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Determinants of Outsourcing Transaction Cost Economics and Core Competencies Theory

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Abstract

A significant feature of firm behaviors in the 1990s has been the practice of outsourcing. From the view of outsourcing clients, the outsourcing decisions are always influenced by several factors, such as cost reduction, focus on core competency, strategic requirement and so on. This paper based on the theory of transaction cost and core competencies, through the introduction of decision model to illustrate three critical determinants for outsourcing decision. This paper applies qualitative analysis to explain three dimensions of the model: Assets specificity, Sunk costs and Core competencies. The case study of China Development Bank shows how firm makes the outsourcing decision according to three aspects in the model and its outcomes of outsourcing. Finally, summarize our results and try to give suggestions to government, outsourcing suppliers and clients.

Key Words: Outsourcing decision, transaction cost, sunk cost, core competency

1. INTRODUCTION

This paper focuses on how do firms make the outsourcing decisions and deeply research into the determinants for outsourcing decision. Meanwhile, this paper pays attention to the potential outsourcing market in China and treats the Chinese company differently from the previous views, considering them more as outsourcers than outsourcing suppliers. Through the literature review, I will give a definition and classification to the term “outsourcing”; then analyze the factors that influence the outsourcing decisions from the transaction cost and companies’ core competence perspectives. A decision model will be introduced in my paper based on the previous literatures. A case study focuses on how companies solved outsourcing problem will be presented and analyzed according to my model.

In 1990, C.K.Prahaoad & Gary.Hamel has written an article “The core competences of the corporation”. It was the first time that the term “outsourcing” is been used in the research and considered as a shortcut to a more competitive product. A most important background for companies to survive and be successful in the long run is to “improve their competitive advantage by implementing different concepts, of which outsourcing is one”[1] Outsourcing can be simply considered as the companies search for the resources outside. Some companies treated outsourcing as a cost reduction concept and tried to externalize their non-core activities to outside partners in order to focus on their core competences. Gene M. Grossman (2003) describes that we live in an age of outsourcing. “Firms seem to be subcontracting an ever expanding set of activities, ranging from product design to assembly, from research and development to marketing, distribution and after-sales service”. He even uses Feenstra’s Barbie doll example to show the widely use and influence of outsourcing activities. The production of a perfect Barbie doll comes from the different countries around world: the components, raw material (plastic and hair) from Taiwan and Japan, conducts

[1] Leif Enarsson, 2008, Outsourcing and Strategic sourcing. P. 18

assembly in Indonesia and Malaysia, moulds are introduced from U.S., the doll clothing is made in China and the accessories which are used in decorating the dolls come from U.S.[2]

But the first question is which parts of activities are core activities and which parts are not core activities? The market environment is kept on changing as time goes by: whether the functions now they decide to keep in-house still worth a lot after a long period; whether the functions they decide to be outsourced would not become core competencies in the future? Hence, it is necessary for the decision makers to distinguish their activities from core to non-core before implementing their outsourcing decisions and the most important factor that decision makers consider a lot is the outsourcing decisions consequently varies from cost reduction to the strategic decision to create competitive advantages.

1.1 The Definition of Outsourcing

Outsourcing has involved in companies activities earlier than 1990. Its definition varies in different literatures according to the different business environments. Karsten B. Olsen (2006) defines outsourcing as "the relocation of jobs and processes to external providers regardless of the provider's location", he also mentions that "off shoring refers to the relocation of jobs and processes to any foreign country without distinguishing whether the provider is external or affiliated with the firm"[3] He distinguishes the definitions related to outsourcing such as in sourcing, outsourcing and off shoring and mentions that although they are associated with each other, neither implies the other. Power and Desouza defines Sourcing is the act of transferring work from one entity to another and Outsourcing is the act of transferring the work to an external part. So the decision of outsourcing or not can be explained to whether to make or buy.[4]

[2] Gene M. Grossman, 2003, "Outsourcing in a Global Economy", p. 1
[3] Karsten B. Olsen, 2006, "Productivity Impacts of off shoring and Outsourcing", p. 7
[4] Power and Desouze, 2006, "The Outsourcing Handbook," p. 3

1.2 The Phases of Outsourcing

Deborah Swenson (2005) defines overseas outsourcing "is a component of the globalization process that has attracted particular concern as the public has become familiar with the idea that improvements in information technologies enable companies to reduce costs by outsourcing inputs and assembly from lower cost overseas location"[5] While the employment problem is gradually induced by oversea outsourcing, Feentra and Hanson (1995) argue that such kind of outsourcing will contribute to the explanation of the widening wage gap in the U.S. and the reduction of employment for unskilled workers.[6] On the other hand, Amiti and Wei (2004) provide evidence showing that the presumption of outsourcing job loss may be reversed if one also accounts for the simultaneous job gains associated with international "in sourcing[7]"

Although different terms are used to describe the outsourcing process, they present various kinds of outsourcing with their own characteristics. The main phases refer to outsourcing are listed in the following: Contracting, subcontracting, off shoring, make-or buy and 3PL (Third Party Logistics)[8]

According to Enarsson, contracting is a manufacturer contracts a company in a foreign market to produce or assemble goods on its behalf. While consider the term subcontracting, people always confuse about these three words: subcontracting, outsourcing and make-or-buy decision. Subcontracting is often used in construction industry, contractors bid one part of the production or service to another company, so called subcontractors. It takes responsibility for monitoring and approving the work of subcontractors. Make-or-buy decision refers to the process that the companies make the decision of produce in house or outsourcing. Another term 3PL refers to the

[5] Deborah Swenson, 2005, "Outsourcing Price Decisions: Evidence from U.S. 9802 Imports"
[6] Feentra R.C, & Hanson, 1995, "Foreign investment. Outsourcing and Relative Wages" , NBER Working Paper, 5121, Cambridge, MA.
[7] Amiti and Wei, 2004, "Fear of Service outsourcing: Is it justified?"
[8] Leif Enarsson, 2008, Outsourcing and Strategic sourcing. P. 19

logistics activities which are provided by external providers and the term outsourcing can be used to any functions in the company. Consequently 3PL can be considered as a part of outsourcing activities while related to the logistics activities in the company.

As mentioned above, the concept of outsourcing varies according to the different commodities and different processes; it is difficult to give a very clear definition to outsourcing because it almost covers all the functions in the company. Therefore, the simplest way for us to distinguish outsourcing from other corporate behaviors maybe a definition from Mark's book: "No matter what you call it, it you are not doing something yourself, you are outsourcing".[9]

1.3 Outsourcing in China

Although almost all the activities in the company can be outsourced to the outside providers, the most popular outsourcing parts in China nowadays are Information Technology (ITO) and Business Process (BPO)[10]. Hence these two parts will be my paper's focus. Just like the ever-changing environment, different outsourcing companies and clients have various definitions to ITO and BPO. Generally speaking, ITO refers to the outsourcing of IT processes, which includes the product and service related to IT such as the maintenance and management of database and software. BPO likewise has several explanations. According to Gartner's report, BPO is "delegation of one or more business processes to external provider that, in turn, owns, administrates and manages the selected processes based on defined and measurable performance metrics".[11] In his definition, the business processes which are outsourced to external providers includes the function such as human resource management, finance and accounting, or in some professional domain such as the indemnity of insurance, accounts payable and receivable in banking. BPO occurs when a company takes an entire process and outsources it to some one else. For example, "Logistics Outsourcing where things like supply chain management, procurement, purchasing,

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[9] Marks G, 2005, The Complete Idiot's Guide to Successful Outsourcing, Alpha Corporation, Indianapolis.
[10] Accenture, 2008, "China Outsourcing Report".
[11] Ravindra Datar, 2003, "BPO in Asia Pacific: An Emerging Opportunity"

e-business and all processes that require many steps and co-ordination with multiple parties are outsourced to other actors." (Enarsson, p. 86) If we consider the whole software outsourcing industry as a pyramid, ITO is typically service-based in the bottom of pyramid. It is a vendor-driven market with its main objective being to reduce the cost of IT systems or site/data centers. BPO goes beyond that and lies in the top of the pyramid. It has to do with improving the performance, efficiency and productivity of a business. In order to have a more clear classification of ITO and BPO, I classify the terms related to ITO and BPO in Table 1.1 &1.2.

According to the table, it can be seen clear that the differences between ITO and BPO. Most of the key core processes of a business require IT support; if you are executing logistic management or warehouse management or customer care, you may use IT system to support these systems. And its progresses is measured in IT cost saving. But BPO is focused on changing and improving your competitiveness in the market place, such that it will generate more revenues, more margins. With BPO, firms are looking to increase the overall productivity, efficiency and competitiveness of the outsourcing processes, which can result in huge gains.[12]

1.4 Determinants of Outsourcing

Factors determining the outsourcing are explained from various angles in the previous literature. A great amount of research show that cost reduction is an essential factor determining the outsourcing decision. Henri L.F. de Groot(1998) suggests that "declining transaction cost are a crucial factor in explaining the observed increase in outsourcing"[13]. Through the model developed in the paper, author came to the conclusion that the motives for firms to engage in outsourcing are: transaction cost, exploitation of economies of scale, savings on wage and benefit payments, and strategic consideration, in which saving the transaction cost plays the most important role. Outsourcing is more likely when transaction costs are low. Grossman,

[12] Graham Kemp, 2004, "Outsourcing Essentials : The ITO/BPO Connection.
[13] Henri L.F. de Groot, 1998, "Macroeconomic Consequence of Outsourcing"

Helpman& Szeidl (2005) analyze the determinants based on economies of scale, state that it costs a lot for a single manufacturer to produce all the components of a complicated product, so they are outsource some parts of the product to outside providers in order to reduce the cost.[14] Yuhong and Byiaj(2005) approve that the argument above is right after their survey focused on outsourcing. 75% of the surveyed companies agreed that the first reason for them to outsourcing is cost reduction; the other reasons are productivity increasing, low cost of labor force abroad and share partner's advanced technology and information. But Jane C. Linder and Martin I. Cole (2002) consider that the effects of outsourcing go well beyond the cost saving, it has changed the way the business goes to market.[15]

Some other authors hold different views, Fenxia Zhang and Jingjiang Liu (2005) summarize that off shoring is the final result of three effects: economics, technology and policy[16] Spencer(2005) focus on the international outsourcing to lower cost countries such as China and India, through the enrichment of trade models, industrial organization and contract theory to explain that related foreign direct investment, incomplete contract and search for the best partner contribute a lot to outsourcing decision.[17] Fei Chen (2005) sets America's service outsourcing as an example to explain the motives of outsourcing from two aspects: external effects include technology, economics and market; internal motives include cost reduction and core competencies.[18]

This paper is organized as follows. The analytical framework is developed in the next section. Section 3 introduces several outsourcing decision models and outlines a new decision model based on the previous models Section 4 executes case study on BPO in China Development Bank concerning the determinants of outsourcing. Section 5

[14] Grossman, Helpman& Szeidl, 2005, "Complementarities between Outsourcing and Foreign Sourcing".
[15] Jane C. Linder, Martin I. Cole and Alvin L. Jacobson, 2002, "Business Transformation Through Outsourcing"
[16] Fenxia Zhang and Jingjiang Liu, 2005, "The Development of off shoring".
[17] Barbara J. Spencer, 2005, "International Outsourcing and Incomplete Contracts"
[18] Fei Chen, 2005, "An Analysis on Driving Factors and Future Development Trends of Service Outsourcing: A demonstration of America's Service Outsourcing".

summarizes the findings and gives comments on the outsourcing decisions and future market in China.

