

# Strategies for Offshore Outsourcing of Information Technology Work

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## ABSTRACT

*Off-shoring of IT work refers to the sourcing of IT work by U.S. based corporations from overseas countries. This phenomenon started in the late eighties and since then has grown in the breadth and depth of work sourced from overseas countries. Hitherto, the academic research in this area concentrated on one particular type of outsourcing that involves the utilization of outside organizations through contracts. Increasingly, U.S. companies are adopting different strategies in sourcing their IT work from overseas that are not purely based on arm length contracts. This paper analyzes the various offshore sourcing strategies that are being adopted by the U.S. based companies. Four basic types of these offshore outsourcing strategies are presented in this study. These strategies were developed based on the evidence from the research literature and also the field. Reason for the prevalence of these identified strategies was explained through various organizational theories.*

## INTRODUCTION

Overseas sourcing of IT work has become one of the major issues facing companies in the current economic scenario. Various benefits of overseas sourcing of IT work are emphasized in the literature. In the late 1980's companies adopted offshore outsourcing due to various compelling reasons. From then on overseas sourcing of IT work has matured. The current practices adopted by the U.S. corporations in their IT offshore sourcing indicate the existence of various forms of sourcing strategies. These strategies include complete outsourcing to an outside company to insourcing the work to their own overseas subsidiaries. Scholarly work in offshore sourcing work primarily addressed the issues related to offshore outsourcing and it is devoid of any work that addressed the different sourcing strategies. This paper fills this void by analyzing the various sourcing strategies adopted by companies through various theoretical perspectives. Moreover, the academic literature is bereft of works that analyze these outsourcing strategies in tandem with theoretical perspectives.

This paper is arranged in the following order; the first section discusses the general concept of offshoring of IT work and discusses the reasons why companies globally source their IT work. The second section classifies the various forms of offshore sourcing strategies prevalent in the industry. The third section, theoretically analyzes the various forms of IT sourcing strategies. The final section concludes this article with future research directions.

## **OFF-SHORING OF IT WORK**

Offshore sourcing of manufactured goods is prevalent for decades. Corporations in the United States of America started to source manufactured goods from Asia and Latin American countries due to cost and other considerations. The phenomenon of software sourcing from offshore locations is of relatively new. Over the period of a decade, this sourcing strategy has grown tremendously. As cited in Computerworld magazine, Meta group estimates the offshore sourcing of IT work is growing at 20% annually and it expected to reach US\$ 10 billion by 2005 (Vijayan, 2003). Moreover research by companies such as Gartner, Meta Group, Forrester, etc indicates that these figures are expected to grow in the coming years. There is definitely progression in the kinds of work being sourced overseas. Current industry practices show that variety of work right from applications development to technical support being sourced overseas.

This article primarily addresses the IT work sourced overseas by the U.S. based corporations to cater to their needs in the U.S. market. More over, this article does not consider the ventures established by U.S. companies to service the local markets of the respective countries.

### ***The Precursor: IT Outsourcing***

In the late 1980s companies in the United States began to concentrate on their core competencies. This started a move to outsource functions that weren't related to a company's main line of business. The Kodak Corporation set the trend by outsourcing its IT functions and many other companies followed suit in the subsequent years. Outsourcing business has grown manifolds and the present market is estimated to be around US\$ 500 billion (M. Lacity, 2002). Outsourcing phenomena has caught the interest of academicians too and the academic researchers have analyzed this phenomenon in various perspectives. As an offshoot of this IT outsourcing, companies in the late eighties started to experiment with offshore sourcing to varying extent. Research has also been done in the overseas outsourcing of IT work to a limited extent. There has been a great deal of interest in the trade publications on offshoring than in the academic publications.

This paper builds upon the prior works in the domestic and overseas sourcing literature to arrive at a typology of strategies that has been used in the overseas sourcing of IT work.

