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## GLOBAL IT/IS OUTSOURCING: EXPECTATIONS, CONSIDERATIONS AND IMPLICATIONS

Qiyang Chen, Qiang Tu and Binshan Lin

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### ABSTRACT

This paper discusses the issues of global IT/IS outsourcing from four inter-related aspects: forming an appropriate global IT strategy, using proper global IT platforms, managing international data sharing, and surviving the cultural environment. It aims at providing a comprehensive framework for both the global outsourcing providers and clients to fully understand and evaluate the expectations, considerations and implications of global IT/IS outsourcing, so that they can form a successful long-term strategic alliance.

### INTRODUCTION

Globalization has been a major driving force of world economy in the past decade. While the global market offers unprecedented opportunities for

businesses to grow rapidly, it also presents more challenges to business managers. One of the challenges is "IT/IS outsourcing," which can be broadly defined as the practice of turning over part or all of an organization's IT/IS functions to external service providers. While "IT/IS outsourcing" has been widely addressed, the issue of "global IT/IS outsourcing" has not received the same research attention due to its unique quality of involving foreign vendors at remote geographic locations under largely different cultural settings. IT/IS development is extremely high-cost, labor-intensive, and skill-intensive. It also faces rapid changes of technology. This makes it even more difficult to find a truly competent and reliable foreign contractor. Global outsourcing firms must establish realistic expectations and recognize all constraints and risks so as to make wise decisions. On the other hand, in order to capture the outsourcing opportunities and maintain long-term relationships, foreign vendors also need to understand the global outsourcing expectations and the decision processes.

The purpose of this paper is to provide a comprehensive framework for both the global outsourcing firms and outsourcing providers to fully understand and evaluate the expectations, considerations, and implications of global IT/IS outsourcing, so that they can form a successful long-term strategic alliance.

Ives and Jarvenpaa (1991) proposed that global IT management has four primary dimensions, including (1) forming an appropriate global IT strategy, (2) using proper global IT platforms, (3) managing international data sharing, and (4) surviving the cultural environment. These four dimensions will become the frame of reference for our discussions in this paper.

### GLOBAL IT/IS OUTSOURCING STRATEGY

*Expectations.* In the past, firms have mostly adopted a global strategy that gives foreign subsidiaries considerable autonomy. These autonomous units are easy to set up and maintain, but lack control of operational costs. There



is also a severe problem of system compatibility and data redundancy. Recently, with the increasing power and speed of information technology, firms have started to pursue a globally integrative strategy that seeks to maximize global interconnectivity and data sharing global information systems (GIS) (Venkatraman, 1998). However, the implementation of GIS requires a very high degree of technical expertise and cultural awareness, thus many firms have decided to outsource part or all of its IT/IS function to foreign vendors.

One of the benefits of developing collaborations with foreign partners is the potential for the emergence of innovative opportunities. Dealing with a specialized vendor may create market opportunities or partnered joint-ventures. Some outsourced products or service can be tailored and marketed locally (Lacity, Hirschheim and Willcocks, 1997). But to maintain a high level of system integration and to fully realize the GIS benefits, proper global outsourcing strategy and outsourcing partners have to be carefully considered.

*Considerations.* Case studies showed that firms most disappointed with outsourcing usually followed a total outsourcing strategy (e.g., outsource entire IT/IS functions at one shot), whereas firms most pleased with outsourcing generally pursued a more controllable selective or progressive outsourcing strategy (Wysocki and DeMichiell, 2001). Usually, decisions of global outsourcing involve a series of studies of an enterprise's competitive strategy and relationships among its various activities performed. Some activities and products are eliminated immediately as candidates for outsourcing, either because the product cannot be contracted outside or because the enterprise must control the activity or the product to maintain its competitive position.

For those activities or products eligible for outsourcing, the key strategic factor is whether the enterprise can rely on the outsourced services or products on a level comparable with the best in the world. Reliability measurement can be used to capture these critical success factors for the

availability, timeliness, flexibility, quality, and the cost reduction. Measures are then benchmarked against the results of analysis on potential outsourcers that offer similar services or products in the global marketplace. Failure to meet reliability measurement usually forces top management to find other ways of achieving reliability (Anderson, 1996). To reiterate, the outsourcing decision concentrates on the core services and products that are reliable to enhance their unique marketplace advantage.