2. Analytical Framework

The motives for company to engage in outsourcing are presented from several aspects before. This section develops transaction cost perspective and core competencies theory to analyze the determinants for outsourcing.

2.1 Transaction Cost Perspective

Coase tries to explain why firms emerge in the economy and study the determinants of the size of the firm in his famous article "The Nature of the Firm" in 1937. It is the first time term "transaction cost" has been used to explain the generation of the firm. He addresses that "there is a cost of using the price mechanism"[19] He summarizes that transaction cost is a cost incurred during an economic exchange decision and defines "transaction cost" into two aspects: 1, the cost of discovering the relevant price and the cost of obtain the accurate market information. 2. "The cost of negotiating and concluding a separate contract for each exchange transaction" (Coase, 1937) which I conclude them to the bargaining cost. Thus a firm emerges in order to substitute the price mechanism and reduce the transaction cost.

Then Williamson develops transaction cost analysis from several aspects: Based on Simon's definition of "bounded rationality" which refers to human behavior that is "intended rational, but only limitedly so" (Simon, 1961, p. xxiv), He extends the conventional assumption about economic agents and explains that they are not only guided by consideration of self-interest but opportunism, which includes "strategic manipulation of information or misrepresentation of intentions"(Williamson, 1975) He claims that "opportunism requires economic activity to be organized so that parties

[19] Coase, Ronald H. 1937. "The Nature of the Firm, 4 Economica N. S. 386-405 [chapter 2 of this volume].

who voluntarily carry out the terms of an agreement (contract) will not be injured by parties who fail to adhere to the contract"[20] and emphasize the emergence of opportunism increases the transaction cost. And in 1981, Williamson summaries the transaction cost into three dimensions, he describes the transactions are (1) information impactedness, (2) the frequency of the exchange, and (3) the degree to which durable, transaction-specific investments are required to realize least cost supply.[21] Williamson states that assets specificity is one of the most important dimensions influencing the transactions.

Asset specificity refers to the investment that is put into a particular transaction and considered owning a high value for this transaction but would not be "redeployable" (Williamson, 1985) for another transaction or just show little value to another transaction. In order to have a more detailed description, Williamson divided the asset Specificity into several types such as site specificity (e.g. a natural resource in the local environment, moveable with a high cost), physical asset specificity (e.g. special computer system design for a company), human asset specificity (e.g. learn a dialect from a rural area) and dedicated asset(Williamson, 1985). He also pointed out that transaction costs can be divided into ex ante and ex post types.[22] On one hand, asset specificity can reduce the produce cost or increase the revenue in the future, so it may induce a complex ex ante incentive alignments; on the other hand, assets specificity remain the particular interests for at least one side or both sides in the transaction and form bilateral independence. Consequently it will leads to a complicated ex post structural influence.

Uncertainty includes two types: general uncertainty and behavioral uncertainty. It is due to the ever-changing in the market environment and lack of communication, "one decision maker having no way to finding out the concurrent decisions and plans made

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[20] "An Experimental Investigation of the Outsourcing Decision for Motor Carrier", Transportation Journal, 1999

[21] James W. Gentry, Jack Schibrowsky. 1990. "Developments In Business Simulation & Experiential Exercises," Volume 17.

[22] Williamson, Oliver E. 1985. "The Economic Institution of Capitalism," Yale University p20.

by others”[23]that leads to the instability for both sides in the transaction. Williamson has emphasized the risk induced by behavioral uncertainly, namely one decision maker deliberately conceal and distort the information for some strategic purpose, it would not be known by others. (Williamson 1975, 1985, 1996) such kind of behavioral uncertainty may leads to information asymmetries and opportunism. “Parties have the chance to take advantage of the other party’s lack of relevant information,”[24] To a complex transaction with high degree of uncertainty, it will introduce an increasing number of contingencies. The more contingencies occur, the more difficult and costly to construct and enforce the contracts.

The frequency of transaction refers to the number of times the transactions between buyer and seller. And the transaction cost here is linear correlated with the scale economy issue (Williamson, 1985). Williamson quoted Adam Smith’s famous theorem “the division of labor is limited by the extent of the market” and claimed that transaction will not adopt specialized structures as it comes with the high cost unless the cost can be justified. It depends on the two sides: 1, specialized structures with a great deal investment in asset specificity could bring huge benefits; 2, the cost of specialized structures could be covered by its utilization in other transaction. Hence for certain level of asset specificity, the greater the volumes of trade, the more likely the benefits of hierarchical governance exceed the costs and the hierarchical governance will be efficient only if the frequency of transaction occur at a high degree.

Under the transaction cost framework, outsourcing refers to the firm’s boundary change, functions transfer and rearrangement inside a firm. Davidow and Malone (1992) state that the global prevalent trend in business firms using outside service providers to perform the firm’s function would result in the “virtual corporation” with “well-defined structures” gradually lose their edges, and they also mention that such

[23] Simon, Herbert A. 1957, “Models of Man,” New York: John Wiley& Sons. pp. 162- 63.
[24] “An Experimental Investigation of the Outsourcing Decision for Motor Carrier”, Transportation Journal, 1999,

kind of trend is necessary for the economic survival in America. But Peter and Tom (1991) claim that whether to outsourcing or produce in house must be "examined carefully for advantages and disadvantages. He is doubtful about the wide spread of "vertical deintegration" Carol and John (1999) analyze the different governance mechanisms substitute each other under the different impacts of transaction costs.

When it refers to the methods applied in transaction cost research, some scholars tried to apply various methods such as econometrics and historical methods to explain the influences of transaction cost on outsourcing and vertical mergers. For example, Williamson used the quantitative case study to examine the franchise bidding for natural monopoly in CATV (Williamson, 1976)[25]. Levy studied the vertical integration in industries by using cross sectional econometric analysis. (Levy, 1985)[26]But qualitative analysis still occupies the domain place in transaction cost research. As the three dimensions of transaction cost (assets specificity, uncertainty and frequency) are hard to measure with the database or financial statement. Researches based on transaction cost theory are always performed by surveys, face to face interviews and questionnaires. These methods can easily outline the transaction cost in the firms, but they still have some drawbacks. For example, after the survey in the firms, the feedbacks of the survey are gathered together to estimate the transaction costs in those firms. So the respondents and interviewers' personal statements and bias may be contained in the survey data. Hence the results and conclusion may be not reliable and trustworthy. Another problem generates from the particular dimension of transaction—uncertainty. While the researcher conducts a survey, it is hard to have a fair comparison between the firms. As one firm finds it is uncertain to get the information of the production while another firm may have already occupy the market share of the same production and be sure of the environment of the production. Therefore it is difficult to affirm the indicators in the firms or compare them from firm

[25] Williamson, Oliver E. 1976. "FranchiseBiddingforNaturalMonopolies-InGeneralandwithRespecttoCATV," 7 Bell Journals of Economics 73-104.
[26] Levy, David. 1985. "The Transaction Cost Approach to Vertical Integration: An Empirical Examination,"67 Review of Economics and Statistics 438-45.

to firm.[27]

2.2 Core Competencies Theory

Which kinds of activities in the firm could be outsourced are still surrounded in controversy. Most of the scholars hold the opinions that the firm's core activities are not proper to be outsourced. (Quinn and Hilmer, 1994; Arnold, 2000) As outsourcing of the core activities may reduce the incentives in firm's innovation, disclose of the critical technologies and increase the potential competitors, thus offset the benefits brought by outsourcing. Hence, the decision makers prefer to maintain the core activities and outsource the "disposable and core-distinct activities" (Arnold, 2000) to the external providers.

Arnold develops a general outsourcing model to separate the firm's activities and illustrate the whole procedure of outsourcing design. (See Fig. 2-1, Fig. 2-2):

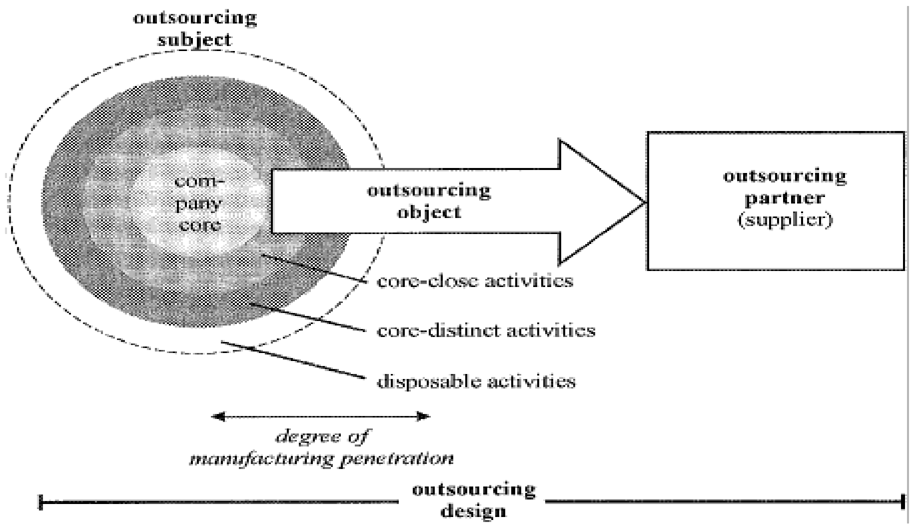

Fig.2-1 Outsourcing model

As the figure shown above, four elements in the outsourcing model are outsourcing subject, object, partner and the whole design. Outsourcing subject refers to the economic institution which has to make outsourcing decision. Outsourcing object is the process and productions. All the activities in the firm are distinguished by four