### ***Reasons for offshore sourcing***

The reasons attributed to the sourcing of IT work from overseas closely mirror the reasons earlier put forward for domestic outsourcing of IT work. Some of the reasons highlighted for offshore sourcing are:

(a) Diverse skill availability

One of the primary reasons for the overseas sourcing of IT work by US companies is the apparent shortage of trained manpower in the United States.

(b) Cost savings

IT work sourced overseas is considerably cheaper than the locally sourced work. This is primarily due to the salary differential between US workers and the corresponding salary paid to an overseas IT worker. This factor is increasingly becoming important due to the prolonged downturn in the economy.

### (c) Quality

Most of the SEI CMM certified companies are present outside the United States. This has served as a great advantage to the companies sourcing overseas as there won't be any compromise in the quality of the sourced work.

Apart from these benefits that accrue to the organization that has sourced its IT requirements, there claims that are more macro economic oriented. Some of the benefits that are claimed to accrue to the economy are: lowers inflation, increases productivity, and lowers interest rates(Harbert, 2004).

## **TYOLOGIES IN OFFSHORE SOURCING STRATEGIES**

Companies are adopting various strategies in sourcing IT work from overseas countries. In this paper we attempt to classify them based on the characteristics of the relationship that exist between the overseas partner and the U.S. based sourcing company. For this analysis we have used the strategies adopted by the American companies in sourcing IT work from India, which is a leader in providing IT outsourcing products and services.

Four distinct patterns of ownership / relationship can be seen in existence and the traditional contract based outsourcing relationship is just one of them. This paper classifies these patterns into the following typologies: a) Strategic alliances, b) Offshore insourcing, c) Offshore outsourcing, and d) Joint ventures. Research in the domestic outsourcing strategies has outlined similar strageies. For instance, Apte & Mason (1995) highlight four strategies: outsource, insource, strategic partnership, and separate profit center. In a similar vein, Roy & Aubert (2002) present four domestic outsourcing strategies: outsourcing, internal governance, partnership, and recuperation.

Choice of a strategy for outsourcing / insourcing can be explained by the model proposed by King and Malhotra (2000). Impacts of a particular outsourcing strategy can be classified into three categories:

- i) Short term operational impacts – Efficiencies, cost savings, productivity, and service levels
- ii) Mid term tactical benefits – Performance, control, and risk sharing
- iii) Long term strategic impacts – Core competencies, and learning competencies.

Figure 1 depicts the four typologies based on the kind of the impact it has on an organization. The typologies identified in this study combines operational and tactical benefits in one axis and

strategic benefits in the other axis. Companies can adopt a particular strategy based on the desired level of strategic, operational and tactical benefits expected from the sourcing strategy.

