

**Studies in Sociology of Science**

Vol. 3, No. 4, 2012, pp. 80-84

DOI:10.3968/j.sss.1923018420120304.ZR0286

ISSN 1923-0176 [Print]

ISSN 1923-0184 [Online]

www.cscanada.netwww.cscanada.org

Analysis of Cooperation in Undertaking Business Between Chinese Software Outsourcing Vendors

REN Jiajia^{[a],*}; ZHANG Yang^[a]; HU Xingqiu^[a]^[a] Business School, Hohai University, China.

* Corresponding author.

Supported by Humanities and Social Sciences Fund of the Ministry of Education (10YJC630085).

Received 6 June 2012; accepted 31 October 2012

Abstract

Chinese outsourcing vendors attach great importance on cooperation in undertaking business between each other now. Cooperation in undertaking business can help enterprises to obtain complementary resources or capabilities, in order to achieve breakthrough in expanding market. Combined with survey data, this article analyzes the causes of cooperation in undertaking business between outsourcing vendors, and current situation about the cooperation is discussed. On this basis, several suggestions are further put forward.

Key words: Software outsourcing; Outsourcing vendor; Cooperation; Undertaking business

REN Jiajia, ZHANG Yang, HU Xingqiu (2012). Analysis of Cooperation in Undertaking Business Between Chinese Software Outsourcing Vendors. *Studies in Sociology of Science*, 3(4), 80-84. Available from <http://www.cscanada.net/index.php/sss/article/view/j.sss.1923018420120304.ZR0286> DOI: <http://dx.doi.org/10.3968/j.sss.1923018420120304.ZR0286>

INTRODUCTION

International market structure of software outsourcing services determines that the majority of Chinese software enterprises are vendors. In previous undertaking activities, Chinese software outsourcing vendors usually took “go it alone” approach. That is to say, these vendors undertook business from clients individually. However, Chinese outsourcing vendors are mainly small and medium-sized enterprises, and are weak in strength. So the “go it

alone” approach is not conducive to expanding market for them. Now more and more vendors have come to realize this, and the phenomenon of cooperation in undertaking business emerges increasingly. This is distinctly different from the past practices of undertaking individually. It encourages two or more vendors to cooperate in undertaking business from clients and complete the tasks by clients jointly. Through cooperation, vendors can break the shackles of organizational boundaries and achieve sufficient flow of resources among each other, so as to further improve competitiveness when undertaking businesses from clients and provide excellent services for clients. This practice of cooperation is a win-win option for vendors. In this way, the shortcomings of a vendor can be avoided and the leverage of external resources can be given full play. Especially under current circumstances of rapid development of software outsourcing industry and concentration trend, Chinese software outsourcing vendors should pay more attention to this practice. Combined with survey data, this article aims to study the causes and current situation of cooperation, and put forward some suggestions.

1. CAUSES OF COOPERATION

1.1 Theoretical Causes

Theory of strategic alliances and business growth provides theoretical support for cooperation in undertaking business between vendors.

On one hand, since the 1990s, strategic alliance has gotten rapid development, which results in extensive and far-reaching impact. Many companies achieve complementarities of core competitiveness and win-win effect through strategic alliances. Theoretical discussions of strategic alliance are mainly based on following views. Firstly, it's the view of resources. This view believes that a company is a collection of all the resources it have. And strategic alliance can help companies integrate such

resources, which is caused by strategic resources needs and social resources opportunities. Secondly, it's the view of strategic choice. This view thinks that strategic alliance is built to increase competitiveness and market force. It should maximize capacities, improve efficiency and reduce all aspects of costs. Thirdly, it's the view of the organizational learning. This view holds that knowledge is silent and is difficult to be gotten through market transaction. Therefore companies wishing to innovate and develop new product must resort to network organization like strategic alliance, rather than their own efforts. Finally, it's the view of institution. This view requires companies to strive for legitimacy and follow the standards of the mainstream of society. Obviously, joining strategic alliance is a way to realize it. Core idea of strategic alliance is that two or more enterprises set up cooperation through some sort of formal or informal contract in order to achieve specific development goals, such as sharing of R&D risk, sharing of resources, to maintain market position, or to learn together^[1]. Cooperation in undertaking business between vendors can be seen as concrete manifestation of the strategic alliance thinking applied to software outsourcing vendors. Outsourcing vendors use cooperation to share resources in order to expand market.