[27] Howard A. Shelanski, Peter G. Klein. 1995. "Empirical Research in Transaction Cost Economics: A Review and Assessment," Journal of Law, Economics, & Organization, p.6

levels. The most important level is company core which refers to the crucial activities in a firm. Then the activities importance gradually decline with different kinds of activities. The last level is the activities with general availabilities.[28]

Engaging in outsourcing here is more or less a way helps firm to “transfer its decision rights and accountability”[29] to vendor and let the client to pay more attention to its core competencies. While the firm outsources its activities to the vendor, it also helps the firm to connect with the core competency of the vendor and share the information and knowledge with each other. The focus of outsourcing in recent years has been changed, not only for cost economies but also a strategic decision looking for “business partner who can contribute to the strategic efforts of the company by providing it with expertise and competencies that are not found in-house,”[30]

[28] Ulli Arnold, 2000, “New Dimensions of Outsourcing: A Combination of Transaction Cost
of Outsourcing: A Combination of Transaction Cost Economics and the Core Competencies Concept,” European Journal of Purchasing & Supply, Management, pp. 23-29
[29] Power, Desouza, Bonifazi, 2006, “The Outsourcing Handbook,” p. 9
[30] Power, Desouza, Bonifazi, 2006, “The Outsourcing Handbook,” p. 9

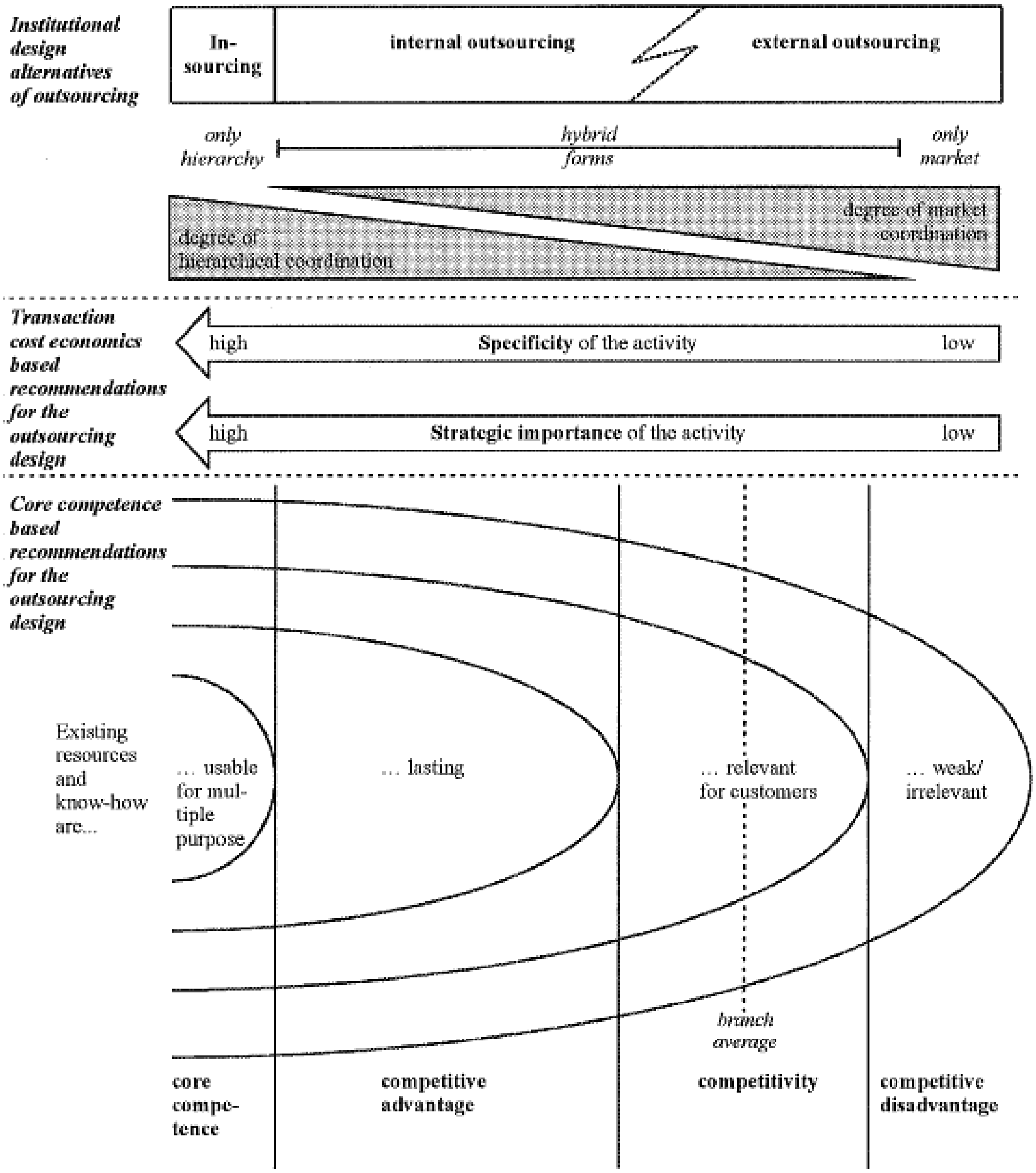

Figure 2-2 Model for the outsourcing design

Source: Arnold, 2000

3. Strategic Decisions on Outsourcing and Models

3.1. Outsourcing Object from a Transaction Cost Perspective

Coase(1937) claims that firms and markets are alternative governance structures that differ in their transaction cost and emphasizes that under certain condition, the cost of conducting economic exchange in the market is higher than conducting the same transaction within the firm. "Transaction cost are the 'costs of running the system' and include such ex ante costs as drafting and negotiating contracts and such ex post costs as monitoring and enforcing agreements,"[31]Based on Coase's theory, Williamson develops the third type- hybrid governance structure, which includes outsourcing and other intermediate forms of governance. All these governance structures are aimed at performing the transaction with the lowest costs. Therefore, we should first look into the different kinds of transaction cost, then finding the most appropriate governance structures. Transaction costs may arise from information asymmetry, bounded rationality and opportunism as I summarized in the section 2. It also generated from activities such as evaluating suppliers, negotiation, and control function and so on. (Picot, 1991) Aric and Heide summarize the transaction costs which are directly related to asset specificity, environmental uncertainty, and behavioral uncertainty as the figure below:

[31] Aric Rindfleisch & Jan. Heide, 1997, "Transaction cost analysis: past, present, and future applications," The Journal of Marketing, Vol. 61, No. 4, pp. 30-54

	Asset Specificity	**Environmental Uncertainty**	**Behavioral Uncertainty**
A. Source of Transaction Costs			
Nature of Governance Problem	Safeguarding	Adaption	Performance Evaluation
B. Type of Transaction Costs			
Direct Costs	Costs of crafting safeguards	Communication, negotiation, and coordination costs	Screening and selection costs (ex ante)
			Measurement costs (ex post)
Opportunity Costs	Failure to invest in productive assets	adaptation; Failure to adapt	Failure to identify appropriate partners (ex ante)
			Productivity losses through effort adjustments (ex post)

Fig. 3-1 Source and Types of Transaction Costs

Source: Aric Rindfleisch & Jan. Heide, 1997

The cost of safeguarding comes from the asset specificity of the transaction. As the firms deploy the specific asset, they face the problem of their partner may exploit these specific assets, therefore the safeguarding problem is induced by the opportunism and assets specificity. And “Transaction cost analysis proposes that, because of opportunistic behavior of trading partners, high levels of asset specificity increase the costs of safeguarding contractual agreements.”[32]

Environmental uncertainty refers to “unanticipated changes in circumstances surrounding an exchange” (Noordewier, John, and Nevin 1990, p. 82) It is hard to measure it in the reality, as it appears the complexity and unpredictability of the environment, indicators for the environmental uncertainty are difficult to find. The adaption problem actually is caused by bounded rationality and environmental

[32] Aric Rindfleisch & Jan. Heide, 1997, “Transaction cost analysis: past, present, and future applications,” The Journal of Marketing, Vol. 61, No. 4, p. 16

uncertainty which refers to the situation that decision makers in the firms are difficult to adjust the contractual agreement according to the changing external environment. Thus the adaption problem comes form these two reasons. According to the transaction cost analysis, the transaction costs are increased by the high level of environmental uncertainty, especially to the ex ante costs of developing and exchange relationship (Pilling, Crosby, and Jackson 1994). Williamson presents that firms prefer to minimize their transaction cost through vertical integration when they face uncertainty environment (1985).

Behavioral uncertainty and the bounded rationality have induced the cost of performance evaluation, which describes the decision maker is hard to assess the contractual compliance of its exchange partners because of bounded rationality. Always "the true level of performance is not readily apparent, direct measure costs may need to be incurred."[33]

3.1.1 Dimension of asset specificity

According to TCA (transaction cost analysis), outsourcing decision is often simplified to make-or-buy decision, but actually it is the comparison among three types of governance structures: market, hierarchies, and hybrid. The basic idea to develop the most suitable model for outsourcing decision is to find a governance structure with the lowest costs for each transaction unit.

As Commons (1925; 1934) considers the transaction as the basic unit of analysis and emphasis that (Williamson, 1983; 1985; 1989) assets specificity as the most important dimension of three, I would like to analyze how the firm choose the governance structures according to various transaction environments:

1. Objects with low assets specificity and low exchange frequency can be governed with market. That is searching for the goods and services in the free market. Low

[33] Aric Rindfleisch & Jan. Heide, 1997, "Transaction cost analysis: past, present, and future applications," The Journal of Marketing, Vol. 61, No. 4, p. 19

assets specificity means that little information should be exchanged before the transaction. The firm just need standardized goods, services and activities which has a great number of suppliers in the market that can form effective competitions thus to minimize the opportunism (Williamson, 1991). Meanwhile, “external outsourcing partners are able to bundle demand and to exploit economies of scale.”(Arnold, p.25)

On the other hand, it is more reasonable to conduct the transactions with low frequency by market mechanism. As it could avoid sunk cost generated by using the internal resources and reduce the cost of inefficient organization in the firm.[34]Suppose that the goods with low asset specificity and exchange frequency are produced in house and governed by the hierarchies, it not only requires the costs of administration but also wastes the effective resources doing the useless production in order to achieve large scale effects, at the same time the more complexities of the production, the more costs will be increased by the produce. Therefore, bring the exchange to the market would be the most appropriate governance structure for the firms.