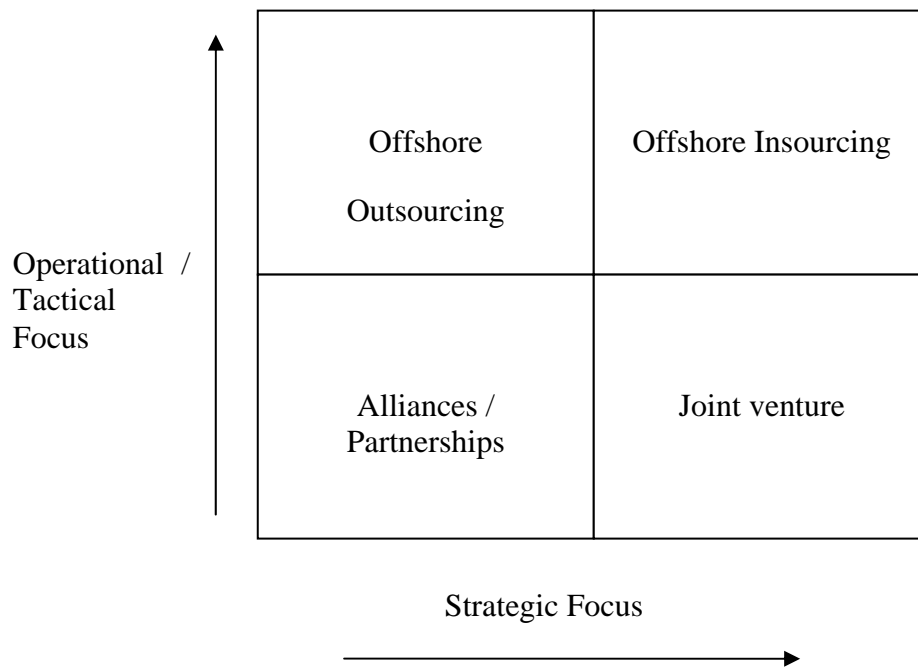


Fig. 1: Typologies in Offshoring of IT work (Adapted from Apte and Mason, 1995)

### **THEORETICAL UNDERPINNINGS FOR VARIOUS STRATEGIES**

These diverse sourcing strategies give rise to the question why, companies do have such diverse strategies. Various organizational theories can be used to explain the prevalence of these diverse strategies. Prior research on outsourcing has concentrated on applying various theoretical perspectives on a single sourcing strategy. For instance, Cheon, Grover, & Teng (1995) used resource based theory, resource dependence theory, transaction cost theory, and agency cost theory to explain the outsourcing phenomenon. Similarly, Hancox & Hackney (2000) used core competencies, transaction cost economics, agency theory, and partnerships perspectives for outsourcing.

There are no studies that directly related outsourcing strategy typologies to various theoretical perspectives. This paper argues that there exists many sourcing strategies and each one of the strategy has its own dominant theoretical paradigm. Based on extensive literature review, we arrived at the following theories to explain the various sourcing phenomena. Table 1 summarizes the theoretical perspective used in this study.

<b>Strategy</b>	<b>Theoretical perspective</b>
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Offshore outsourcing	Transaction cost theory
Joint ventures	Transaction value analysis
Offshore insourcing	Resource based view
Alliances	Social exchange theory

**Table 1: Outsourcing strategies and theoretical perspectives.**

Following sections elaborate these strategies through some illustrative ventures. Companies highlighted in the subsequent paragraphs are not exhaustive and there are very many companies practicing a given strategy.

### ***Offshore Outsourcing***

This is the earliest form of offshore sourcing strategy and it had its beginning in the late eighties and early nineties. U.S. based corporations experimented overseas IT sourcing through limited outsourcing contracts. This kind of sourcing strategy lies in the second stage of “Sourcing of IT work Offshore“ (SITO) stage model proposed by Carmel & Agarwal (2002). Companies at this stage are experimenting with offshore sourcing IT work. Contracts are structured for each IT project and a suitable vendor is selected from the pool of all potential vendors. These type of contracts are termed as fee-for-service contracts and they are well suited for applications that are well defined and the technology is mature (M. C. Lacity & Willcocks, 1998). Benefits of this type of sourcing strategy are very similar to that of domestic outsourcing.

Companies such as GE, Verizon, and Nortel Networks have contracted out their IT development work to overseas companies. In these kinds of relationships, strategic benefits will be minimal with operational and tactical benefits to be maximal. Primarily organizations are interested in reducing the cost on a short term basis.

### *Theoretical Perspective:*

Transaction cost theory is quite suitable in explaining this offshore outsourcing strategy. In the past transaction cost theory has been extensively used in the studies related to IS outsourcing (Ang & Straub, 1998; Cheon et al., 1995; Wang, 2002). Transaction cost theory is an economic theory and it is primarily oriented in reducing the transaction costs.

### *Transaction Cost Theory:*

Transaction cost theory was proposed by Coase and developed by Williamson(Williamson, 1979). Any contractual transaction involves certain characteristics: asset specific investments, frequency of transactions, and uncertainty. Opportunistic behavior by the parties engaged in the transaction could be there based on the above mentioned transaction characteristics. Organizations try to minimize transaction cost by devising contracts. When the uncertainty is high or asset specific investment is high then writing and monitoring contracts will be high and in that case outsourcing is highly inefficient(Gottschalk & Solli-Saether, 2005).