On the other hand, according to business growth theory, business growth can be realized through accumulating internal resources, or external acquisitions, or establishment of cooperative relations between firms to form a network. Cooperation between outsourcing vendors put emphasis on vendors to enter into a collaboration to form a cooperative network in order to jointly undertake business. This kind of cooperation is the option taken by vendors to achieve own growth.

In addition, scholars Qu weiyi, Zhou haiwei and Jiang qian^[2] believe that vendors form alliances to share resources, complement capabilities and provide outsourcing services jointly. This not only can enhance undertaking competitiveness, but also is the quick way to solve the current problems faced by vendors. Wang xia and Sun shilei^[3] also believes that the problems currently facing Chinese outsourcing vendors determine that they must form alliances to enhance corporate capacity through mutual cooperation. Yang Changrong and Liu Zhe^[4] pointed out that Chinese software outsourcing vendors were mainly small and scattered in firm size; and facing this situation needs the building of strategic alliances between software outsourcing vendors. Shi Hongwei and Li Yin^[5] believed that in the context of international opportunity and global competition facing Chinese service outsourcing vendors, existing manner to undertake business could no longer meet market demand; establishing alliance between outsourcing vendors to jointly undertake international business became a prevailing trend.

1.2 Realistic Causes

From practical perspective, internal and external environment faced by Chinese outsourcing vendors are the realistic causes of cooperation.

Looking from the internal environment of vendors, a large number of Chinese outsourcing vendors are faced with size, talent and qualifications and other deficiencies. First of all, most vendors are still in the start-up phase, and are mainly small and medium-sized enterprises. The sizes of Chinese vendors are not comparable with their India counterparts. Secondly, the insufficient supply and irrational structure of talent is another issue faced by Chinese vendors^[6]. Software outsourcing industry is knowledge-intensive industry, and human resource condition decides whether the tasks of clients can be completed or not. Thirdly, the overall level of Chinese software outsourcing vendors in the qualification is still relatively low. CMM/CMMI qualification certification level of vendors is an important factor taken into consideration by clients when choosing vendors. Lastly, vendors own limited sources of orders and lack of market expanding capacity. On the whole, offshore outsourcing market especially European and American market urgently needs to be expanded. Chinese vendors have not yet formed a strong competitive edge on these markets. These deficiencies point out that Chinese software outsourcing vendors are still quite weak in their competences. Thus, Chinese software outsourcing vendors must find ways to improve their competence. A common way to improve competence for companies is to rely on the accumulation of internal resources and cultivation of internal capabilities. However, this approach often takes a long time and is also difficult to implement for most Chinese software outsourcing vendors. Under this circumstance, software outsourcing vendors pay more and more attention to utilize the force of cooperation; they are more inclined to form strategic alliances with other outsourcing vendors to share resources, so as to enhance their own abilities quickly.

Looking from the external environment of vendors, on one hand, domestic and foreign outsourcing business keeps growing. Chinese vendors should seize this good opportunity to undertake more and more large-scale businesses. On the other hand, with the increasingly fierce competition from domestic and foreign competitors, the rapidly changing pattern of outsourcing market, cooperation can help vendors cope with the trend of increasingly concentration and more our sourcing giants^[7].

1.3 Data Analysis of Causes

To further understand the cooperation in undertaking business between Chinese software outsourcing vendors, we did questionnaire research on vendors participating in The 4th China International Service Outsourcing Cooperation Conference, which was held in June of 2011, Nanjing, and valid data of 126 software outsourcing

vendors are being collected. The 4th China International Service Outsourcing Cooperation Conference is one of China's high-level international events in the field of service outsourcing. More than 700 service outsourcing enterprises from China, United States, Japan, Canada, Britain, France, the Netherlands, South Korea and several other countries and regions participated in this conference, including 116 overseas enterprises. Many world-renowned enterprises such as Accenture, Microsoft, and IBM were also in this event. This conference has the feature of large scale, high level and great impact, which ensures that the objects of this research have wide coverage and extensive representation.

