library research is used for the author to get data and correct useful information.

3.2.1 Research philosophy

Accoding to Bass (1993), the researcher’s aim is research phenomenon, research phenomenon turns it into science, and the science law can be obtained by concluding phnomenon, so researchers mix the philosophy into the science.

Walsham (1993) considers that people just interpret science from the situation of knowledge of reality, including the domain of human action, which is a social construction by human actors and applies equally to researchers. But the objective reality cannot indicate itself in front of researchers, so researchers have to discover it and show it, in contrast to the assumptions of positivist science. Bass (1993) indicates that, the reality is based on external and real thing researched, the researches have to suit to the reality. In the author’s view, the research philosophy has to suit to the research phenomenon. Because Bass (1993) emphasizes that the theory must be validate by the experience, and the science is based on the science. The author needs to analyze the data to obtain the conclusion.

Saunder, (2003: 85) considers that “Research philosophy are ‘better’ at doing different things. As always, which is ‘better’ depends on the research question(s) you are seeking to answer...” this is agreed by the author. For this reason the author would like truly to know the current situation of subcontract risk of TPL in China; the related issues of it; discuss the development of strategies.

Positivism is a philosophy that holds that the only authentic knowledge is that which is based on actual sense experience. Metaphysical speculation is avoided. Max Horkheimer and other critical theorists criticized positivism on two grounds. Firstly, positivism ignored the role of the ‘observer’ in the constitution of social reality and thereby failed to consider the historical and social conditions affecting the representation of social ideas. Positivism showed falsely the object of study by reifying social reality as existing objectively and independently of those whose action and labor actually produced those conditions. Second, he argued that representation of social reality produced by positivism was inherently and artificially conservative, helping to support the status quo, rather than challenging it (Hacking, 1981).

“Phnomenology” comes from the Greek words phnomenon, meaning “that which appears”, and logos, meaning “study”. In Husserl’s and Willard (2003) conception, phenomenology is primarily concerned with making the structures of consciousness, and the phenomena appearing in acts of consciousness, objects of systematic reflection and analysis. Daniel Dennett has criticized phenomenology on the basis that it is explicitly first-person approach is incompatible with the scientific third-person approach. As part of an ongoing debate with Dreyfus and Warthall (2006) has argued that much of the work done by ‘phenomenological Illusion’ which is the mistake of assuming that what is not phenomenological present is not real, and that what is phnomenology present is an adequate description of how things really are (Smith, 2007).

In this research, phenomenology will be used as research philosophy. The focus of this research will be put on the subjective understanding of 3PL outsourcing risks. Therefore, the research philosophy of phenomenology is much more suitable rather than positivism. Findings will be derived from participants based on their factual experiences on this subject.

3.2.2 Quantitative versus Qualitative

Jobber, D. (2004) indicates that the quantitative research is sample to collect real data, analysis the data after collection expediently. In author’s view, the quantitative is very convenience to collect data, and analyze data easily. According to Creswell, J. (1998), the value of this approach allows standardizing the questioning to such an extent that a more numerate, statistically-based analysis is possible and permits you to test out hypotheses more explicitly, always assuming the standardized. The quantitative approach is usually applied to scientific inquiry. It is characterized by deduc-

tive reasoning, objective investigation and precise and statistical measurement.

The qualitative approach is defined as a systematic collection and analysis of subjective narrative material. Inductive reasoning, subjectivity, discovery and subjective description characterize this approach (Creswell, J., 1998). It is more complex and difficult to evaluate ‘results’ than those gained from the quantitative approach because the study usually involves people and formulation of conclusions based upon their attitudes, opinions, experiences, emotions, recollections and understanding.

Table 3.1 Differences between quantitative and qualitative

Quantitative	Qualitative
Focus on meanings obtained from numbers	Focused on meanings analysed from words
Numerical and standardised data are collected	Non-standardised data are collected and require for categorisation
Statistics and diagrams are conducted for analysis	Conceptualisation are conducted for analysis

Source: Minocha (2006)

In this study, the author uses the qualitative method to collect data because the author uses interviews to do the research, which is also because the formulation of the conclusion based on people’s attitudes, opinions, experiences, emotions, recollections and understanding. In comparison to quantitative research, qualitative needs more time and money to get the answers and these answers may be different from various people.

3.2.3 Deductive versus Inductive

Induction and deduction have been used as two different ways to establish theories and draw conclusions; induction is focused on evidence while deduction is based on logic (Ghauri & Gronhaug, 2005). It is usual to associate a positivism paradigm with deductive process and a phenomenology paradigm with inductive process (Hussey & Hussey, 1997). In inductive process, conclusion are drawn from practical observation and then used to improve theories; by deduction, researchers draw conclusions through logical reasoning (Ghauri & Gronhaug, 2005). The main difference is in induction the conclusions acquired lead to build theories and hypotheses, while with deduction, the conclusions are used to test these theories and hypotheses (Clough & Nutbrown, 2007).

Due to phenomenology chosen as research philosophy, induction is appropriate for research methodology. The researches of third party logistics subcontract risks are in infancy (Lau & Zhang, 2006). Therefore, it is aimed to explore how third party subcontract risks in China could be evaluated and managed effectively in this research, thus it is hoped to bridge the gap between theory and practice in inductive process.

Table 3.2 Differences between deductive and inductive approaches to research

Deductive approaches	Inductive approaches
<ul style="list-style-type: none"> ● Scientific standards ● From theory to data ● Require to explain causal relationships among variables ● Quantitative data ● Needs to ensure data validity ● Needs to clarify definition ● Researcher is independent during research process ● Consideration in conclusion generalisation with sufficient samples 	<ul style="list-style-type: none"> ● Obtain a deep understanding ● A close study within the research context ● Qualitative data ● More flexible structure ● Researcher is a part of research process ● Less consideration with generalisation

(Source: Saunders et al., 2000, p.91)

3.3 Research strategy

3.3.1 Primary data versus secondary data

- Secondary data

Data collected from existed sources are considered as secondary data (Collis & Hussey, 2009). Compared to primary data, the utmost advantage of secondary data is significant saving in both time and money (Ghauri & Geonhaug, 2005). Although the secondary data might not fit the research problem, they are helpful and could facilitate researches with high quality and reliable information which are collected by experts (Clough & Nutbrown, 2007). As Churchill (1999) suggests, ‘do not bypass secondary data...start with secondary data and then proceed to primary data’ .

In this research, it will start from secondary data through collecting existed literature in third party logistics subcontract risks, and then precede primary data in action research.