*Implications.* Due to the nature of uncertainties and difficulties in global outsourcing business, it would be more practical for foreign outsourcing vendors to start bidding on outsourcing contracts at a lower level. For example, at the beginning to try to avoid those contracts that require extensive system analysis. Bidding on higher-level contracts can be easier once the credibility is established in terms of the quality, reliability and effectiveness of the lower level products. On-site development might also be the type of projects foreign contractors should first try when entering global market. It involves the transfer of skilled labors to work on the client site. The foreign contractor may gain better insight of management skills during on-site development (Byrd, Sankar, and McCreary, 1995). This way, both clients and contractors can have better control on the uncertainties during the development.

## GLOBAL IT PLATFORM

*Expectations.* The concept of global IT platform not only involves important technical decisions on hardware and software selection, but also includes proper utilization of IT human resources. The common expectations of a successful global IT platform include:

*Manpower and skill advantages:* One common problem for many companies is the dearth of available professionals with key technical skills. According to a study by the Information Technology Association of America (ITAA), there are nearly 320,000 IT jobs standing vacant in U.S. companies, and



the annual production of qualified IT graduates from U.S. colleges is less than 70,000 in recent years (Baker, 2000). Global outsourcing helps firms to deal with the shortage of skillful workers. As the result, a bidding war for IT professionals could eat into corporate earnings and stunt growth. The demand for skillful workers stems from the fact that IT/IS projects are high-cost, labor-intensive and are under vigorous time constraints. On the other hand, the IT societies in Asia and East Europe, with thousands of well-trained professionals, are eager to step into the global IT/IS market.

*Technical and cost advantages:* Technology changes require continual retraining of IT/IS staff and it becomes increasingly difficult for companies to keep up with these changes when they try to focus on the core business. The fast progress of information technology has the effect of rapidly making IT/IS skills obsolete and creating a IT/IS skills shortage. IT/IS staffs of most companies, naturally limited in size and financial constraints, cannot keep up with rapidly changing IT fields. On the other hand, various IT outsourcers can provide a greater range and depth of trained personnel from global resources (Czepiec and Lander, 1999). Even in the case where in-house personnel are capable of performing a given task, outsourcing often provides a more cost-effective means of performing that task. Statistics show that coding and installation costs usually have more competitive sources of labor and technical expertise. For the same project, a U.S. programmer will be likely paid six times more than an Indian programmer (Vijayan, 2000).

*Considerations.* Although a global IT platform can expect to achieve these wonderful benefits, the uncertainties and risks associated with it cannot be underestimated.

*Government regulations and restrictions:* This is very important because many foreign clients do not realize that some domains in a developing country are out of the question for foreign control. For example, even though joining the World Trade Organization (WTO) has further opened doors for foreign investors, the Chinese Ministry of Posts and

Telecommunications (MPT) still disallows foreign firms from operating local telecommunication networks. Foreign involvement has been restricted to sales of IT/IS products or to joint ventures to manufacture these products in many industries. However, rapidly changing technologies have allowed some Western firms to nibble away at the edges of government-controlled monopoly (Zixiang, 2000).

*Uncertainty in system development life cycle:* IT/IS operations and development have always been inherently uncertain. This uncertainty can be more significant if the project is developed overseas. The developmental constraints may demand rigid time and budget controls, which can yield a product that does not achieve the expected potential. In reality, short-term contracts may attract cost premiums, and contract variation clauses may not foresee all the uncertainties. In many cases, the development of a new system may take longer than it expected as business requirements change. Looking for flexibility will be better than specifying tight performance contracts with penalty clauses followed by litigation (Wysocki and DeMichiell, 2001).

*Hardware and software prices:* Some companies reported problems with high hardware and software prices at foreign subsidiary locations due to local monopoly. For example, U.S. companies in Japan usually have to pay twice the price to local distributors for hardware and software purchases (Byrd, Sanker and McCreary, 1995).