As far as company type is concerned, the enterprises surveyed consist of state-owned enterprises, civilian-run enterprises, foreign-funded enterprises and other enterprises, their respective proportions are 11.1%, 58.7%, 20.6% and 9.5%, showing that China's software outsourcing enterprises are mainly civilian-run enterprises. As for enterprise size, different levels of size are all involved, but enterprise with less than 100 staff members has the highest proportion of 42.9%.

Based on related theory and practice, we put forward six possible causes of cooperation in the survey questionnaire. These causes are as follows, "share resources and market information"; "share market development risk"; "save costs"; "avoid vicious competition within the industry"; "achieve complementary abilities of market expansion"; "realize rapid response to market demand". Each cause is given score from 1 to 5 in the way of Likert five point scales, 5 means most agree, 1 means least agree, and the like. According to statistics, the recognition sequence of above six causes is "achieve complementary abilities of market expansion"; "share market development risk"; "realize rapid response to market demand"; "share resources and market information"; "save costs"; "avoid vicious competition within the industry", with mean value of 3.92, 3.90, 3.88, 3.86, 3.71, 3.69. As can be seen, the six causes in questionnaire receive high recognition, and the most important cause of cooperation for vendors is to complement each other on capabilities in order to explore market. Sharing risks, information and saving costs are also important causes. This result is consistent with theoretical research and practical situation.

2. CURRENT SITUATION OF COOPERATION

2.1 Overview

At present, this practice of cooperation can be seen in many areas of China. For example, in 2006, Chengdu established "Chengdu Software Outsourcing Enterprises Alliance", the alliance aims to fully integrate the resources of local enterprises and help Chengdu receive

more outsourcing orders from overseas and domestic markets through mutual cooperation. Other examples are twelve software enterprises in Nanjing took initiatives to establish "Nanjing Software Export Alliance" in 2003; Chongqing formed "Software Export Alliance" in 2004; Xi'an established software outsourcing industry alliance in 2008. A common role of these alliances is to promote cooperation in undertaking business between vendors, so as to enhance undertaking competitiveness.

The statistical results of the survey data show that the number of vendors once entered cooperative relationship with other vendors to undertake business reach 100; the ratio is about 79.4%. Obviously, cooperation in undertaking business with other vendors has increasingly become an option for Chinese vendors when expanding market.

2.2 Relationship Between Cooperative Vendors

In the process of cooperation, relationship between cooperative vendors is of great importance. Relationship quality conditions are directly related to the issue of whether cooperative target can be reached or not^{[8][9]}. Thus this research is particularly concerned about the relationship condition between cooperative vendors.

In reference to the views of several scholars^{[10][11]}, we design eleven indicators to measure the state of relationships between cooperative vendors, mainly from three aspects of trust, commitment and communication. Measurement indicators of trust include "we have a good relationship of trust with partners"; "we believe that partners will comply with the cooperation agreement"; "we believe that partners will fulfill cooperation responsibility"; "we believe that the decisions made by partners are favorable for long-term cooperation". Measurement indicators of commitment include "all parties try their best to put into required skills and human resources"; "we will not change partners in the short term"; "we are willing to do things conducive to cooperation partners"; "we are willing to sacrifice temporary interests to complete a common goal". Measurement indicators of communication include "we have regular communication with partners"; "all parties are willing to disclose important information such as plans, goals"; "we share market information with partners". Each indicator is also given score from 1 to 5 in the way of Likert five point scales.

Firstly, analysis of reliability and validity of the scale are performed. Result shows that Cronbach's Alpha coefficient is 0.885, which means the scale has good reliability. Besides, the scale is designed on the basis of previous studies and revised for several times, so the scale should have good content validity. What's more, the result of KMO test is 0.881, and Bartlett's test proves to be significant, these mean that factor analysis is suitable here. Then factor analysis is performed and two factors are concluded, with the cumulative proportion of variance

explained being 62.960% and factor loadings of the indicators beyond the minimum level of 0.5, therefore good construct validity is ensured.