Besides, “To gain the relevant information for this study the data must be obtain from several reliable sources. This involves ‘establishing that the sorts of data you require are likely to be available as secondary data and locating the data you require’ ” (Saunders, Lewis, 2009). The advantages of adopting secondary research are concluded by Saunders:” The main advantages of using secondary are that, it is much less expensive and time consuming to use such data. The time saved from using data collected by someone else allows more time for analyzing and interpreting the data”. By reading many books about research methods and this dissertation itself limitations, another advantage is found by the author, it is more possible to provide higher and exact quality information by undertaking secondary research than obtained information by gathering information your own. Many sec-

ondary data available for the research can be collected from that will be shown in the reference part.

- Primary data

Primary data are data collected from an original source, such as own researches, surveys, and interviews (Collis & Hussey, 2009). The most significant advantage of primary data is that these data are generated for particular projects; therefore, they are much more consistent with research objectives (Ghauri & Gronhaug, 2005). In this research, it is aimed to know people's attitude and cognition to the risks in third party logistics subcontract, only primary data could be able to answer such questions. Therefore, primary data will be collected in this research.

However, collecting primary data is time and money consuming (Hussey & Hussey, 1997). It might be difficult to get access and find the appropriate respondent to answer the questions (Ghauri & Gronhaug, 2005). Also, there are also weaknesses existed in the reliability and quality of primary data.

3.3.2 Interview

According to Collis and Hussey (2009), interview is a method to collect primary data by asking questions to find out the answers to research questions. Interview refers to the face-to-face exchanges between analysts and employees. It is a way to deepen the understanding of analysts to the employees in order to obtain more work information. Their specific practices include personal interviews and interviews between the management staff (Jobber, D., 2004).

The merits of the interview survey

1. Flexibility

- 1) This kind of survey flexible and convenient, the interviewers can collect the different types of materials from different types of people according to the needs of the survey.
- 2) The interview survey is the process of communication between the interviewers and interviewees. This method has greater flexibility; the issues of survey are designed based on the general situation and interviewers' subjective development, some cases may not be considered very well.

2. Accuracy

- 1) Interview survey is the direct communication between the interviewers and interviewees. Interviews can make an effort to eliminate the concerns of the interviewees and make them relax; it can make the interviewees answer questions after consideration, which can enhance the authenticity and reliability of the survey materials.
- 2) Interview survey needs to determine the scene first; the interviewers can properly control the interview environment to

- avoid interference from other factors, the time and content of the interview also can be arranged flexible.
- 3) Because of the faster interview process, respondents often do not have long time thinking in response to questions, so the answers are often the spontaneous reaction of the respondents, so this kind of answers are real and reliable.
 - 4) As a result of the face-to-face interview, fewer respondents refused to answer. Even if the respondents refused to answer certain questions, we also can understand his attitude on the issues.
3. Depth
- 1) Interviewers can directly contact with respondents or indirectly contact by telephone or internet with the opportunity of appropriate explanation, guidance and asking, so it can explore the more complex issues, which can be able to acquire new and deep-level information.
 - 2) In the course of face-to-face conversations, the interviewers not only collect information from the respondents' answer, but also observe the action of the respondents or non-verbal behaviour as the reference to identify the authenticity of the content and the respondents' psychological state.

In comparison, questionnaires are impersonal, this means that it may be difficult to understand answers and thus to act on them. Also, there is a chance that the question may be misinterpreted, rendering the answer useless. Questionnaires also invite people to lie and answer the questions very vaguely which they would not do in an interview. Open questions can take a lot of time to collect and analyze. People are not always willing to fill questionnaires in so they may just throw them away. Sometimes questions used are too standardized (closed) so some people preferred answers may not be included, and this does not allow for much detail. Peer pressure of embarrassment may cause people not to answer certain questions, or they may want to impress the researcher and fabricate the truth by filling in untrue answers, making questionnaires unreliable and sometimes invalid (Hague, 2002).

Therefore, this dissertation will take an interview as the research method.

3.4 Data collection

3.4.1 Sampling

According to Creswell, J. (1998), sampling means saving work by examining the sample instead of the whole population. There are two samples in this research, managers who work in Shenghui Logistics Company (interviewee (A)), and the customer who have stated in Shenghui Logistics Company (interviewee (B)).

Two interviews were conducted in this research. The first one was with the General Manager and the remainder with Business Department Manager. They have very important positions in Shenghui Logistics Company; their jobs have much to do with the contract of the 3PL. apparently, the General Manager has great influence in formulating strategies. It is generally not sufficient to only interview only one manager in a study relating to the 3PL client organisation was carried out as well to obtain more data and information for the analysis.

The research used a non-probability sample technique because it provides rich in-depth information in order to answer the research question and achieve the objectives. Creswell, J. (1998) agreed that purposive or judgment sampling enables the researcher to use personal judgment to select the key person to give relevant information to answer the research question and to meet the aim and objectives.

3.5 Data analysis

Due to methods in this research, qualitative data are collected in a primary manner. In literature, the relative infancy of qualitative data analysis methods are discussed and highlighted. According to Lancaster (2005), the most serious and difficult issue existed in the use of qualitative data is the approached of data analysis are not well formed. Saunders et al. (2007, pp. 472) point out qualitative data analysis should be focused on the meanings expressed through words and conduct through the use of ‘conceptualisation’ .

As Saunders et al. (2007) suggest the general set of procedures in qualitative data analysis involve following activities:

- Categorisation
- Unitising the data
- Recognising relationships and developing categories
- Developing theories to reach conclusion

In this research, the data analysis will follow the way as the suggestion by Saunders et al. (2007). Firstly, the data collected from interviews will be categorised into different themes. The next step is thus to unitise these data within categories with the aim of data reduction and simplification. At the end of the process, the data is hoped to be arranged into a more manageable and comprehensible form for research (Bryman & Bell, 2007). Then, the focus will be engaged in the process of data analysis by searching answers to key themes and recognising the relationship between them. Finally, the conclusions will be reached and it is hoped to enrich present theories to fulfil the inductive objectives of this research.

3.6 Limitations

In the process of preparing for primary research, the author found that it is difficult to get enough information for analysing TPL since the author couldn't find enough professionals and because of some special require-

ments for the respondents, so the author cannot use primary research in EU to gather data but have to do this in China. It is not easy to overcome the problem. Initially, the author prepared to make more secondary research in the project before facing the problem. And another problem is that this dissertation aims to identify the risk factors and risk alarm model of TPL subcontract so it has to be based on some formal evidence. The author could not get enough primary data to make it enough persuasive. And the last problem is due to the limitations of deadline and knowledge from the author. However, the author still studies the knowledge how to conduct a secondary research and techniques, which is used in the process of research.