2. Objects with high assets specificity, low degree of uncertainty and high exchange frequency. High assets specificity means that “much information has to be exchanged before, during and after the exchange of goods and services” (Arnold, p.25) It could be one party invests to some special domain or both parties invest together to some special equipment. If one party (as the supplier) has invested to the certain equipment or human resource, it will requires “bounding up with the other party” (Zhang Jianhua, p19), establishing long-term contracts to protect itself. And “It is not possible to realize large scale effects because only a few customers exist (or perhaps only one)” (Arnold, p. 25) Thus it needs the both sides of the transaction to establish a more stable relationship.

Low degree of uncertainty includes the low uncertainty of environment and low behavioral uncertainty. The stable environment means the cost of unanticipated

[34] Tang Jijun, 2005, “Firm’s Outsourcing Base on the Cost Perspective,” Jilin University

changes in circumstances surrounding an exchange could be reduced, namely it is easy and costless for the decision makers to adapt to a new environment and do the decisions. Low degree of behavioral uncertainty means the cost of performance evaluation decreases as less information asymmetry occurred in the market; hence it would be easier for the firm to establish the complete contract and perform it as the information are equal shared with all the suppliers in the market.

Moreover, consider that the contracts are exchanged with a high frequency, the transaction costs: the costs of search information – searching for the firms which provide particular goods and services, the cost of negotiation, forming contracts and opportunism are relatively high if the transaction is governed only by market. Therefore, it makes sense to establish a hybrid governance structure such as formal co-working and cooperation, namely different forms of outsourcing.

The relationship between both parties of outsourcing is neither like the character of market transaction nor hierarchies relationship: It is a weak locked relationship between buyer and seller, in which forms a long-term contract, willing to communicate, trust and rely on with each other. Then the more important point is that outsourcing meets the specialized requirements of buyer, not the standardized requirements in the market; outside suppliers provide goods and services with high assets specificity to the firms, sometimes maybe only one supplier could meet the demand of the buyer. Thus outsourcing such form of the hybrid governance structures fulfills the requirement of transaction: reducing the transaction cost from the uttermost point. Moreover, generally speaking, the outside supplier could realize large scale economies of the outsourcing objects and sell the goods to the firms with an even lower price. Therefore, the firms could not only reduce the transaction costs but also the production costs. Namely, taking the total costs into consideration, it maybe the best choice for firms to govern contracts by hybrid mechanism such as outsourcing. (Williamson, 1989,1991)

3. Objects with high assets specificity, high degree of uncertainty and high exchange frequency. Under such situation, hierarchies are the best governance structure for firms. “Hierarchies are based on the centralization of property rights by management. Administrative control mechanism within a company facilitates the orientation on one target.” (Williamson, 1985; Arnold, 1998) Generally speaking, little suppliers would like to run the risk of providing goods and services with high assets specificity and high degree of uncertainty. The complexities of outsourcing increases the uncertainty of establish, perform the contracts and information asymmetry. Meanwhile the high exchange frequency increases the costs of negotiations. It would be more difficult to perform a complicated contract which includes several times of negotiation and judges, opportunism will become an apparently serious problem. Consequently, the complexities of production will increase the probability of producing in-house.

I summarize the three situations above: Outsourcing objects with low assets specificity, a great number of suppliers in the market could form effective competitions, so the firms could govern the objects with price mechanism (Markets); While objects with high assets specificity, the governance structure depends on the uncertainty of transaction and exchange frequency: transactions with uncertainty and occur with a high frequency, it is better to be governed by hierarchies; on the other hand, transactions in a relative stable environment and exchange occurred not so frequent, it is better to try a long-term relationship, namely outsourcing and strategic alliance.

As the three situations illustrated above, comparing to Arnold (2000), he subdivides outsourcing into two types: internal outsourcing and external outsourcing and concludes objects with low specificity can be governed with an external outsourcing which includes a long-term relationship with suppliers or spot transaction. To this point, external outsourcing covers the range from hybrid forms to market. He emphasizes that goods or services with low specificity also can be governed by external outsourcing such as formal co-working and co-working without formal agreement. But no matter how to subdivide the outsourcing activities, we can propose the hypothesis that "the intention to outsource is lower in the presence of asset specificity."[35]

H1: the intention to outsource is lower in the presence of asset specificity

3.1.2 Dimension of sunk cost

As the first dimension illustrated above, asset specificity is an important consideration in outsourcing decision. But several scholars have stated that firms tend to ignore the transaction costs induced by asset specificity and "over engage" (Roodhooft, Warlop, 1999) in outsourcing. They have suggested that the decision makers always prefer to outsource the activities as these people overemphasize production cost advantages and consider less of transaction cost. (Roodhooft, Warlop, 1999; Drtina, 1994; Lacity, Willcocks & Feeny, 1996) Another reason is that it is hard to calculate or value the transaction cost in their decision, therefore it is always judged by their personal preference.

On the other hand, in most real life decision, the managers always sensitive to the sunk costs and under engage in outsourcing. Sunk cost occurred in outsourcing decision is a dynamic definition; it is sunk or not depends on whether the costs could be recovered during the outsourcing decision. Outsourcing is not only a make-or-buy decision here but also "involves a switch from internal production to external procurement."(Roodhooft, Warlop, p. 364) Sunk cost occurs in internal production and it is natural that the managers should give up the corresponding assets which are related to the outsourcing decision. "If the managers are unable to ignore these sunk costs, they may engage in outsourcing to a lesser extent than would be normatively appropriate (Ghosh, 1995; Filip Roodhooft, Luk Warlop, 1999). Meanwhile, several cases (Garland & Newport, 1991; Drummond, 1994) show that the existence of prior investment affects a lot on make-or-buy decisions; the managers would be more

[35] Filip Roodhooft, Luk Warlop, 1999, "On the role of sunk costs and asset specificity in outsourcing decisions: a research note," Accounting, Organizations and Society 24 (1999), pp. 363-369

reluctant to choose for outsourcing decision if the sunk cost exists and tend to "make" instead of "buy" activities. Therefore, the second hypothesis is:

H2: The existence of sunk costs may decrease the probability of outsourcing

I supposed that most outsourcing decisions are influenced by sunk cost, but empirical research is little about it to my knowledge. Whyte (1994; Roodhoof, Warlop, 1999) found that sunk costs and asset specificity have the same influences on outsourcing decision as they increase the likelihood that the decision makers "decide to integrate vertically (outsourcing always be judged as a vertical de-integration decision) even if normative analysis would favor the preservation of the current governance structure." And an opposite experiment has been conducted by Roodhoof and his mates as they study the influence of sunk cost on the decision to de-integrate. They classify the asset specificity to forward looking cost but sunk cost to backward looking investment which should not be taken into account of decision. They finally found that "both the asset specificity investments and the presence of sunk costs reduced the likelihood of outsourcing. (Roodhooft, Warlop, p. 367)" Svein Ulset uses 80 projects from Norwegian information technology industry to test three models which are derived from transaction cost economics and property rights theory. His result suggests that net benefit of R&D outsourcing is negatively affected by potential sunk cost. And his data also supports that strengthening his administrative control rights and switching to vertical integration as l last resort, the client can protect himself against the threat of costly recontracting of R&D projects with high sunk cost potentials.[36]

According to those previous literature researches on sunk costs, I propose several potential reasons for reluctance to engage in outsourcing:

1. Path dependence of governance structures

Path dependence in economics suggests that how the set of decisions one faces for any given circumstance is limited by the decisions one has made in the past even

[36] Svein Ulset, 1996, "R&D outsourcing and contractual governance: An empirical study of commercial R&D projects," Journal of Economic Behavior & Organization, Vol. 30 (1996) 63 – 82.

though the past circumstances may no longer be relevant.[37] Any governance structures can not exist without historical social environment, following the path in the past, the governance structures may enter into a benign circle or following the wrong path which may leads the governance structure to an ineffective circumstance, even lock in such circumstance and can not jump out of the vicious circle. It is ubiquitous in economic phenomenon such as outsourcing and mergers & acquisitions.

First, outsourcing means that the reorganize of power and responsibility in a firm which requires the changes and reforms in an organization, especially large organizations. That results in the problem of organizational inertia. According to Porter's "five forces" he has developed five types of inertia in organizations and illustrated that the larger the organization is, the more difficult to change it[38]. A distorted perception of outsourcing with a dulled motivation may always resist outsourcing decision as the most important motivational dampers are: direct costs of change, cannibalization costs, and cross-subsidy comforts.[39] The changes brought by outsourcing may increases the potential risk of organizational failure, ineffective organize and sometimes involves the abandonment of costly sunk specific investments.

Second, "the sunk costs in a decision may generate from information asymmetry within an organization."[40] The managers in an organization who possess the information do not willing to share the information with other people, sometimes even distort the information which would favor outsourcing as it may threaten their own power base.

Third, the sunk cost comes from the individual psychology of the decision maker. The

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[37] Arrow, Kenneth J. (1963), 2nd ed. *Social Choice and Individual Values*. Yale University Press, New Haven, pp. 119-120
[38] Porter, M.E. (1991) "Towards a Dynamic Theory of Strategy", *Strategic Management Journal*, 12 (Winter Special Issue), pp. 95-117
[39] Briefing Memo, "The Five Frictions: The sources of organizational inertia," p.1
[40] Filip Roodhooft, Luk Warlop, 1999, "On the role of sunk costs and asset specificity in outsourcing decisions: a research note," Accounting, Organizations and Society 24 (1999), p. 365

managers who are responsible for the prior decisions making would be reluctant to make the outsourcing decisions. As it seems like a correct to the past decision or a compromise to the other members in the organization. The managers are always confident about their past decision or proud of their successful; therefore it is hard for them to denial themselves and cannot help to prevent the outsourcing decision. Thus leads to the unreasonable decisions making and sunk costs. The previous studies (Brockner, 1992; Chenhall & Morris, 1991; Staw, 1976) support this hypothesis and find that the decision makers are not immune to sunk cost on psychological aspect.

2. The complementarily of governance structures

The path dependence of governance structures is focused on the same governance structure analyzes its different performances; however, the complementarily of governance structures represents the relativity among various governance structures.

The institutional complementarily indicates the governance structures of an individual transaction complements the other transactions or activities' governance structures and altogether coheres with the whole governance structure in the firm at the same time section. These individual transactions in the governance structures influence and embed each other, any single structural change may affect the whole capabilities pooling. Hence, any single governance structures can not be easily changed without influencing other governance structures.