As can be seen from statistical results, the relationship condition between cooperative vendors are quite good, these vendors enjoy good performance on trust, commitment and communication. Mean values of all indicators are above 3.8, and six indicators reach 4 or above. These six indicators are “we have a good relationship of trust with partners” (4.09); “we believe that partners will comply with the cooperation agreement” (4.08); “we believe that partners will fulfill cooperation responsibility (4.06)”; “all parties try their best to put into required skills and human resources” (4.04); “we are willing to do things conducive to cooperation partners” (4.04); “we have regular communication with partners” (4.00). In the eleven indicators, several has relatively low mean values, such as “we are willing to sacrifice temporary interests to complete a common goal” (3.83); “all parties are willing to disclose important information such as plans, goals” (3.86); “we share market information with partners” (3.86). This shows that vendors should adhere to long-term orientation and never destruct cooperation for temporary benefits. Besides, cooperative vendors should also focus on strengthening communication on important information, especially market related information.

3. SEVERAL SUGGESTIONS ABOUT COOPERATION

To further promote the practice of cooperation among vendors, and make sure its success, here are several suggestions for Chinese outsourcing vendors, as well as advices for governments and industrial associations.

3.1 Actively Change Ideas and Turn Competition into Cooperation

Although more and more vendors recognize this practice of cooperation in undertaking business, there are still some vendors would rather adhere to traditional mode of undertaking business individually. Under this new situation, Chinese software outsourcing vendors must change their traditional concepts and establish the idea of mutual cooperation. Vendors must realize that cooperation is helpful to seize external opportunities for development and meet the challenges of external environment. Moreover, the theoretical and practical analysis also proves that this kind of cooperation is feasible. Thus Chinese software outsourcing vendors need to accept this cooperation be fully aware of the potential pros and cons of cooperation, so that utilize it to achieve rapid growth.

3.2 Deal with Intellectual Property Protection

During the process of cooperation in undertaking business, vendors' confidential information and business

secrets may be leaked. And the attribution of intellectual property ownership may also become an important issue. These two intellectual property issues become important concerns for vendors when deciding whether to adopt the practice of cooperation. Some vendors surveyed also express this kind of concern. To reduce and eliminate such fears and concerns, the software outsourcing vendors should first improve their awareness of intellectual property protection; then establish a variety of comprehensive and effective protection system. Software outsourcing vendors must determine what information is kept confidential and inform the employees that have access to the information of their confidentiality obligations, sign confidentiality agreement with them. At the same time, unrelated staff should be forbidden to get access to the information. When necessary, vendors could ask staff concerned to sign non-competing contracts. In this way, vendors could protect their business secrets from being lost. Moreover, outsourcing vendors could give trainings to staff especially management staff in order to enhance their awareness of intellectual property protection. In addition, outsourcing vendors could sign contract to strictly determine the attribution of ownership of intellectual property arise in the course of cooperation^[13].

3.3 Focus on Relationship Maintenance After Cooperation and Improve the State of Relation

As the practice of cooperation in undertaking business between software outsourcing vendors become more and more prevalent, the issue of relationship between cooperative vendors become increasingly prominent^[14]^[15]. Relationship situation is a key factor determines the success of cooperation^[16]. First, all parties in an cooperation should establish a unified cooperation objective that reflects the common interests of all parties to avoid any party take opportunistic behavior for its own interests. This is an important prerequisite for cooperation and also a key factor for maintaining cooperative relationship. Second, cooperative outsourcing vendors must actively fulfill their own responsibilities and consciously abide by the cooperation agreement. It's the only way to win the trust of partners. Third, all parties should adhere to long-term oriented cooperation and avoid any damage to cooperation for short-term interest. Last but not least, all parties must keep open communication between each other; enhance mutual understandings so as to take actions that benefit all parties. Special attention needed to be paid to sharing of planning, market and other important information. Once conflict or dispute occurs, outsourcing vendors still have to uphold the principle of open communication and actively resolve conflict, in order to ensure the continuous development of relationship toward the positive direction.

3.4 Governments Play a More Active Role and Put Forward Encouraging Measures

We can not deny that government plays a vital role in promoting the development of Chinese software outsourcing industry. Likewise, we should pay attention to the positive role of government in promoting cooperation between outsourcing vendors. First, government should give full play to its administrative capacity, and improve the position of industrial organizations to make them truly be the interaction bridges between government and vendors. Second, government should promote vendors to join hand in hand actively through tax breaks, financial subsidies and other ways. Third, government should give more aids to those vendors that explore market through multiple means such as enormous fund investment, active policy support and so on.