The limitation of the interview survey (Campbell, D., Stonehouse, G., Houston, B., 2002)

- The higher cost

Interview survey often adopts the face- to-face individual visits, the face-to-face communication have to find the respondents, the time wasted on the road often exceed on the interview, the situation of refusing to be interviewed will occur during the investigation, so more time and energy will be spent; the other large-scale interviews often require a number of interviewers with staff training, which makes the cost of spending greatly increased. Compared with the questionnaires, interviews have to pay more time, manpower and material resources. Because of the large cost of the investigation and time-consuming, it is difficult to carry out with large-scale, so the general scale of interview survey is smaller.

- Lack of privacy

Because the interview survey requires the respondents to answer the questions face-to-face, this makes them feel they have a lack of privacy, especially on some sensitive issues, the respondents tend to evade the truth or not answer.

- Influence by the interviewers

Interview survey is conducted as a result of a separate survey; different personal characteristics of interviewers may lead to the psychological reactions of the respondents, thus affecting the content of answer; and the two sides in the interviews are often strangers, which can easily make the respondents no confidence and affect the interview results; in addition, the interviewers' values, attitudes and the level of talking will affect the respondents, which may result in the deviation of the interview results.

- Difficulties in recording

Interview survey is the language exchange between the two sides, if the respondents do not agree with live-recorded, so it has to use the way of hand-writing, but generally do not have specialized training in shorthand interviewers, so it often cannot completely record the content of the conversation and make a lot of information missing.

- Difficult to deal with the result

Though the interview survey is flexible, but it also adds to the arbitrary course of the investigation. Different respondents have different answers on the questions, so it is complicate to deal with the results of interviews.

3.7 Ethical issues consideration

The ethics was taken into the research. The researcher has read books related to ethics. So the author will choose people who have been 18 years old and they are able to answer questions objectively during interviews. Interviews are designed for interviewees dose not suffer any discomfort, physical harm, embarrassment, pain, and disclosure of privacy. So the author will design these interviews based on safeguard interviewees right. Interviewee will be informed that their right will be adequately protected, and if the author asks any sensitive question, interviewee can refused to answer question, because questions makes them uncomfortable.

4 FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

In this chapter, it describes the findings derived from the research, carries out analysis to these findings and discusses them. The author designed interview questions and has interviews with interviewers (manager and staff in 3pl provider and customer who use 3PL service of case company). Questions of interviews based on research question and try to identity detailed problem in 3PL Subcontract. Answer of interview would be integrated and mentioned as followed; logistics Subcontract risks which related to literature review will be mentioned, compared, and discussion in this chapter.

4.2 Findings on 3PL advantages

According to interview with interviewee (A) and interviewee (B), it is found there are numerous benefits for using third party logistics, which include:

- According to interviewee (A), 3PL allows firms to focus on developing their core competences. In order to strengthen the market competition capability, many enterprises put capital, personnel and resource to their skilled businesses, to seek the maximum benefits and the efficiency of socialized divided work. The result of professional divide work has lead many non-core businesses to separate from the activities of manufacturing management in enterprises.
- Great savings and benefits. The interview (A) found that third-party logistics brought about benefits such as distribution savings, greater control of business, better customer service and satisfaction, and the addition of expertise to supplement the capabilities of the internal organization. Other benefits include reduction in capital investment in facilities, equipment, and information technology, improved customer service and delivery and reduction in the complexity of logistics operations.

Also the author sums up points from interviewee (B):

- Using 3PL results from economies of scale and economies of scope
- Using the third-party logistics to do logistics business may reduce cost of logistics, as well as perfect the service functions of logistics activities
- Transportation facilities and storage are controlled by the third-party logistics; the third party logistics could also provide the whole management service and some special services.
- The third-party logistics providers can stretch the risks by subcontracting to sub-contractors.
- Freeing up resources (for example, money)

4.3 Findings on 3PL disadvantages

Although interviewee (B) provided many benefits of use 3PL's service, it is found there are obvious disadvantage of 3PL in practice as follows:

- Loss of control over the logistics function (critical parts)
- More distance from clients. Loss of human touch.
- Discontinuity of services of 3PL provider
- Differences of opinion or perception of the service level of the third party provider

4.4 Findings and analysis on methods to select 3PL providers

According to talk with interviewee (B), it is important to select the third-party logistics service provider, which has the ability to provide much better services and new value adding capabilities to the logistics users. Not surprisingly, the most important and prevalent criteria for using by industries to evaluate and select third party logistics service providers are reliable. If the industries cannot select the reliable 3PL provider, the economic losses will be suffered by them. However, the judgment and selection of the 3PL providers is difficult to the logistics users. Therefore, the industries are necessary need to carry out the criteria to select the 3PL provider who has the ability. If subcontracting is to be used as a strategic tool, 3PLs must not only support current. Logistics needs but also extend and provide new value adding capabilities to the logistics users. The logistics users should place higher premium and emphasis on selection criteria, such as ability to add value to products and availability of international operations and networks.

The criteria used to select third-party logistics provider in practice include:

- Reliable
- Consistent service
- Flexibility
- Service cost

4.5 Findings and analysis on risks existing risks in 3PL operation

4.5.1 Risk 1: the market of logistics subcontracting is immature

In the process of interview, it is found that interviewee (A) and interviewee (B) have common views, whether the company's logistics subcontracting is successful based on the third party is tightly connected with whether the market of logistics subcontracting is mature. If the market of logistics subcontracting is immature, then there is rarely the service contractor that provides the third part's logistics, or even if there are some service contractors of logistics of the third part in the market, but these companies do not have qualification proof. In this case, if the company wants to undertake logistics subcontracting, then it must increase the cost of collecting information about logistics service providers, the cost of monitoring dur-

ing the process of subcontracting operation, and the cost of conversion for changing service, that is to say increase the cost of business. Thus, it causes the company's hope of cutting down the cost through subcontracting which lowers the cost of logistics to become futile. In an immature subcontracting market environment, the company experiences high risk, and the probability of success is too slim.