*Implications.* To be a successful candidate of the outsourcer, an outsourcing provider should try to alleviate as many business restrictions that conflict with a foreign client's interests as possible, meanwhile trying to clearly state which domains are not allowed for foreigners to step into in the first place. In addition, the local outsourcers should also demonstrate that they could be very competitive with not only labor cost, but also in the following strategic aspects:



*Technical expertise:* Outsourcing contractors should show that their expertise employs the most appropriate technology and innovations to deliver whatever is contracted. On the other hand, a foreign firm can gain by sharing the vendor's expertise and economies of scale. The cost of the state-of-the-art processes then can be shared, thus providing customers with technology they otherwise may not have been able to afford. A developing country may not lack highly skillful professionals and world-class expertise, especially in software industry. The challenge is how to present and market the expertise to foreign clients.

*Flexibility:* A local outsourcer should demonstrate that outsourced IT/IS products or services have the advantage of not being tied to past investments. The outsourcers should also show their flexibility of adapting to any changes during the development. The outsourcer can utilize various IT/IS resources to provide a variety of alternative solutions with the high quality of skills, management, technology, and service know-how. On the other hand, no company can excel in all subject areas. Linking the destiny to a single supplier prevents a company from taking advantages of many innovative, high quality technologies and services offered by others in the market.

## INTERNATIONAL DATA SHARING

*Expectations.* International data sharing that minimizes data redundancy and improves operational efficiency has been an important objective of many global outsourcing firms. The transborder data flows (TDF) include four basic types: 1) operational data, 2) personnel data, 3) electronic transfer of money, and 4) technical and scientific data (Buss, 1984). All these data are necessary for the operation of a foreign subsidiary, but TDF are often subject to local laws and legislations. Unexpected difficulties of transborder data sharing may arise.



*Considerations.* Some of the common concerns in TDF include:

*Global data standard:* In a global IT/IS outsourcing environment, data from different foreign locations are often accessed and consolidated. This requires a well-defined and highly compatible global data standard to ensure global data sharing.

*Transborder personnel data flows:* Many countries have extended their privacy laws to prevent the transborder personnel data flows. This creates tremendous problems for global human resource planning and control, which may hamper or completely stall a company's important operations.

*Intellectual property rights:* Fundamental intellectual property rights in developing countries are relatively weak. Intellectual property protection, such as trademarks and copyrights, is a necessity for outsourcing activity. Digital recording technology helps make nearly perfect copies of the popular recordings.

*Legal uncertainty:* Other concerns to global data sharing in developing countries arise from shortcomings in their still primitive legal system, which is rarely able to cope with the major disputes that arise between companies and government - or simply between companies. The lack of "transparency" in the labyrinth of local regulations is especially discouraging to foreign firms trying to do business in developing countries. Foreign investors are often frustrated by frequent, unpredicted changes of the regulations or legislation.

*Implications:* To be a qualified competitor in the global market, many developing countries have been trying to enforce their legal systems. The administration of law is increasingly being pushed down to the level of provincial and city court systems. The crackdowns on distributions of pirated products show the local government's determination to overcome the country's weakness. A contractor from a developing country must ensure the foreign clients that the final and intermediate products from the

outsourcing activities, and all materials utilized in these activities, are protected by contracts and related laws. An agreement on the responsibility of protecting intellectual property in the outsourcing process is necessary, but not enough. There should be effective monitoring and auditing mechanisms in the outsourcing process.

### GLOBAL CULTURAL ENVIRONMENT

*Expectations:* It has always been acknowledged that doing business in a foreign country can be both risky and rewarding. This is especially the case in many developing countries that have distinct cultural and social backgrounds from Western countries where everything seems to be on a huge scale, including the culture challenges and market opportunities that attract foreign businesses.

*Considerations:* The cultural difficulties are numerous, starting with the tremendous differences in language, customs, and even the pace of daily life. The obstacles are compounded by a sharp divergence from Western social and political systems.

*Communication barriers:* The language problems in an international collaboration cannot be ignored. A survey shows that the foreign language proficiency, skills of communication, and knowledge of foreign culture are valued highly in international business (Baker, 2000). Especially, if the official language is not English, the culture differences yield a great negative impact in bidding on foreign contracts. For example, the Chinese IT/IS outsourcers are far behind their neighbor India who attracts more than four billion dollars of IT/IS contracts every year. One of the reasons is that many foreign entrepreneurs see more culture and language obstacles in outsourcing in China than in India.