Holmstrom and Milgrom (1994) point out that firm exists as a balanced incentive and indicate that "all three instruments (pay for performance, asset ownership, task design) are complementary, namely using one of the instruments more intensively increases the marginal benefit of using the others more intensively."[41] If we consider the firm as a hierarchical entity which switches input to output, the governance of input and the governance of output are complementary, thus we should think about the governance of output while we decide to outsourcing. Making such kinds of decision which is

[41] Daniel F. Spulber, 1999, "Market Microstructure- Intermediaries and the theory of the firm," Cambridge University Press, p. 296

related to the governance structure change in a firm may have great influence on how to govern the output, even to the whole capabilities pooling in a firm. As the upgrade of individual capability may requires the information complement and knowledge absorb, result in the all set of capabilities upgrade. However, different governance structures and capabilities corresponds to different adjust costs, namely different sunk costs, thus the complementarily of governance structures may postpone or withhold the outsourcing decisions.

3.2 Outsourcing Objects from a Core Competence Perspective

Asset specificity and sunk cost are two important dimensions from a strategic point of view, dimension of core competence aims at depicting a clear perception for outsourcing: which parts of activities is important to a firm and which parts are irrelative or useless to its core function that can be outsourced. Arnold (2000) uses the example of engine production and whether it is important to a car manufacturer to illustrate the core competences are varying according to the different strategic objects. "Micro Compact Car (MCC) does not build the engine for their smart car by themselves but has outsourced engineering and manufacturing totally to DaimlerChrysler."(Arnold, p.25) Generally speaking, "companies with specific strengths in the marketplace, such as data storage or the development of accounting applications, can be said to have a core competency in that area."(Whatls) It emphasizes the individuals who have the ability to perform a specific job. On the level of firm analysis, the core competence presents the firms which have the ability to develop additional products and gain its market share. Briefly, it is a company's basic business and area of greatest expertise.

According to porter's five forces model, he places the market, the competition, and the customer at the starting point of the strategy process, but Hamel and Prahalad (1990) hold the opposite point of view and state that in the long run, competitiveness generates from an ability to build a core competence, at lower cost and more speedily than competitors[42]. Moreover, they develop three tests to judge a core competence: (Gary Hamel and C. K. Prahalad)

1. Provides potential access to a wide variety of markets.
2. Makes a significant contribution to the benefits of the product as perceived by the customer.
3. A core competence should be difficult for competitors to imitate.[43]

Combining the views from Homp (1997) and Hamel (1994), I develop two elements to distinguish a core competence:

First, the firm's businesses or activities must be unique in the eyes of the customers. It means that a competitive advantage, resources and know-how for the products. If firms can not distinguish themselves with other competitors in the market, they must make great influence on customers and make sure that the customers would like to choose their products at the first time; the best way that they can make profits is drop price. Just like IKEA, its unique value is modular design and innovation. It is focused on its core competences, and continually worked to build and reinforce them. It always sells goods with high quality at lower price than other manufacturers in the market and its products built up more and more of a market lead.

Second, the core competence should have the potential to develop and reinforce. It means that competitive advantages can be put into several uses for multiple purposes, thus the costs of R&D and management can gain the optimal rewards. Meanwhile, it also emphasizes the potential to open other big markets in order to remain sustainable growth.

The activities which possess the characters above should not be outsourced and must be treated as the core competences in the firm. And we can easily hypothesis that the more important of the activities, more likely it will be kept in house. Thus the third

[42] Hamel and Prahalad, 1990, "The core competence of the corporation,"
[43] Gary Hamel and C. K. Prahalad, 1994, "Competing for the Future," Harvard Business School."

hypothesis is

H3: activities with less importance increase the likelihood of outsourcing

In fact, some famous companies in the world have already focused on their core competencies. Such as Dell Computers, It is a computer company but not physically manufacture computers. Its core competency is Supply chain management and Dell focuses on its core competency and acts as an integrator and managers of the computer manufacturing process. It forms a network between the various components suppliers and uses the information technologies to coordinate actions between manufactures so as to deliver computers to its customers.[44] Other companies not only focus on their core competencies but also outsource their non-core activities or functions to outside suppliers. For example, NIKE, the biggest sports shoes manufacturer in the world, never produces a complete pair of shoes by itself. It assembles all the human resources, material resources, and financial resources together and concentrates to its two major functions: product design and marketing in order to strengthen its core competencies. On the other hand, its production function has been outsourced to the countries with lower cost labors such as China and Indonesia. The Boeing Company, the world's famous aerospace and defense corporation, also the largest global aircraft manufacturer. But only produce cabin and wingtip by themselves and focus on the innovation and upgrading their technologies, transfer the components and parts to the lower labor cost countries.

3.3 Other Drives for Outsourcing

The three dimensions above separately from transaction cost perspective and core competency perspective to represent the drives for outsourcing. However, the drives for outsourcing various with firms' objects, even time and market environment changing. A brief review of outsourcing drives will give us a clear notion. (Fig. 3-2)

The most common reasons for firm's outsourcing decision extract from this table: cost

[44] Power, Desouza & Bonifazi, 2006, "The outsourcing handbook: how to implement a successful outsourcing process," p. 42

reduction is identified as the most important drives for outsourcing. If there is a external source that the firm can use at a lower cost than produce it in house, it is a good choice for firms to outsourcing and achieve economies of scale of that products by a more professional supplier.[45]Hence in my model, the assets specificity is the first dimension refers to the cost reduction reason.

Category	**Content**
Organizationally driven	Improves effectiveness through focusing on core Increase flexibility Focuses on strategy Reorganizes the company Maintains “legacy” function
Improvement driven	Improves operating performance Acquires new skills/knowledge Acquires better management Acquires new ideas Improves ratio
Financially driven	Avoids investments Frees resources Generate cash by transferring assets
Revenue driven	Gains access to new markets and business Opportunities Accelerates and assists expansion Assists overflow situations Enhances credibility and image
Cost driven	Reduces costs through supplier’s performance and cost structure Turns fixed costs into variable costs

Figure 3-2 Drives for outsourcing

Source: Enarsson, 2006

The reason of focus on the core competency can be strengthened by outsourcing activities, while the non-core activities in a firm can be transferred to a more professional expertise outside. On one hand, the firm can allocate more of the resources form the non-core activities to the core activities[46]; on the other hand, the

[45] Heikkila J, Cordon C, 2002, Outsourcing: a core or non-core strategic managenment decision? Strategic Change.
[46] Gilley, Rasheed,2000, “ Making more by doing less: An analysis of putsourcing and its effects on firm performance,” Journal of Management, Vol. 26

firm can gain access to technology and performance that are world leading(Gilley, Rasheed, 2000) and update it in time which also resolve the problem of R&D costs on the supporting facilities. Thus I introduce the core competency as the second dimension of my model.

The dimension of sunk cost is generated from the transaction cost view point. While the people always pay attention to the three dimensions of transaction: assets specificity, uncertainty of exchange and frequency. The analysis refers to the transaction cost and firm behaviors are explained from these three dimensions and overlook the influence of sunk costs. To some extent, the human behaviors are influenced more by psychological reason. Hence, a part of sunk costs can be concluded to human uncertainty. The rest explanations of sunk costs can be summarized to North's institutional economics. According to these theories, sunk costs may be difficult to calculate in absolute value or find indicators to substitute, but it really exists and relevant to the human behaviors while they are making the decisions. Therefore, integrating sunk costs reason to the outsourcing decision model is necessary and considerable.

3.4 The Decision Models

3.4.1 Previous models

Arnold integrates transaction cost economics with the core competence approach to develop an outsourcing decision model. Through three questions: Is the activities highly specific; is the activity strategically important; is the activity a core competency, a central part of competitive advantage? [47]He may get an optimal outsourcing design. The model Arnold introduced is not only par attention to the shot-term influence of transaction cost economics (cost-based approach) but also add a long-term perspective by "strategic importance" as a quality of transaction.

[47] Ulli Arnold, 2000, "New Dimensions of Outsourcing: A Combination of Transaction Cost Economics and the Core Competencies Concept," European Journal of Purchasing & Supply, Management, p. 27

Although it just includes two dimensions and comparatively simple to the other models, its recommendations for the outsourcing decision are clear and compatible. (See Figure 3-2)

Dornier et al uses a matrix to categorize the functions in a firm and try to find out which functions are strategic important. (Figure 3-3)

High

NOVELTY (outsource/ in-house) Technology Quality Service	PROPRIETARY (in-house) Technology Quality
COMMODITY (outsource) Price	UTILITY (outsource) Cooperation Service

Low High

Figure 3-3 Strategic importance and critical value

Source: Dornier et al, 1998

Its strategic importance is distinguished from two aspects: the vertical axis of this portfolio shows the strategic value of the part in isolation from high level to low level; the horizontal axis shows the critical value of the part in final assembly from high level to low level. This model just gives a general idea about which sourcing strategy is appropriate to the firm. It focuses on the product’s life cycle, as the time goes by, new product moves from the proprietary quadrant to the utility quadrant because of changes in technology; product in novelty quadrant moves to commodity quadrant because of price decrease and quality change. The model is good for evaluate the strategic importance and comparative advantages but it still overlook some important aspects such as assets specificity, market environment and risk evaluation.

Considered the three factors above, Lonsdale develops a risk management model for outsourcing in 1999. (Figure 3-4)[48] The model is generally used to take managers through the need to retain those resources responsible for competitive advantage, the need to avoid monopolistic or oligopolistic supply markets and the need to manage the risk of post-contractual dependency. It takes into account the aspects of assets specificity and through its evaluation to asses the risk of dependency, and also considers a comparative supply market as a big background. Therefore, Core competencies or comparative advantages are his first consideration, market environment evaluation is the next factor, and finally the activities can be decided by assets specificity.

Is the activity, resources or capacity responsible for competitive advantage?

YES

Keep in-house and develop

NO

Consider for outsourcing

Is there a comparative supply market?

NO

Consider carefully the balance between the potential benefits and the risk of outsourcing from this type of market. Only outsource if an in-house solution is impractical

YES

outsourcing

To what extent is the activity, resource or capability asset-specific?