4.5.2 Risk 2: the objectives of logistics subcontracting are not clear

The interviewee (A) indicated, if the company wants to outsource logistics to a third-party logistics company, it must have a very clear objective. Different companies have very different objectives of logistics subcontracting. For example, the companies producing functional products (household appliances, daily necessities etc.) and the companies producing innovative products (mobile phones, computers, clothing etc.) have completely different objectives. The following hopes the logistics subcontracting can cut down the cost of logistics subcontracting, and improve the service of logistics subcontracting; the latter pay more attention to shortening the logistics cycle through logistics subcontracting so as to response to the fast-changing trend of the market timely. If the companies that produce functional products focus more on shortening logistics cycle through logistics subcontracting so as to response to the need of the market, while the companies that produce innovative products focus more on cutting down the cost through logistics subcontracting, then it is the biggest mistake. So the objectives of logistics subcontracting must be clear.

4.5.3 Risk 3: the scope of logistics subcontracting cannot be determined

Also according to interview (A), if the scope of logistics subcontracting cannot be determined, it will lead to the resource of logistics get fragmented. If the company makes the close-connected logistics resources subcontracting partly or subcontracting to different and separate service providers, it may lead to serious problems of communication and coordination. When there is any problem, different service providers tend to shirk their responsibilities mutually; it is easy to cover the truth. Surely, the concerned factors are many, but if the proper business pattern of logistics subcontracting, the risks will decrease.

On the other hand, if the company cannot determine the proper scope of the logistics subcontracting, it will lead to the risk that company to lose the opportunities of learning and training the core competitive power. Sometimes the improper sector of logistics subcontracting may break the reactive relations of the activities from the design, produce to the transport as a whole, thus it will influence the core competitive power of the company.

4.5.4 Risk 4: the position set for the contractor is not exact

The interviewee (A) thinks that with the features of logistics outsourcing that there are four relationships between the company of logistics subcontracting and the 3PL: reciprocal strategy, client dominant strategy, vendor dominant strategy, and preferred vendor strategy. When they both exit in an open and competitive commercial environment, and have the balanced ability of negotiation, the reciprocal strategy can be adopted; when the company separates the logistics to control the resources effectively, and sign many service contracts of short time and small range with many vendors to get the lead, the client dominant strategy can be used. When the company puts most or all of the logistics to the vendors, this relationship of subcontracting is vendor dominant strategy; when they share the fruit and the risks of subcontracting together, preferred vendor dominant strategy can be adopted. These four relationships should response to different strategies of logistics subcontracting respectively. If the strategy of logistics subcontracting and relationship positioning are dislocated, it will inevitably lead to a corresponding risk.

4.5.5 Risk 5: make an error in choosing contractors

From the interviewee (B) perspective, choosing a wrong 3PL is a big potential risk. To choose proper contractors is a key sector to make success for the company in competition, and it means “with a careful, all bets are off” Choosing contractors of logistics is for lowering the cost, guaranteeing the quality and the delivery and bettering or improving financial condition. In addition, when the company chooses the contractor, it will select it by tender, in this way, it will not only consider the price and quality, but also consider the qualification and credit. However, in the process of the real assessment, the company tends to evaluate and choose the contractors qualitatively according to a certain experience because there are many uncertain factors influencing the decision. To some extent, there is the subcontracting in the interest of the department or individual, so that the assessment and choice for the contractor cannot be objective and impartial, which leads to the risks of the logistics subcontracting. Because the information between the company and the contractor is not symmetrical, and the contractor knows more than the company about its own qualification, real strength of technology and the service that it can provide, they are likely to provide the company inadequate and false information. It leads to “adverse selection” – the company chooses the contractor improper to its real condition.

4.5.6 Risk 6: wrong decisions of logistics subcontracting

Generally, logistics subcontracting needs to experience the strategic level of logistics subcontracting decision-making, and a tactical level of logistics subcontracting decision-making. Both of interviewee (A) and inter-

viewee (B) think at the level of the strategy, the core problem of logistics subcontracting is “whether the subcontracting is feasible”. It mainly depends on whether logistics is a key business. If it is not, then logistics subcontracting is feasible; if it is, then logistics subcontracting is not feasible. In the process of strategic decision-making, the risk of logistics subcontracting primarily lies in the company cannot judge whether logistics subcontracting is core business accurately. On the other hand, at the level of tact, the decision-making needs to analyze further logistics subcontracting that is feasible in strategy to determine “selective subcontracting” or “complete subcontracting”. In the process of strategic decision-making, decision-making of logistics subcontracting directly conditions the risks and profits of logistics subcontracting.

4.5.7 Risk 7: sign improper contract with the contractor

The rigorous subcontracting contract is the beginning of a successful subcontracting. The interviewee (B) deeply agree this point, it can bind two parties properly. Once disputes arise due to divergence of interests, they can have criteria to consult. However, in real operation, the company often signs “standard” contract with the contractor of logistics subcontracting. Because the contractor is more experienced and dominant in logistics subcontracting technical indicators, so the rigid contract including very detailed technical indicators is inevitable to hide “extra” fees behind these indicators. At the same time, since the technology renews quickly, the contractor lacks stimulation from company, it will limit the application of new technologies or avoid reducing the cost of services instead.

4.5.8 Risk 8: the conflict of the inner labours

For this point, the interviewee (B) show his concern; logistics subcontracting tends to influence internal processes of company, and needs to restructuring of the company’s internal business process. This process is very likely to influence all the staff, so it is resisted by the staff and has a negative impact on the normal business of company.

4.5.9 Risk 9: management information leaks

The interviewee (B) said indicated in order to adapt to changing market conditions and customer demand, the company of logistics subcontracting secretly changes the product structure without timely communication with the third-party logistics providers, while the logistics providers still provide logistics service for company in the original model. It may cause resistance in a particular aspect of logistics operation, which cannot get the expected logistics performance and it causes unnecessary loss. If the company truthfully informs the third-party provider the product structure ad-

justment, since the third party leaks the development strategy of company carelessly, once it is known by the competitors of company, the company will be trapped into passive state and make a huge loss.

4.5.10 Risk 10: there is no effective evaluation of service performance

According to talking of interviewee (B), the customer cannot evaluate service of 3PL successfully, because lacking professional people and tool, they cannot judge whether the 3PL service is good or not. However, when the company uses the third party to gain service, it tends to have risk of getting out of control of valuable management information. In the process of the logistics subcontracting operates, the company must establish effective service indicators and evaluate logistics performance. This evaluation includes logistics fee test and service performance test. Performance evaluation indicators should evaluate systematically the whole logistics operation process of the third party, accurately reflect the relationship between the third party and the cooperative company and effectively integrate third party and the company. However, logistics subcontracting tends to have the risk of the service performance evaluation system being not effective, so it cannot effectively evaluate daily operation of logistics subcontracting.