*Cultural differences:* The importance of the sensitive cultural interface between the company and the outsourcers cannot be underestimated (Lin,



1996). Cultural differences can present problems in outsourcing business in developing countries. These include complicated employer-employee relationships. Employees may not be evaluated and assigned tasks based on their job skills. Some other factors such as seniority, personal relationship to authority, and socialist principles also play an important role in job assignment. Personal contact between local employees and foreign employer may be also culturally or politically sensitive. Such cultural differences are daunting to many foreigners, especially when governmental regulations are involved. For example, some local governments sharply limit Internet-based information exchange activities, forbidding any engagement in unauthorized activities or ones financed from overseas (Zixiang, 2000).

*Implications:* To reduce the risk factors for foreign clients, an outsourcing provider should be able to address the above issues that puzzle most foreign investors and outsourcing clients. Providing a stable political environment for foreign investment is very important to keeping foreign investments and contracts continually flowing into a developing country. The political uncertainty is not under the control of local IT/IS society. However, it is local IT/IS society's responsibility to advise foreign clients to accommodate the political environment. This advice can be helpful when political stability is tested, due to a volatile economy, or various transitions taking place such as changing governments, or new releases of policies and laws. Giving useful and timely advice to foreign clients also helps establish local contractors' credibility and the faith of the clients in the outsourcing processes.

## CONCLUSION

Global IT/IS outsourcing has attracted much attention in recent years. It creates strategic advantages for firms in terms of accessing highly skilled labor at low cost and potential market opportunities. It also provides beneficial opportunities to the IT/IS society that provides outsourcing services to make hard currency and facilitate the modernization progress

with state-of-art technology and management. This paper presents a comprehensive framework to help managers of both global outsourcing firms and foreign outsourcing providers understand and evaluate the expectations, considerations and implications of global IT/IS outsourcing process, so that they can form a successful long-term strategic alliance. Like any activity management, global outsourcing agreements should always reflect the mutual interests. On the one hand, an outsourcing firm always expects to maximize flexibility and control so that it can pursue different options as it learns more, or as the circumstances change. On the other hand, while demonstrating its technical expertise, an outsourcing provider could try to sign short-term or progressive contracts that are desirable for both sides by offering maximum flexibility and minimum risk.

## REFERENCES

- Anderson R. (1996). Internal audit taps new sources. *Journal of Business Strategy*, 17(2) pp.22-24.
- Baker, B. (2000). Calling all nerds. *Business Week*, March 10, 2000.
- Buss M. D. J. (1984). Legislative threat to transborder data flow. *Harvard Business Review*, Vol. 62, No. 3, pp. 111-118.
- Byrd, T. A., Sankar, C. S., and McCreary, J. D. (1995). The strategic risks of implementing global information technology. *Information Strategy: The Executive's Journal*, Vol. 12, No. 1, pp. 39-43.
- Czepiec, H. and Landers, J. (1999). Skill requirement for a global workforce: The international business employers' perspective. *Proceeding of Western DSI Annual Conference*, pp. 298-300.
- Ives, B. and Jarvenpaa, S. L. (1991). Applications of global information technology: Key issues for management. *MIS Quarterly*, Vol. 15, No. 1, pp.33-49.
- Lacity, M., Hirschheim, R., and Willcocks, L. (1997). Realizing outsourcing expectations. *Information Systems Management*, Vol. 11, No. 4, pp. 7-18.
- Lin, B. (1996). Cultural perspectives of information technology: The case



- of China. *Cross Cultural Management*, 3(3), pp.11-20.
- Venkatraman, W. (1998). Beyond outsourcing: Managing IT resources as a value center. *Sloan Management Review*, 38(3), pp. 51-64.
- Vijayan, J. (2000). US firms go offshore for cheap year 2000 fix. *Computer World*, January.
- Wysocki, R. and DeMichiell, D. (2001). *Managing Information Across the Enterprise*. John Wiley & Sons, New York, NY.
- Zixiang, T., (2000). China's new internet regulations: Two steps forward, one step back. *Communications of the ACM*, Vol. 40, No. 12.

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