3.5 Industrial Associations Take the Role of Bridge and Spokesman

Industrial associations are social organizations formed by the software outsourcing vendors; they can not only act as bridges between government and vendors, but also the spokesman of the whole industry when expanding market. The success of Indian software outsourcing industry in European and American market largely depends on the support of its industrial association NASSCOM. The role of Industrial association must be fully realized to obtain breakthrough in expanding market. First, industrial association could help outsourcing vendors form efficient alliances to work together; it could also establish alliances and attract vendors to join them. Second, industrial association must take the role of spokesperson for vendors and increase publicity effects. Third, industrial association must help form management and control mechanisms for cooperation alliances after their establishment. Formation of alliances is only the first step; it's the efficient operation of alliances to benefit alliance partners that truly matters. Sound management and control mechanisms for cooperation alliances are vital to keep alliances operate smoothly.

REFERENCES

LI, Yuchao, & ZHANG, Lei (2006). Comment on the Research of Strategic Alliance. *Shandong Social Sciences*, (10), 154-155.

QU, Weiyi, ZHOU, Haiwei, & JIANG, Qian (2011). A New Competitive Mode of Chinese Outsourcing Company-Service Outsourcing Vendors' Alliance. *Asia-Pacific Economy*, (3), 106-108.

WANG, Xia, & SUN, Shilei (2011). Decision-Making Factors of Capacity-Based Software Outsourcing Alliance. *Statistics and Decisions*, (1), 185-188.

YANG, Changrong, & LIU, Zhe (2007). Building Enterprise Alliances and Promoting Software Outsourcing into Large-Scale. *Foreign Investment in China*, (3), 50-52.

SHI, Hongwei, & LI, Yin (2009). Shapley Value Model Based on Contribution Differences and Strategy of Outsourcing Vendors' Alliances. *Modern Economic Information*, (24), 335-337.

MA, Rong (2004). White Paper of China's Software Outsourcing. *Soft Engineer*, (Z1), 32-34.

QIU, Luyi (2011). Development Trends and Strategies of Offshore Outsourcing in the Post-Crisis Era. *Jiangsu Business Research*, (3), 136-138.

Alan Smith, Michael, Mitra, Sabyasachi, & Narasimhan, Sridhar (1998). Information Systems Outsourcing: A Study of Pre-Event Firm Characteristics. *Journal of Management Information Systems*, 15(2), 61-93.

Enlow, Sara, & Ertel, Danny (2006). Achieving Outsourcing Success: Effective Relationship Management. *Compensation & Benefits Review*, 38(3), 50-55.

Jae-Nam, Lee, & Young-Gul, Kim (1999). Effect of Partnership Quality on IS Outsourcing Success: Conceptual Framework and Empirical Validation. *Journal of Management Information Systems*, 15(4), 29-61.

Grover, Varun, Cheon, Myun Joong, & Teng, James T.C. (1996). The Effect of Service Quality and Partnership on the Outsourcing of Information Systems Functions. *Journal of Management Information Systems*, 12(4), 89-116.

Oza, Nilay V., Hall, Tracy, Rainer, Austen, & Grey, Susan (2006). Trust in Software Outsourcing Relationships: An Empirical Investigation of Indian Software Companies. *Information and Software Technology*, (48), 345-354.

YAO, Peiyan (2009). Intellectual Property Issues Facing Service Outsourcing Industry and Countermeasures. *Business Era*, (26), 37-38.

Daniel, Beimborn, Fabian, Friedrich, & Steran, Blumenberg (2009). The Role of Corporate Cultural Similarity for Outsourcing Relationship Quality and Outsourcing Success. *The 9th International Conference on Electronic Business* (pp. 600-609).

Ren, Steven Ji-Fan, Ngai, E.W.T., & Cho, Vincent (2010). Examining the Determinants of Outsourcing Partnership Quality in Chinese Small and Medium-sized Enterprises. *International Journal of Production Research*, 48(2), 453-475.

Chakrabarty, Subrata, Whitten, Dwayne, & Green, Ken (2008). Understanding Service Quality and Relationship Quality in IS Outsourcing: Client Orientation & Promotion, Project Management Effectiveness, and the Task Technology Structure Fit. *Journal of Computer Information Systems*, 48(2), 1-15.