The offshore outsourcing strategy relies on contracts for IT services. Some examples of such sourcing strategy could be: software application development, support, and maintenance. Here the enforceable contracts can be devised and a fixed / variable fee can be charged based on the project requirements. For this strategy, the requirements for the project should be clearly definable and uncertainty in meeting the requirements by the contractors is low. Organization that follows this strategy can reap the benefit associated with cost savings.

### ***Alliances / Partnerships***

This arrangement shows the progression in the sourcing strategy. Local companies in the overseas market establish dedicated development centers for the foreign companies and enter into alliances with the U.S. based companies. These dedicated development centers cater to the needs of the overseas partner. These centers will be owned and operated by the local partner and the work will be assigned by the U.S. partner.

Many US corporations such as GE, HP, Otis, etc have formed these kinds of partnerships with overseas companies. *CIO* magazine notes that the establishment of such a dedicated offshore development center is the hottest trend in offshoring of IT work (Overby, 2003). In these kinds of relationships, both tactical as well as the operational benefits will be low. There would not be appreciable strategic benefits too. Parties engaged in an alliance can renege easily.

### ***Theoretical Perspective:***

Social exchange theory can be used to explain this phenomenon. In the past, social exchange theory has been used to study alliance formation (Das & Teng, 2002). In the area of IT outsourcing also this theory has been used in the past (Gottschalk & Solli-Saether, 2005).

### ***Social Exchange Theory:***

Social exchange theory was initially used to explain interpersonal exchanges wherein scarcity of resources makes individuals to engage in relationship with each other. Unlike economic exchanges where the objectives involve economic aspects, social exchange may or may not involve extrinsic economic benefits and the benefits are not contracted explicitly (Das & Teng, 2002). Because of this, exchange partners are uncertain about their receipt of benefits. Though social exchange theory has its origin in the individual level exchanges, it has also been used at organizational as well as inter-organizational level exchanges also (Das & Teng, 2002).

Social exchanges are of two types: restricted or generalized. Restricted exchanges occur between two partners whereas the generalized exchanges take place between multiple partners (Ekeh, 1974). Social exchange transactions are characterized by uncertainty, trust and high degree of support and solidarity (Das & Teng, 2002). A lot of uncertainty exists in the formation and the persistence of alliances. Since the contracts are incomplete in the case of alliances mutual trust is needed.

In the context of IT outsourcing decisions, companies that follow this alliance strategy need to invest in the relationship in order for the alliance to succeed. When an Indian partner company invests capital in forming a dedicated development center for its overseas partner, there should be

trusting environment between the partners. Unlike joint ventures, where partners share the risk, here there is no obligation for both the parties to share the resultant risk. In alliances, companies see the need for to depend on each other but they don't see the need for engaging in higher levels of partnership as in the case with joint ventures.

### ***Joint Ventures***

Joint ventures are established by the U.S. based companies with overseas partners. These joint venture companies cater to the captive requirement of the U.S. based partner as well as others. In this kind of venture, resources such as infrastructure and people are owned by the joint venture company (M. Lacity, 2002). Joint ventures are in vogue for quite a while. Joint venture is quite similar to the alliances strategy and the primary difference arises in the ownership of the venture. In the joint venture setup, the ownership of the operation is shared by the two companies and this is true with regard to risk sharing also.

Companies such as AIG, Computer Associates, etc., have formed joint venture with Indian companies. Overseas partners bring in their unique capabilities and share part of the risk involved in the venture. In these kinds of relationships, there exists an increased level strategic benefit. Tactical benefit is some what low.