4.5.11 Risk 11: it cannot effectively plan and organize logistics

Because of Risk 10, the interviewee (B) worries about 3PL will out of control. When logistics subcontracting operates, the plan and organization of company business is done by company and logistics providers, and the needed human and financial resources are provided by the two parties. In this situation, the company must seek a balance between “control” and “trust”. If there is too much “trust” and more activity room in each provider, it will lack effective monitoring and get out of control therefore the company cannot plan and organize resources effectively. If there is too much “control” on each provider, it will cause their bad emotion, lose the trust to company, and even break cooperative relationship with the company. In the real operation, the balance cannot be found.

4.5.12 Risk 12: it cannot effectively communicate and negotiation

Both interviewee (A) and interviewee (B) worry if they cannot communication in time if there are any potential risks their logistics business will suffer loss. Both of company and third part logistics provider have different management styles and administrative institution, and their values are not the same either, so it needs the cooperative two parties to communicate and adjust effectively. This finding supports researches of some management scientist show that much failure of cooperation among companies is due to negligence of conflict in culture and concept between companies.

So the risk is embodied in if it is handled improperly, even the cultural conflict cannot be correctly treated in communication and adjust, it could make the staff from both side mutual suspicion and trigger irrational revenge, which lead to failure of logistics subcontracting cooperation.

4.5.13 Risk 13: it cannot evaluate the interim results of company's logistics subcontracting correctly

According to interviewee (B), after a certain logistics stages or expiration of the contract, the company should have an overall appraisal of the logistics services quality of providers. At the same time, whether the company continues to employ the contractor and resign the cooperation contract is determined by evaluation results. Whether this appraisal can reflect the effect of logistics subcontracting scientifically and correctly is very important, because risk will appear if evaluation not accurately, if without correct evaluation for previous subcontract, it will mean company or third party logistics provider will suffer more loose in continue subcontract.

4.6 Findings on whether and how the risks could be controlled

The interviewee (A) believed that a good evaluation would help to judge on whether risks can be controlled.

The evaluation on risks brought by the subcontracting or logistics services is the evaluation on the threats faced by and the weakness exists in the subcontracting process as well as the consequences of subcontracting itself, and the potential risks it may bring due to the combined effect of the above three aspects. As the foundation of the risk management of logistics subcontracting, the evaluation on subcontracting risks is an important way for the organisation to identify their information safety needs, and is a process of outlining the management system on information safety by the organisation. The major tasks for the risk evaluation on subcontracting includes: identifying various logistics subcontracting risks faced by the organisation, evaluating the risk probability and the potential negative influence that may bring by logistics subcontracting, evaluating the risk bearing capacity of the organisation on logistics subcontracting risks, and setting priorities on the levels of mitigation and control of logistics subcontracting risks.

He states that two standards can be adopted in evaluating the logistics subcontracting risks: the degree of potential losses and the probability on the occurrence of logistics subcontracting risks. The evaluation on an entity's risk bearing ability will result in the following categorization of logistics subcontracting risks: unbearable, bearable or insignificant. If certain logistics subcontracting risks have a significant impact on the quality of logistics subcontract, then the risk will be defined as unbearable (or unsupportable). The potential losses resulted from such logistics subcontracting risk will be significant regardless of the risk probability; if the risk will only result in small losses, then it is bearable even with a high probability, and

it would be defined as insignificant if it has a low probability. Of course, different enterprises will have different standards on the evaluation of the loss impact.

And he also suggests it is important to select the third party logistics service provider which has the ability to provide much better services and new value adding capabilities to the logistics users in order to avoid the risks. Not surprisingly, the most important and prevalent criteria for using by industries to evaluate and select third party logistics service providers are reliable. If the industries cannot select the reliable 3PL provider, the economic losses will be suffered by them. However, the judgement and selection of the 3PL providers is difficult to the logistics users. Therefore, the industries are necessary need to carry out the criteria to select the 3PL provider who has the ability.

4.7 Findings and analysis on risk management approaches

- The risk analysis of logistics subcontracting in the process of the operation

From the angle of the interviewee (A), the business of the logistics subcontracting of the company can be divided into three stages: namely, pre-subcontracting, in-subcontracting, and after-subcontracting.

According to the process of the operation, the business of the logistics subcontracting of the company can be mainly divided into six parts: namely, the analysis of logistics subcontracting analysis, the decision-making and planning of logistics subcontracting, the operation of logistics and the termination logistics. At the different stages of operation of logistics subcontracting, there are different kinds of risks.

At the stage of the analysis of business subcontracting, there are risks of the logistics outsourcing market being immature, as well as the objectives of logistics outsourcing risk being not clear. At the stage of decision-making and planning of logistics subcontracting, there are risks that the scope of logistics business cannot be properly determined. Therefore, the relationship with the contractor cannot be positioned exactly. At the stage of logistics subcontracting design, there are risks of choosing the contractor wrongly. This means making wrong decisions of logistics subcontracting and signing the inappropriate contracts. In the process of logistics subcontracting management, there are risks of conflict mood from business people, and the leak of the core technology from the inside. In the process of logistics subcontracting operation, there are risks of lacking the risk analysis and avoiding the effect of service performance appraisal. At the same time, there are risks that the effect planning and organization cannot be done and the communication and the negotiation cannot be done; at the stage of logistics subcontracting termination, there are risks that the accurate appraisal cannot be given to the interim results. Now, the following are the above-mentioned risks analysis.

- The cooperation between 3PL users and the 3PL industries

In the process of interview, both of interviewees mentioned the important of cooperation between customers and 3PL. The cooperation between 3PL users and the 3PL industries may decrease the cost, lower the risk, shorter respond time and increase competition capability. Before use of third party logistics services, the firm has to face many relationships, that is much more complex. However, after using the third party logistics services, the firms only face the third party logistics provider, in a one-to-one relationship. Nevertheless, managing a long-term relationship is not an easy task.

Because of the communication of resource and benefit between the third party logistics and customer enterprises, the buy-and-sell relationship has become the strategy alliance and fellow who grow up together. In the process of cooperation, both sides could get better service and benefit. It not only simplifies the difficulty of management and operation, but also reduces the risk and cost. The contributions of cooperation are in order to enhance their status in the market and the competition capability.

When asked about which business processes would benefit most from improved collaboration with 3PLs, respondents seemed to associate the greatest benefits with business processes such as inventory management, customer order management, customer service and supplier order management. No matter the benefits, users feel successful collaboration should pay for itself in measurable financial terms.