High

Keep in-house

Medium

Outsource and develop a bilateral contract or short-term contracts

Low

Figure 3-4 Risk management model for outsourcing

Source: Lonsdale, 1999

[48] Lonsdale C, 1999, “Effectively managing vertical supply relationships: a risk management model for outsourcing,” Supply Chain Management: An International Journal, Vol. 4

3.4.2 The integrated model

Neither in Dornier's model nor in Lonsdale's model have they included the factor of sunk cost. But as I mentioned above, under some certain situation, sunk costs may have great influences on most outsourcing decisions, even play a decision role in real life and managers may sensitive to it and appear abnormal under engage in outsourcing. So introducing the analysis of sunk cost, integrated with other two dimensions: assets specificity and core competency is essential to our outsourcing decisions in real life. (Figure 3-5, Figure 3-6)

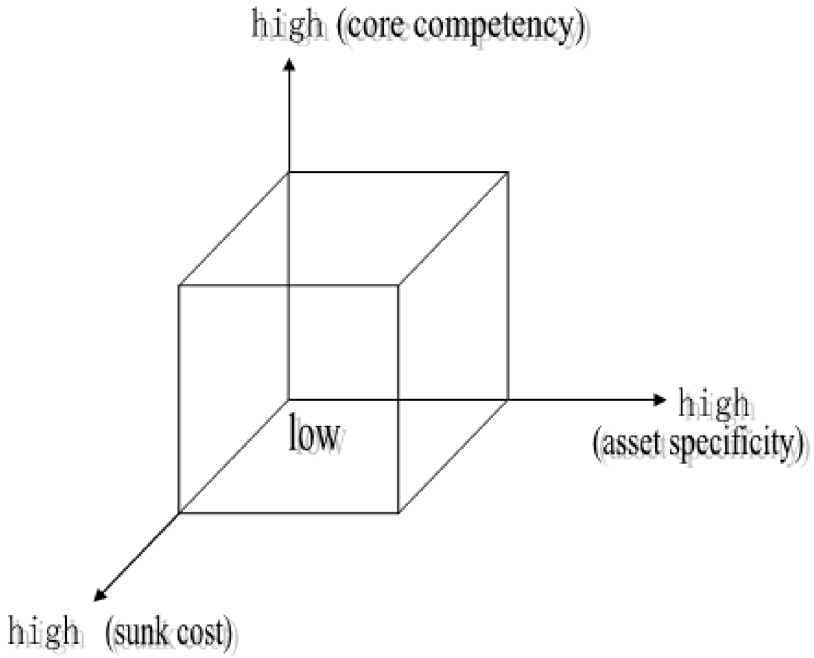

Figure 3-5 a general decision model for outsourcing

According to the figure above, we can divide the object into several situations and decide which object can be outsourced and which should produce in-house.

1. Objects with low asset specificity and low sunk cost effects.

Such kind of objects always represents the standardized goods, service and activities that need little information to be exchanged between buyer and seller. So the possibility for information asymmetry between both parties is comparatively lower than other situation. Low sunk cost effects delegates several cases: It may be easy for the firm to communicate with the outside suppliers as the managers in the firm have the willing to share the information with the other people or the managers agree with the outsourcing decision as they may get considerable return from the outsourcing in the future. The second situation is the firm is fresh to the market. As the history for the firm is not so longer enough for the firm to form the business culture or the group of people who make the decisions can not depend on the previous experiences, thus these people may approve of the outsourcing decision. Take the third dimension—core competence into account, even if the object has a high core competency, it still worth to outsource to the outside suppliers. Because a great number of suppliers existing in the market that can form effective competition and minimize the opportunism, thus the firm does not need to worry about being limited by the supplier. Therefore it is better for a firm to outsource the objects to the outside suppliers. It's not recommended to use the market mechanism to govern the object, it is appropriate to establish a long-term contract with the suppliers. On one hand, reducing the costs of negotiations and seeking for partners; on the other hand, it decreases the risk of exposing the core competitive activities in the market.

2. Objects with low assets specificity and high sunk costs effects

High sunk costs effects means that "the managers may have an incentive to with-hold or distort information that would favor outsourcing, thereby threatening their own power base within the organization."[49] Or the staff in the firm whose own interest may be influenced by the decision and represent uncertainty to the decision. So they may persuade the decision makers not to change the institutional arrangement in the organization and try to balance their current interest-base in the firm. Another situation is the managers will be reluctant to make a new decision as it may be considered as the correct to the former decisions. To some extent, it threatens the manager's self esteem. Finally, it also represents the impediments generated from the organization. As the firm has formed a mature business culture with a lot of successful

[49] F. Roodhooft, L. Warlop, 1999, " On the role of sunk costs and asset specificity in outsourcing decisions: a research note," Accounting, Organizations and Society, p. 365

managers. So a new decision is not easy to make at here as the firm prefer to follow the previous path and pick the same governance structure. Once a new decision such as outsourcing is be considered, it can be quickly denied by the big organizations which is confident with their capabilities and resources. Therefore, the objects can either be outsourced or produced in-house. It finally depends on whether it is a core competency. If it is a core competitive activity, the better choice is keeping it in-house because the more important it is, the higher sunk costs it will have. If it is a non-core activity, the effects of sunk cost may comparatively low, thus implementing outsourcing may be possible in such situation.

3. Objects with high assets specificity and low sunk costs effects

When a firm intends to make decision on the objects with such situation, they should carefully deal with the relationship between the outside suppliers. Once the suppliers have involved in the contract, the investments they made to support a particular transaction has a high value also the costs for these investments are relatively high than other investments as such transaction–specific assets are non-redeployable physical and human investments that are specialized and unique to a task (Williamson, 1975, 1985). As a result, the suppliers (the sellers) incline to be “tied in” in a two-way or multiple-way business relationship with the buyer. On the other hand, once the buyer holds up the seller, this relationship is bilateral (Joskow and klein, 1988) as the buyer is also locked-in this contract because the buyer gives up producing in-house and has exit cost associated with time and searching investment.[50]So the suppliers hold the specific assets. The buyer always needs to pay a higher price than the marginal cost because of bounded rationality and opportunists. Suppliers have the chance to increase the contract’s price as they own the specific assets. In this situation, the firm can take both own manufacturing and outsourcing into consideration. Whether to outsource or not depends on the nature of the objects. If the goods or service are core competence or highly relevant with core activities, it is

[50] Joskow, P. L. "Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence", Journal of Law, Economics and Organization (4), Spring 1988, pp. 95-117.

better for the firm to take hierarchical governance structure and produce the goods or service in-house. Through hiring the experts for specific activities to make sure the key technology can be kept in the firm. It also reduces the risk of management, opportunism and exchange uncertainty; on the other side strengthens the comparative advantages in the firm.

If the goods or service are non-core activities or have little strategic importance, the firm can conduct turnkey outsourcing (Van Weele, 2005) with the outside suppliers. Turnkey outsourcing is “when the responsibility for the execution of the entire function belongs to the external supplier. The work for the external supplier does not then just include carrying out the activities, but also of coordinating them.”[51] And it can be concluded to hybrid governance structure.

4. Objects with high assets specificity and high sunk cost effects

The objects own such characters and highly relevant with firm’s core competency that should be governed by hierarchy without doubt. Moreover, the firm needs to focus on this core competency, heavily invest in its core technology and strengthen its comparative advantage in order to take up more market share from its competitors. If such kind of objects belongs to the supporting activities or activities with general availability, outsourcing and producing in-house both are fine to the firm. But the high sunk costs generated from outsourcing decision will effect the final decision a lot. Meanwhile as the results of high assets specificity, it always forms barriers for firms to entry. So the firm has to search for the suppliers in the market, namely they have to outsource its goods or service to suppliers. For example, most of the personal computer manufacturers in the world need to buy CPU from Intel Corporation or AMD. Another condition influences the outsourcing decision is a high sunk costs effects. Hence partial outsourcing may be a good choice for this situation. “Partial outsourcing means that only some parts of the company are outsourced, and the co-ordination of these functions is still controlled by the outsourcer.”(Van Weele,

[51] Van Weele A, 2005, “Purchasing and Supply Chains,” John Wiley & Sons Inc, New York.

2005)

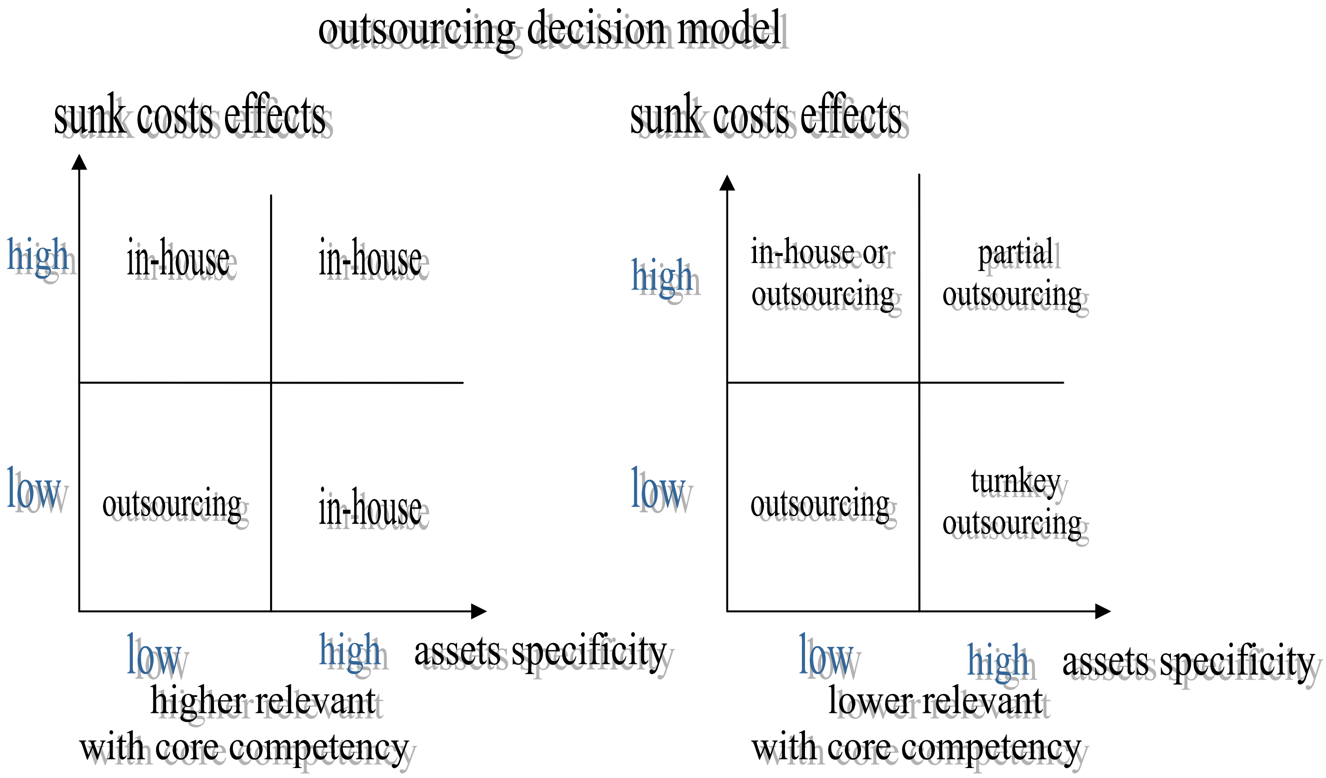

Figure 3-6 different situations for outsourcing decisions

4. Success in Outsourcing

4.1 The Example of China Development Bank

China development bank (CDB) is the largest policy bank and financial institution in China under the direct jurisdiction of the State Council. The bank provides financing for national projects such as infrastructure, basic industries, energy and transportation.[52] Its core concept is doing what you are good at (core competency) and outsourcing of the rest. The bank's operations includes loan operations, funding operations, treasury operations, investment & investment banking operations and financial cooperation with other supporting functions. Among which the credit operations, IT governance and development and other supporting functions have been outsourced to the other suppliers or financial institutions.