#### *Theoretical Perspective:*

Phenomenon of forming joint ventures can be better explained by the application of transaction value analysis framework. Transaction value analysis was formulated by Zajac and Olsen to address some of the limitations of transaction cost theory (Zajac & Olsen, 1993). According to them, transaction cost theories major limitations were the emphasis on single-party cost minimization and the over emphasis on structural issues than the process issues involved in an inter-organizational strategy. Transaction value analysis has not been used in the context of IT outsourcing research.

#### *Transaction Value Analysis:*

Transaction value analysis explains why companies collaborate voluntarily that increases the transaction value while increasing the transaction cost. Transaction value is primarily created through the gains in strategic and learning. Transaction value analysis also gives emphasis on the inter-organizational processes.

Organizations that adopt this type of strategy in overseas sourcing are not primarily interested in lowering the costs only. These companies have strategically focussed as joint-venture partners can bring specialized expertise to the venture and share the risk of the venture. Transaction value analysis does not claim to reduce transaction costs but it increases the ultimate value created through the products and services offered. When an organization goes for joint venture with another company in order to start an overseas operation, they also share the control of the venture with another partner.

### ***Offshore Insourcing***

This shows the maturity of the sourcing strategy and the U.S. companies establish local operations on their own to perform IT work. This kind of sourcing from its overseas operation is also called as offshore insourcing. Companies choose to offshore insource, depending on the nature of the sourcing task.

Some of the companies highlighted include: Allstate Insurance, Avon Products, Global Exchange Services (J. King, 2003), Microsoft, Oracle, Google and others have established software development centers in India. These development centers cater to the captive needs of the parent company.

#### *Theoretical Perspective:*

Resource based view of the firm can be used to explain this form of sourcing strategy. In the outsourcing literature, resource based view of the firm has been applied in prior studies (Cheon et al., 1995; Vital Roy & Benoit A Aubert, 2002; Teng, Cheon, & Grover, 1995).

#### *Resource Based View:*

Resource based view is a strategic management theory that has been widely used in explaining organizational strategies. This theory was put forward by Barney emphasize on how companies are able to achieve above normal profits in competitive industries due to the availability of unique competencies (Barney, 1991). Organizations maintain strategic advantage over a long period of time because of the presence of historical factors, resources are not mobile, and difficulty in imitating the expertise.

Organizations that are engaged in insourcing value their strategic advantage and for these companies outsourcing and other strategies may not be a perfect fit. For instance, a large software organization may not be comfortable in engaging other partners in the development of their core products. Except for offshore insourcing, rest of the outsourcing strategies involves some kind of partnerships with outside organization. This necessarily makes some companies to establish their own ventures overseas. In this way, an organization's core competence can be preserved with allowing others to imitate it.

### **LIMITATIONS FUTURE RESEARCH DIRECTIONS**

We have attempted to relate the various theoretical perspectives with the various typologies that have been put forward for off-shoring. One of the aspects that were not taken in to consideration in this study is the characteristics of the software / service being outsourced. Empirical study in this area will give a better understanding of the whole phenomenon.

Offshore sourcing of IT work is one of the least researched upon areas in the academia. There are very many research opportunities available in this arena. With the expanding role of offshoring in corporations, this area needs the attention of the researchers. Even though there is a striking similarity present between domestic sourcing and offshore sourcing of IT work, there exist very many unique characteristics of such strategy. For instance, issue of overseas culture, security of data, geopolitical risk, government policies and regulations, relatively inferior infrastructure, and even the time difference create a unique environment that needs special consideration for any



offshoring strategy. Though anecdotal evidence for these strategy typologies are presented in this paper, in the future a detail empirical study is needed to validate the strategy typology.

## CONCLUSION

This paper has made an attempt to address the strategies involved in the offshoring of IT work. Typology of strategies for overseas sourcing of IT products / services was put forward based on the operational, tactical and strategic benefits that accrue to the outsourcing organization. Theoretical underpinings of these strategies were also highlighted. Future empirical studies in this directions will help in better explain various offshore sourcing strategies.

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