4.8 Discussion on findings

- Risks and root causes

According to literature review, it is identified that several factors lead to 3PL risks. These factors include ineffective management, loss of control, loss of client focus, lack of clarity, lack of cost control, lack of trust and issues caused by double subcontracting. During the research, it is recognised there are agreement between literature and findings to some extent.

Due to ineffective management, risks are caused by wrong decision or improper contract at the beginning. Ineffective planning and organising in the whole process of 3PL subcontracting is a critical management issue as well. While the contracts are carried out, it is easily to lose control if without effective evaluation to interim or final results. Lack of clarity are related to unclear objectives and operation scopes in practice. In addition, if work with unqualified service providers, risks might be produced due to unsatisfying capabilities and performances, such as loss of cost control. Loss of client focus is not mentioned in the research findings, which might be lack of notice due to

insignificant implications in practice. More than literature describes, risks in 3PL subcontracting are linked to external environment, such as immature subcontracting market and internal environment, for example, the conflict within organizations. Therefore, it could be considered that both external and internal environment produce an important effect on 3PL subcontracting risks.

There are many factors causing 3PL cooperation problems so as to bring risks. Culture differences and inadequate service level specification and metrics are two main causes.

- Inadequate service level specification and metrics

Service level specification and metrics measure the 3PL provider's performance. Long-term collaborative cooperation building could be facilitated by the use of clarified mutual strategic and operational goals and 'two-way performance measurement' (Bowersox et al., 2002). Cohen and Roussel (2005) also argue mutual metrics are critical to effective and efficient collaboration. Therefore, it is suggested to build an effective adequate mutual measurement method to measure 3PL performance on service level along supply chain.

5 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

With the development and popularisation of third party logistics both home and abroad, more and more enterprises choose to take third party logistics solutions, which mean they subcontract their self-operated logistics business to professional third party logistics service providers. There are many benefits to choose a third party logistics company for an enterprise. While at the same time, it can also bring the company certain risks. How to reduce the potential risks that exist in the subcontracting of logistics business has always been the issue for an enterprise during its logistics subcontract. This article analyses in detail the potential risks that exist in different stages of logistics subcontract operation from the procedures of an logistics business subcontract, to the risk evasion strategies an enterprise should take from the perspectives of environment, personnel, subcontract business, information and schemes. All these strategies have a significant impact on the successful carrying out of logistics business subcontract of an entity.

The author sums up 13 risks of logistics subcontracting in table 5.1 through interview.

Risks in 3PL operation have been defined
Risk 1: the market of logistics outsourcing is immature
Risk 2: the objectives of logistics outsourcing are not clear
Risk 3: the scope of logistics outsourcing cannot be determined
Risk 4: the position set for the contractor is not exact
Risk 5: make an error in choosing contractors
Risk 6: wrong decision of logistics outsourcing
Risk 7: sign improper contract with the contractor
Risk 8: the conflict of the inner labors
Risk 9: management information leaks
Risk 10: there is no effective evaluation of service performance
Risk 11: it cannot effectively plan and organize logistics
Risk 12: it cannot effectively communicate and negotiation
Risk 13: it cannot evaluate the interim results of company's logistics outsourcing correctly

In practice, it is found careful 3PL provider selection and 3PL risk evaluation could facilitate to control risks in 3PL operation. Risk evaluation enables 3PL companies to manage risks. Among various evaluation considerations, two main standards including the degree of potential losses and the probability on the occurrence of logistics subcontracting risks are stressed in real 3PL operation. In addition, selecting a qualified and trustworthy 3PL co-operator could prevent risks occurrence to some extent. Nevertheless, it is perceived quite hard to find out the most appropriate 3PL part-

ners. Therefore, in order to control 3PL subcontracting risks to the lowest level, it could never be over-emphasised to carry out risks evaluation and careful selection to 3PL providers and partners.

The research objectives have been achieved to a large extent. As pointed out at the beginning, the research is aimed to find out various risks in 3PL subcontracting in China and explore effective methods to identify and control such risks. Through conducting phenomenology research by the use of interview to collect qualitative data, this research has found out 13 risks in this field and provide recommendations by combination of practical methods and literature support. The recommendations are stated as follows, which are of management implications for both 3PL companies and 3PL client organisations.

The findings obtained through the research support most of the literature review. The root causes of 3PL subcontracting risks are in line with Burt et al., (2005). While the differences between the findings and existent literature enrich present theory with more exploration in China's 3PL environment. Because of immaturity in 3PL market, several subcontracting mechanisms are still in infancy, which bring risks as well. The findings in this research provide a detailed guide for companies to refer on 3PL subcontracting.

5.2 Recommendation

In order to improve the logistics subcontracting revenue of enterprise-based third party and reduce the potential risks in the process of enterprise logistics subcontracting, it shall be implemented from the environment, personnel subcontracting, information and mechanisms.

5.2.1 To create a fully competitive environment for subcontracting

Logistics subcontracting environment is a major risk, so enterprises should fully consider the environmental impact of subcontracting in the process of the choice and implementation of logistics subcontracting. If there is no fully competitive market environment exists, companies can consider providing logistics business and subcontracted for various service contractors, as far as possible to create a fully competitive subcontracting environment, reduce the extent of information asymmetry, thereby reducing logistics subcontracting risk in the information asymmetry conditions. On the other hand, considering the immaturity of logistics subcontracting environment, business logistics subcontracting contract period should not be too long. Many foreign experiences show that the reasonable contract period of logistics subcontracting is two years. A resonable period of logistics subcontracting contracts can help maintain good relations between the two parts to achieve win-win goal. Through this strategy, the above-mentioned risk 1 and risk 5 can be reduced

5.2.2 To build an effective management team for subcontract project

Logistics subcontracting process is a project management process, therefore in the process of logistics subcontracting; we must build an effective project management team and pay attention to logistics management. After the logistics subcontracting, the company will change the existing internal operating procedures, the specific functions of the logistics will be changed through the subcontracting of project management, and the resistance of the staffs will also be weakened and subcontracted logistics functions must be effectively monitored in order to achieve seamless logistics business processes based on adjustment.

On the other hand, through building a project team and a clear goal of building a project team, which is consistent with the objectives and organization of subcontracting to strengthen the learning capacity of the project team and management capacity, improving analysis of the project team and management capacity, improving analysis of the pros and cons of the scope of logistics subcontracting capability and logistics subcontracting decision-making capabilities, and selecting logistics service provider capabilities. The strategy will help reduce risk 2, risk 3, risk 6, 7 and the risk 8.