[52] China development bank

4.1.1 Increase the Core Competency

China Development Bank was established in 1994 with headquarter in Beijing and no branches. At that time, all the loan businesses were outsourced to the four major state owned commercial banks. While CDB started its branches in 1999, it took over parts of the loan business and ran the business by itself. But it still outsources a big proportion of loan business to the commercial banks.

On the other hand, Information Technology Outsourcing (ITO) has essentially supported the business development in CDB. According to J.P. Morgan's report about the electronic development in American commercial banking, it proposes a three-tier framework for bank's information technology, namely M1, which refers to the hardware of computer system, system software, software tools, network management facilities and other supporting facilities in bank; M2, refers to application software and man-machine interface; M3 includes business process reengineering (BPR), strategic planning, system integration (SI) and maintenance management of the present system. It is clear that the profits brought by M1 and M2 are lower than the profits made by M3. In order to focus on the core competency and strengthen the comparative advantages, CDB decide to outsource the M1 and M2 and concentrate its limited resources to the development of M3. The details of the outsourcing activities can be found in the following table (Figure 4-1)

Outsourcer	Supplier	Function
China Development Bank	China Telecom	The maintenance management of communication network infrastructures
	Hewlett Packard (China)	Computer services, antivirus service, server service, 7*24 hours engine room watching service, data monitor platform service for key system, software management of desktop and the construction of anti-junk email system.
	Digital China	The development and maintenance of the major operation system
	Global Data Solution Ltd	The construction and maintenance of

		disaster preparedness center (includes inter-city and intra-city)

Figure 4-1 outsourcing services in CDB

As the policy bank in China to funding large or medium people's livelihood projects, CDB's business partners are almost industries or famous corporations, the clients always require better IT services; moreover, CDB meets its rapid growth in business, the original technology is not compatible with the business growth. These two factors influence the daily operations in CDB and force it to consider about IT outsourcing. Another incentive for outsourcing is the bank creatively combines the business function with information technology function, finally generates an operation center. The establishment of operation center accelerates the IT outsourcing plan. Only two months later, Hewlett Packard (HP) China has become bank's largest strategic outsourcing partner.

CDB has obtained great benefits from its outsourcing with HP at its IT operation centre. It has been benefited a lot from its intensive outsourcing programme represent consistency with outsourcing decision model in my paper. And its outsourcing decision also can be explained by my model.

First, CDB has outsourced its IT operation centre which shows high assets specificity. It is the base for functions operation in CDB which includes the infrastructures of IT system and data management. From computer software, hardware to store, protect and securely retrieve information. As the amount of businesses increase, the management of IT centre become complicated, especially like CDB such kind of policy bank, its clients are always firms with big size or governance institute. And the projects CDB processed are huger than other commercial firms. Hence, CDB needs to handle more complicated IT problems compared to other firms. The more businesses involved in IT centre, the more difficult to manage the IT centre, thus higher requirements of the professionals in IT department. But China Development Bank's major objective as a state financial institution is to issue loans to support national projects such as infrastructure, basic industries, energy and transportations.[53]It is not reasonable to put much human resource and time in solving the IT problems or invest in system upgrading. As the information technology is changed so fast that the bank needs to invest a lot if it wants to catch up with the latest technology. Therefore, IT operation centre can be considered as an object with high asset specificity.

On the other hand, according to Arnold's outsourcing model and his classification of outsourcing activities, IT operation centre belongs to the third level- core distinct activities (supporting activities) (Arnold, 2000) So it is just a supporting function to CDB. It is necessary but not important related to the comparative advantages of bank, we can summarize it to non-core competency

The final dimension for decision model is the degree of sunk costs. Generally speaking, the big organizations like commercial banks always include huge organizational inertia. As the banks always have complicated governance structures with thousands of local branches, so the changes in organization are likely to increase the risk of organizational failure, disrupts operations, and involves a great deal of expensive effort. And the outsourcing decision is likely to be hold up in these financial institutions. But the situation is different in CDB from three aspects:

1. CDB only has 32 branches and four representative offices throughout the country because it does not take private savings, and hence does not have many branches as other banks in China. It is the only bank in China whose governor is a full minister and debts issued by it are fully guaranteed by the central government of China. Therefore although it is a big organization, its governance structure is not as complicated as other banks. On the other hand, its primary responsible is to support the macroeconomic policies and strategic structural changes in the economy, so it functions with a clear object. Moreover, the new governor Chen Yuan took over the bank in 1998, and rearranges the organizational system in the bank, a new decision

[53] China Development Bank

maker always brings new decisions to an organization. That’s first reason why the bank decides to outsourcing after the integration of departments with little sunk costs.

2. As one of the most important financial institutions is China, CDB meets significant expansion in business but the development in information technology falling behind; it only has 30 staff in IT function and lasts for a long time. The investment in IT function is always not the focus in CDB. Even though the IT function has been outsourced to other suppliers, the sunk costs generated from IT facilities and human resource are not so significant.

3. The collaboration with small IT firms before the cooperation with HP. CDB has tried to build relationship with a little IT firms before their contracts with HP. The IT services are outsourcing to these small firms who lack the experience of providing high quality service and always be complained by the clients. It indirectly influences clients’ opinions on CDB. Meanwhile, different firms have various methods to resolve IT problems, the quality of their employee, the way they handle the problem, the attitudes they face the clients can not be unified. So CDB has wasted plenty of time and resources on tackling the clients’ complaints and conciliating the differences between suppliers. The cooperation with HP covers such expansion as HP is famous for its high quality service and it is an expertise in IT function which could do better with less money. Therefore, the HP as a supplier for outsourcing, to some extent, offset the sunk costs of previous collaboration.

Three reasons above have explained why outsourcing to HP has low sunk costs effects. Summarize the three dimensions I illustrate at here, it is clear that why CDB choose “turnkey outsource” their IT operation centre to outside suppliers, especially to HP.

After the outsourcing of loan, IT and logistics, CDB has experienced tremendous growth in profits and efficiency. While focusing on its core competency, the bank had

RMB 1.5 trillion in loans outstanding as the end of 2004 and became the most profitable bank in China, and the second most profitable bank in Asia.

4.1.2 Strengthen the Planning of IT Outsourcing

CDB is not simply outsourcing all the non-core activities, it attaches great important to the programming of IT outsourcing instead. It insists on developing its own IT advantages, planning the feasible outsourcing strategies and taking risk management into account. According to the researches on previous outsourcing cases, CDB finds two major problems existed in IT outsourcing: 1, except these four major outsourcing suppliers in the table 4.1, there are still lots of outside suppliers service for CDB. It brings the problem of coordination as though all the suppliers service for CDB, the aims and methods are various and lack of coordination; 2, the instability of members in the outsourcing activities has influenced the quality of outsourcing service.

In order to solve these problems, CDB proposes to rearrange the outsourcing activities and pay attention to the risk management of outsourcing. First is to managing the risk of various suppliers. Choose the appropriate partners and establish long-term relationship with them which refers to the best way to improve the IT service quality.[54]Second point is managing the risk of over depending on the suppliers. Third is confirming the scale of outsourcing, namely make sure which activities can be outsourced and which can not be.

Hence CDB has taken several effective measures to handle these risks:

1. Replanning of IT outsourcing activities. The planning office is established to resolve the problem of coordination. Any new IT service programs should be checked by “planning office” through two aspects: Does it have an advanced technology applied to service; does its business can meet the requirements of CDB, namely contribute to bank’s IT construction.

[54] China Development Bank. www.cdb.com.cn

2. Establish an IT application development platform in order to introduce competition mechanism to the aspects of hardware, software and network. Thus to improve suppliers' service quality. As hardware, software and network are the IT services with low specificity, the competition mechanism would benefits both the service quality and costs aspect.

3. Establish an e-buy platform. The present desktop system, laptops and servers in CDB are not possessed by CDB but it hires the facilities from other manufactures and then provides the facilities to suppliers. The plans of establishing an e-buy platform could introduce more suppliers into the competition. On one hand, it can support better service for bank's business; on the other hand, the more competitions, and the better outsourcing management.[55]

4. Improve the outsourcing contracts; establish specific assessment indicators for suppliers in order to form incentive mechanism and restrict their behaviors.

CDB is the first bank in China's banking industry that has outsourced its IT services and gain huge success from its effective management and specific object. It has a strong international advisory panel which includes Henry Kissinger, the former secretary of state in America. The suggestions that they proposed to CDB is a firm should focus on its core competency. As a result, at the very beginning of development, CDB has made the decision of outsourcing its IT services. We all know that the IT system will be complex as the business increases, CDB should focus on its banking operations, not IT construction.

4.1.3 Clarify the Responsibilities between the Bank and Its Suppliers

Although the IT services can be outsourced to the professional companies, the responsibilities can not be outsourced. Thus, clarify the responsibilities between the

[55] Bank of China

bank itself and its suppliers and strengthen the administration of suppliers' services are essential to bank's outsourcing management.

The administration of its suppliers almost depends on the contracts with them and daily maintenance management. The manager in CDB points out that outsourcing IT functions are not transferring the entire function to the suppliers, but the co-ordination of these functions is still controlled by the bank[56]. To some extent, it includes the characters of "turnkey outsourcing" in my decision model.

4.1.4 Quantification of Outsourcing Risk

Since the August in 2003, as CDB has signed a contract with HP, their contract is renewed every year. But the payment of contract conducts every three months after the evaluation of services in that period. In other words, if the service is overdue without any pay in, to some extent, it means the ending of cooperation. Once there is something wrong with bank's information system, the supplier has no obligation for its maintenance. Of course, it is a rather low probability for this situation, no one in both parties would like to destroy the cooperation and trust relationship because of their own mistakes. But at the beginning of every outsourcing activity, it is a good way to quantize the risk by setting a time period for the contract.

Considering the outside factors, it is essential for an outsoucer to choose a big firm with a good future as its supplier. Hence, in order to performing the outsourcing services better, HP has sent several employees working in headquarter of CDB. In five-workdays at the beginning of every season, the suppliers have to submit their working plans for the next season. And in the end of every season, they also need to summarize their performance and submit the work report to the operation centre. Such kinds of rules help CDB to restrict both parties of contracts and quantize the risk of outsourcing in a formal way.

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[56] The Reports of IT Outsourcing in CDB, 2005

4.1.5 Quantification of Working Quality

CDB has a set of specific evaluation criterions to evaluate its suppliers. Generally speaking, it always conducts poll survey in the bank. If the supplier can not get the enough points after the survey, it will gain fewer bonuses than other suppliers. According to the evaluation criterions, the bank will assesses the suppliers every season and announce the assessment results thus to improving suppliers' services quality on one hand, and giving references to the managers on the other hand.

Because of the perfect performance of HP in the first contract, CDB had signed a new contract with HP from 2006 to 2009.[57] According to the contract, HP will provides a completely long-term IT services for China Development Bank which includes onsite service, call-in centre service, equipment control and purchase, customer training, new technology consultation, outsourcing service management and facilities outsourcing service.

Through the cooperation with HP, outsourcing projects have delivered more than one benefit to CDB:

1. Costs reduction

The cooperation with HP is successful instead of bank's previous collaborations with small companies. At the beginning of outsourcing, CDB outsources its IT service to some small companies, as the companies are small with low employee qualifications and lack of experiences. CDB has to devote plenty of time and money on complaints handling. But the cooperation with HP has solved such matters. The service quality and efficiency both increase with a high speed, meanwhile CDB does not need to waste unnecessary time and resources on integrating the small companies. To some extent, it has more resources and time for managing activities and focuses on the core activities. On the other hand, the long term relationship with HP can reduce the costs of searching for the next partners and adapting to a new collaboration relationship.

[57] Wu Ming, 2006, "China Development Bank, the typical example of ITO in China," China Byte.

2. Service quality improvement

From January 2005 to December 2005, HP's onsite service team has solved the onsite problem for 16902 times, which includes system reinstalling 2280 times, problems with printer 3615 times, virus protection 1989 times, maintenance 997 times, other adjusting 776 times and other technological supports 7245 times, online guilds 4700 times. [58]The problems they are handling almost solved and no complaints received from clients. It not only proves HP has a high quality work team but also builds a nice image for CDB.

3. Access to new technologies

The cooperation with HP has greatly changed the infrastructure in CDB, such as the laptop for every manager in CDB is the latest type of HP. Meanwhile, HP has created a new way for CDB to perform the upgrading. Not only the IT hardware have been upgraded, outsourcing leads CDB to access specialized knowledge and make use of HP's experience. Being up-to-date in all areas in a bank is simply not possible and would be expensive. So the cooperation can reduce the costs of upgrading and gain new techniques and tools from its partners.

5. Conclusions

5.1 BPO Trend in China

CDB gains great successes by its outsourcing decision and sets a good example for firms in China to conduct strategic outsourcing. But it is just a successful example in ITO. As I said before, ITO is lying in the basic level of outsourcing; BPO refers to a more advanced level of outsourcing trend. According to Gartner Vendor Relation's report on BPO in Asia Pacific, Asia Pacific Market grows the fastest around the

[58] Wu ming, 2006, "China Development Bank, the typical example of ITO in China," China Byte.

Global at 11.8% CAGR from $8 billion to $14 billion from 2002 to 2007. In which HR Services are the most outsourced and aggregation of HR outsourcing accelerates. Then Finance and Accounting Services follows but remains moderate.[59]Other aspects of BPO such as procurement, sales, customer care and marketing also shows an adoption trend. The overall BPO adoption rate in Asia Pacific is 40% but China & South Korea show lowest adoption. China is more like a global manufacturing factory than an outsourcing adoption country. As we can conclude the advantages of outsourcing from my outsourcing decision model: focus on core competence, better predictability and control over costs, improve service level and benefit from external technology and expertise. China plays a role more like an outsourcing services provider than an outsourcing services buyer. The reasons for China to be the outsourcing services provider are as follows:

1. Following China's entry into WTO, the central government in China has gradually reduced the restrictions on international trades. China is gradually become the largest and latest potential market in the world. Its stable economic environment and policy incentives attract foreign investors to make long term investment at here. On one hand, to meet the local market demand; on the other hand, ensuring the manufacturing factories function in a stable economic environment with a rapid growth in economy.

2. China owns plenty of high quality human resource but its labor costs are much lower than other countries such as India and Mexico. Every year, more than three million students graduated from Chinese university, even over six million new graduates in 2009, but the employment rate is lower than 35%[60]. The oversupply of graduates leads to the lower requirement of their salaries.

3. China's government inclines to unveil more incentive foreign investment policies and offer favorable services and infrastructure to attract foreign investors. Some

[59] Gartner Vendor Relation, 2007, "BPO in Asia Pacific: An Emerging Opportunity."
[60] News, 2009, Xinhua Nets.

famous world manufacturing sites such as the Pearl River Delta and the Bohai Sea Belt of China have generated an aggregation effect and benefited the foreign investors a lot. Hence, some of the foreign investors are planning to enlarge their investments and sourcing in China.

Three reasons above mostly influence China as a supplier country, and there are also other reasons why China shows lowest BPO adoption trend than other countries in Asia Pacific:

1. Chinese culture factor. In China running business, western investors always feel themselves like fishes out of water. As western culture value team work but Chinese refuse to cooperation even the people in the same firm or same group. They are very reluctant about sharing their own information with other people and consider the sharing as a loss to them unless they can gain some benefits from team work. Therefore, outsourcing the activities to the outside suppliers can be seen as privacy information in the firm leak out to other firms. Concerning about security and privacy factors, the firm will hesitate to outsourcing.

2. Costs Factor. Outsourcing in China has just taken off for several years, its market is immature and legal system is being improved. Meanwhile, “logistics service is still not a well-defined industry in China: different components of logistics services are under the jurisdiction of several different governmental departments.” (Enarsson, P. 45) So most firms worry about costs going up substantially due to their outsourcing decision. In western countries, business is business and a personal relationship is just a personal relationship. But things different in China that business and personal relationship can be combined in most Chinese people’s eyes. So the costs of BPO may involve additional costs of handling the relationship with governors in various governmental departments.

3. Not familiar with outsourcing. Outsourcing, especially BPO involves various departments in a firm such as HR, F&A, transaction processing, and administrative

service. The complicated procedure in BPO and lack of appropriate service providers in the market lead to firms can not get familiar with BPO in a short time. Hence there is little business advantages so far as they can find from outsourcing.

4. In-house manufacturing and processing play an important role in China. China is often considered as an outsourcing services provider in global market because of its low labor cost and potential huge market. Thus in-house processes offer better competitive advantage at present. In-house processes also keep the power of control in a firm, so the managers in firms do not need to worry about control loss and their power-base influenced.

These four points contribute a lot to Chinese firms' refuse to outsource.

5.2 Suggestions

5.2.1 Suggestions to Chinese Government

Concerning the present situation in China's outsourcing industry, Chinese government should focus on how to strengthen the comparative advantages as an outsourcing supplier and accelerate Chinese firm to outsource on the other hand. First of all, it can issue new policies or give suggestions to local governments to encourage local firms involving into outsourcing activities. Set the successful outsourcing suppliers' cases as examples to strengthen firms' confidence in outsourcing. Meanwhile, create industrial values through the cooperation with global suppliers, in order to set examples in public. Then strengthening the education of outsourcing is another important point. People and firms not only need to know about what is outsourcing and what to be outsourced, but the questions of why to outsource is also needed to pay attention to.

5.2.2 Suggestions to Outsourcing Service Suppliers

Chinese outsourcing suppliers have paid much attention on manufacturing; their focus should transfer to innovation and value creation. That’s the most important point for a firm to survive in competitive market. On the other hand, as suppliers, most of China’s clients are in western countries and USA. The culture gap may influence the communication between the suppliers and their clients. Thus bridge the culture gap is necessary for Chinese suppliers; deeply know what do the clients need and build collaboration relationship with the clients can result in huge rewards.

5.2.3 Suggestions to Outsourcing Clients in China

At present, the outsourcing clients in China takes up a small proportion of Chinese firms. Most of the firms still follow traditional way to process and manufacture and do not take outsourcing into account. Advices for Chinese firms are follows:

1. According to the decision model in this thesis, the first thing that the firm should do is distinguish its core competencies from other activities. With a clear object on which kinds of activities can gain more comparative advantages to firm and which kinds of activities should be outsourced.

2. Comparing the costs of in-house produce with outsourcing. Taking transaction costs and sunk costs both into consideration. There are two kinds of firms: firm A chooses a supplier and build long-term relationship with this supplier as it offers high quality of service but also requires higher price than other suppliers in the market. So firm A needs to pay higher price for the outsourcing; firm B keeps on trying different suppliers existed in the market in order to find the most suitable supplier. So firm B may needs to pay much higher transaction costs than firm A and most of these transaction costs are sunk, but its finally supplier may requires much lower price than firm A’s supplier. Hence, while the firm decides to outsource its activities, it must decide whether to be firm A or firm B.

3. Decrease the sunk costs generated in a firm. First the firm should try to decrease the organizational inertia as many as they can from several aspects: a clear perception

of outsourcing and a sharp motivation the take changes in the organization. People always adhere to the previous experiences, so persuade of these people may important for avoiding sunk costs. Namely, it emphasizes the communication with the staff in your firm. Without the staff or managers' supports, the reforms in a firm are hard to implement. A quite nice communication environment can make the staff know better about what's problem of present firm and its potential benefits after the reforms, thus reduce staff's path dependence of governance structure. On the other hand, improve the information exchanges between different departments and different classes in a firm, thus to conciliate various opinions and finally decrease sunk costs.

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