5.2.3 The implementation of effective methods on logistics subcontracting business management

The success of logistics subcontracting management due to the effective method of management of logistics subcontracting business, the method is mainly reflected in the decision-making, planning organization and control. In decision-making, whether the scientific decision-making methods will be used in logistics subcontracting decision-making will directly impact the implementation of the results of logistics subcontracting. Logistics subcontracting shall be mastered from a strategic level and tactical-level, in addition, the logistics contractor selection is an important decision problem.

In the plan of organization, under the environment of the planning organization control mode, the development of logistics subcontracting logistics operation ensure the confidentiality of operational information to build logistics subcontracting performance evaluation indicators and operational process for the logistics subcontracting management. The strategy can help reduce risks 3, 9, 10, 11, and 13.

5.2.4 The establishment of logistics subcontracting information-sharing mechanism

In the logistics subcontracting process, the most common risk factors is the risk of decision-making due to asymmetric information; therefore, logistics subcontracting of information-sharing mechanism should be established. In fact, the logistics subcontracting relationship is the agent relationship. Before signing logistics subcontracting contracts, as the services

the contractor (agent) had already mastered the information that subcontracting companies (clients) do not know, which it may be detrimental for subcontracting companies, so service contractors (agents) can sign the contract which is benefit for them, this will lead to "adverse selection". On the other hand, when signing the contract, due to subcontracting companies (clients) cannot observe some actions of the service contractors (agents), so the actions may be taken against foreign package enterprises (clients), which will further damage the subcontracting business interests, leading to "moral hazard". Through the establishment of logistics subcontracting of information-sharing mechanism, we can greatly reduce the risk due to asymmetric information. The strategy can help reduce the risk 7, risk 11 and risk 12.

5.2.5 Establish a profit sharing and risk-sharing mechanisms

Good logistics subcontracting relationship is the decisive factor of the successful logistics subcontracting operations, and its essence is the co-operation mechanism: both partners' benefit sharing, risk sharing, mutual trust and respect, and the formation of complementary advantages. For long-term cooperative relationship, firms must consider the mutual benefit and reciprocity. Although there are no special regime constraints, mutual consensus of the long-term cooperation is beneficial to both sides. Most companies believe that the expected profit and return on the share is to build partnerships and maintain long-term cooperation can exist between enterprise and third-party logistics providers depends on trust, communication, commitment, corporate culture, logistics technology, response speed, flexibility and other important factors. In particular, trust, communication and commitment are the foundation to form a strategic partnership between businesses and service contractors. However, the establishment of mutual trust, communication and commitment is a prudent process, which is formed in the long-term cooperation. Of course, mutual trust does not mean the neglect of Service Level Agreement (SLA); on the contrary, in the contract between the two sides, the SLA provision must be included, specifying the level of service must meet the expected demand for punitive measures, business increase or decrease the adjustment method and terminating the terms. At the same time, SLA term also requires subcontracting companies cannot request free additional services for free, which can play a win-win effect. The strategy can help reduce the risk 4, the risk 7, the risk 10, 11 and 12.

Assessment and management of the third-party logistics enterprise risk. There are two indicators about the evaluation of the risk: first, the probability of the risk occurrence; second is the size of the losses caused by risk. The higher probability of losses occurrence may result in more severe extent of the loss, the risk is greater. Enterprises should systematic study the different types of risks and take appropriate risk management strategies can be formulated from reducing the risk retention and transfer (insurance), the second aspect includes discard and management.

- Reducing the risk losses

- 1) The smallest risk, that is, the risk probability is small and the losses are small too. Such risks generally rarely occur in the business process, for example, the late delivery compensation for weather condition. This risk will neither generate great impact on business conditions, nor have economic security, so the company can responsible for the risk.
- 2) A smaller risk is a high probability of risk occurrence, will cause little damage. In logistics companies, a typical representative of such risks is when the enterprise delivers fragile goods or fresh food. Even if the employees strictly abide by the rules to be careful with storage and handling, there inevitably occurs a small amount of cargo damage or deterioration. As a result, of high frequency of these risks, insurers are generally unwilling to cover, even if they are willing to cover, the premium rates will be high. Such high-frequency low-risk events will cause greater damage, but as long as companies can accurately estimate the loss frequency and loss of size, making financial arrangements, your own risks is the most sensible choice.
- 3) Larger risk, namely, the probability of occurrence is very low, but it may lead to a great loss when it occurs. In the above-mentioned types of risks, traffic accident risks, personal accident risks, business risks are the property are belonging to such low-frequency and high-risk risks. Although the frequency of these risks is low, but the event will give business operation and development a heavy blow when it happens, such as the former telecommunications giant Ericsson accessories processing plants, who nearly quit communications markets for the impact of fire. However, such risk belongs to the scope of insurable risks. Therefore, in the management of such risks, enterprises shall impute almost risk to insurance companies by the way of insurance, such as the third party liability insurance, group accident insurance, business property insurance and so on. By this way, even if the risk occurs, companies only need to undertake limited economic losses.
- 4) Largest risk, that is, the frequency of occurrence is high, the losses are also high. These risks are almost non-existent in the logistics business process. Because it is not only high frequency of loss, and the loss is serious, the general business is unlikely to bear such risk. Such as the delivery of precious art is a typical representative of such risks. Because the art treasures are priceless, which have strict requirement for transportation, storage, handling and other aspects of the operation, and the possibility of being stolen is very large, if they are stolen and damaged, logistics enterprises will be bankrupt immediately. For such special goods, though rewards will be high, a rational risk manager should choose to give up it to avoid this risk entirely.
- 5) The development of green logistics. Green Logistics refers to logistics activities whose purposes are to reduce environmental pollution and resource consumption by advanced logistics technolo-

gy. China's "Environmental Protection Law" requires enterprises must undertake corresponding responsibilities and receive appropriate punishment for their pollution. Each aspect of the traditional logistics activities has polluted the environment. In today's growing emphasis on environmental issues, the environmental risks that the logistics enterprises face will be even more severe. Only improving green logistics, pursuing economic efficiency, resource conservation and environmental protection can really reduce the environmental risks of enterprises to realize the sustainable development of third-party logistics enterprises.

- Reduce the risk probability

All the risk management strategies mentioned above focus on how to reduce the loss from risks for an enterprise when the risk probability is fixed. Whether enterprises choose to purchase insurance or take the risk retention method of self-insurance, these are both relatively passive ways to cope with risks. The most fundamental method to reduce risk is to reduce or eliminate the possibility of the occurrence of risks through scientific way to management.

Since the 1960s, Japanese enterprises have been engaged in advocating the full quality management, which has voluntarily reduced the deficiency rate in products and services. In the 80s, the 6σ management method which has been created by Motorola has been adopted by many famous enterprises like Hewlett Packard, Citi Group and General Electric, etc. 6σ means only 3 to 4 errors or defects are allowed in every 1 million times of operation, which on the matter of fact nearly eliminate the possibilities of defects. Though logistics enterprises have a slightly different production and operation process with the above entities, we can somehow learn how much impact management method can impose upon the reduction of risk probabilities. Both logistics companies in the United States and in Japan adopt the information management and intensive management method, and in this way their delivery level indicators and product intactness indicators are far lower than their Chinese counterparts, which are still operating with laggard management and careless operational method. Logistics companies have to carry out the following rules in order to fundamentally reduce the risk probabilities through scientific management:

- 1) Reinforce human resource management. Employees are the core of enterprises. Most third party logistics companies in China tend to hire employees with little educational background, and do not provide them with systematic professional training before formal induction. Thus, it is not uncommon for these enterprises to suffer from personal injuries due to non-standard operation, and loss of goods due to careless loading. The economic consequences brought to the logistics companies by these risks are quite huge. In order to thoroughly solve the personnel problem, companies

have to put more emphasis on the technical training of employees, and set a standard set of operation method.

- 2) Carry out the information and network management. The untimely transfer of information or wrong delivery of information has been a major reason for the wrong delivery and distribution or delay in delivery of goods. The information system of modern large scale logistics companies are mostly very complex – if all the complicated information stream of clients, goods, personnel and transportation are processed manually, it will end up with a low efficiency rate and high error rate. If modern logistics companies want to thoroughly reduce their error rate, they will have to rely on a management system based on information and network to reinforce the integrity ability of logisticis information resources so that their logistics management can be carried out in a fast, accurate, scientific and highly efficient way.
- 3) Effectively raise the qualities of hardware facilities of an enterprise. According to relevant information analysis, about 15 billion loss of RMB yuan has been made in China during the process of packaging, about 50 billion loss occurred during transportation, and about 3 billion loss has been made due to improper storage. Such tremendous losses are not incurred by personnel reasons alone, but largely by facility reasons as well. Hardware facilities of Chinese logistics companies are lagging behind in a general way. For example talking about storage facilities, few companies will use warehouses that have preservation and frozen functions; for handling tools, most enterprises use hand truck with limited founctions, hand moving forklifts and ordinary lifting equipments; and most enterprises will use ordinary vehicles as conveyances. The laggard hardware facilities will lead to the significant increase in risk probabilities and ultimately cause a negative impact on the enterprise to a great extent.

5.3 Limitation and further research

In the end of this dissertation, some limitations are identified, and suggestion is given for further researches.

- 1) The author did not research risks in other sections of supply chain. This study only researched the logistics subcontract in supply chain, and give suggestions of how to avoid and control these risks, but there are many other risks in whole supply chain, e.g. pruchasing risks, manufacturing risks, management risks (Zsidisin & Ritchie, 2008). The final goal of supply chain operation is maximize profits and minimization loss if there is any risk or potential risk occurred in supply chain, loss might be caused. Therefore, this research is lack of more comprehensive risk analysis along supply chain.
- 2) Only one sample logistics enterprise cannot represent whole third party logistics provider in China. The report is from the China's National

Bureau of Statistics (2009). There were more than 1 million logistics enterprise in China in 2006; therefore, this research conducted in only one third party logistics enterprise cannot represent the situation of this whole industry.

Risk in double outsourcing needs to be researched deeper. Because a third party logistics enterprise may be has not enough ability to complete corporation logistics subcontract, cooperation between another logistics enterprise is necessary, so the double outsourcing subcontract to emerge. Relationship of double outsourcing happened between two third party logistics providers, and there were many risks in it. These risks worth to research in the future, because not only logistics customer would suffer lose but also whole supply chain operation will be affected. If any risk occurred in the process of double outsourcing.

6 SUMMARY

In recent years, due to logistics theory and practice is constantly progressing and developing in China, more and more enterprises have had a deep understanding about the importance of logistics in business. Logistics outsourcing is able to improve the material circulation rate, economize the storage expenses, and reduce the capital overstock in transit, and can bring many benefits to supplier and acquirer. Therefore, to enhance market competitiveness, some non-logistics enterprises successively outsource the non-core business of logistics to achieve the sustainable development. However, in practice, because of the process of the logistics outsourcing is complicated, the logistics outsourcing not only brings a lot of benefits, but also contains risks. During the implementation of logistics outsourcing, because of many enterprises didn't adopt reasonable evaluation system and management method for the logistics service providers, so some operation risks are incurred, thus causing some losses that could have been avoided. This article analyses in detail the potential risks that exist in different stages of logistics subcontract operation from the procedures of an logistics business subcontract, to the risk evasion strategies an enterprise should take from the perspectives of environment, personnel, subcontract business, information and schemes.

Through literature review, it has been found that risk is loss by indeterminacy which could be impacted by various factors. Generally speaking, contract management and risks sharing are effective approaches in risk management fields. The basic procedures of risk management are: risk awareness, risk testing, and risk assess, risk control and managerial effect evaluation. The risks of 3PL are objective in practical operation, although 3PL are supported by a lot of strong reasons. It is summarised that ineffective management, loss of control, loss of client focuses, lack of clarify, lack of cost control, lack of cost control, lack of trust and double outsourcing are main cause factors of 3PL risks. In China, the development of 3PL has just started and is still in its early stage according to the limited scale, operation focuses and competition modes. There is also an obvious trend that 3PL in China often use the help of subcontractors. A framework of 3PL risk management and control is formulated as well. The literature review obtained as above would be used as theoretical framework to support this research.

Then different research paradigms were discussed, and the research philosophy, research strategy, and research methods introduced. This study, consistently handled the reasons supported for the research methodology selection. The method of data analysis is introduced as well. At the end of this chapter, research validity, reliability, and generalisability also ethics issues are explained and analysed.

Following, it describes the findings derived from the research, carries out analysis to these findings and discusses them. Integrated the interview questions and answers and identified detailed problems in 3PL Subcontract.

Lastly, the thesis summed up all resources and came to its conclusion, recommendations and some suggestions.

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APPENDICES

Appendix 1