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Global Sourcing of IT-enabled Business Processes: The Rationale of Unbundling and locating

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ABSTRACT

We analyze the business process offshore/outsourcing trend based on the theoretical framework of transaction cost economics and resource-based view. We propose a two-dimensional taxonomy of different sourcing arrangements of business processes and services. Along the outsourcing/vertical integration dimension, we emphasize the effect of the characteristics of business processes such as asset specificity, strategic criticality and process maturity on transaction costs associated with outsourcing and thus the firm's decision of governance forms. Along the offshore/local dimension, we note the effect of the macro-environment factors such as country risk, cultural distance, physical infrastructure, labor productivity and wage differential on the firm's decision of offshoring. In addition, given the firm offshoring, risk variables such as country risk, culture distance and unfamiliar legal environment would affect the firm's governance choice and increase the threat of contractual hazards imposed by the asset specificity and uncertainty.

Keywords

Business Process Outsourcing, process maturity, country risk

INTRODUCTION

There is an increasing trend to outsource and offshore information technology (IT) functions and IT-enabled business processes to developing countries for cost and strategic reasons. Firms are *unbundling* their value chain activities and executing individual activities (e.g., customer service, technology development) in geographically dispersed locations. According to Gartner's estimation, the worldwide IT outsourcing market is expected to grow from \$161.9 billion in 2002 to just over \$235.6 billion in 2007. Similarly, business process outsourcing services will grow from \$110 billion in 2002 to \$173 billion in 2007.

Figure 1 proposes a two-dimensional taxonomy of sourcing alternatives[1], which incorporates the two dimensions, ownership and location. There are four sourcing choices: local internal department, offshore subsidiaries, local external service providers and offshore service providers. Now it is easy to differentiate offshoring from outsourcing: the firm may move the process offshore, while still keeping the control in-house.

[1] Apte and Mason (1995) propose a similar taxonomy of disaggregation of services but differentiate local choice domestic-single location and domestic-multi location.

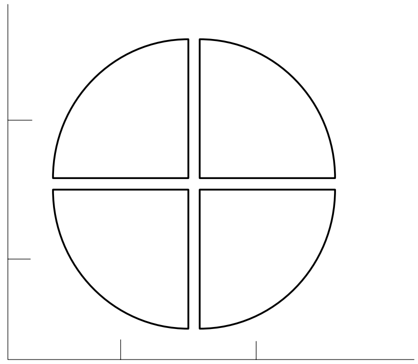

Figure 1

IS literature has extensively studied IT outsourcing versus in-house development using transaction cost economics (TCE) and resource based view (RBV) (e.g. Nam, 1996, Quinn and Hilmer, 1995). The first stream of research examines firm's motivations to outsource and shows that both cost efficiency and strategic intents such as improved IT competence and service quality, reduced time to market, and focus on core competency have driven the trend of outsourcing. The other stream emphasizes which functions should be conducted within firms and which to outsource by examining transaction-level factors such as asset specificity, uncertainty, and potential number of vendors to assess potential risks of outsourcing. On the other hand, IS literature has emphasized IT's impact on firm's governance form by reducing transaction costs and coordination costs (Gurbaxani and Whang, 1991), which defines the IT-driven context of the current research.

New issues arise for IT-enabled business process offshore outsourcing. First, the dimension of location choice adds complexity and dynamics to the traditional decision of outsourcing / vertical integration. The risk factors of a foreign environment such as country risk, cultural distance and unfamiliar legal environment generate frictions for the offshore sourcing strategies. In addition, the country-specific characteristics may strengthen or weaken the effect of process- and firm-determinants on outsourcing decision. Second, IT-enabled business processes, which often require intimate interactions and intensive information coordination, are different from traditional product components or software development. A comprehensive examination would be necessary to identify parsimonious yet powerful theoretical constructs that delineate the characteristics of business processes.

RESEARCH MODEL

Figure 2 provides a decision framework for sourcing strategy. A firm's decision to outsource depends on transaction costs and strategic criticality. The business process maturity (i.e., how well business processes are standardized and stablized) and asset specificity (i.e., investment that is relation-specific) determine transaction costs. Macro-level variables such as country risk, cultural distance, physical infrastructure, labor quality and wage differential determine the degree of offshoring, i.e. the propensity of firms to sourcing business processes in foreign countries. Risk variables such as cultural distance and country risk moderate the effect of strategic criticality and asset specificity on the propensity of outsourcing.

The TCE and resource-based view (RBV) provide theoretical foundation for the model. According to the TCE, the market is not friction free: the potential risks and costs caused by opportunistic behavior of the vendor may jeopardize the contractual relationship of outsourcing ex post (Williamson, 1985). Firms tend to integrate when the contractual environment intensify the opportunistic behaviors.

From a broader view of transaction costs, outsourcing may generate uncertainty and coordination costs. The increase in dependency and interaction between the outsourced process and other organization processes would add to the complexity of the coordination tasks. TCE also lays the foundation of a plausible theory of international business and foreign direct investment (Gatigon and Anderson, 1988). Foreign subsidiaries internalize the contract with foreign vendors, but are engaged in implicit contract with the host government for policy stability and market rules. The risks of instable government, policy shifts in taxation and regulation, or outright expropriation may induce the firm to seek safeguards by sourcing the services from host-country vendors.

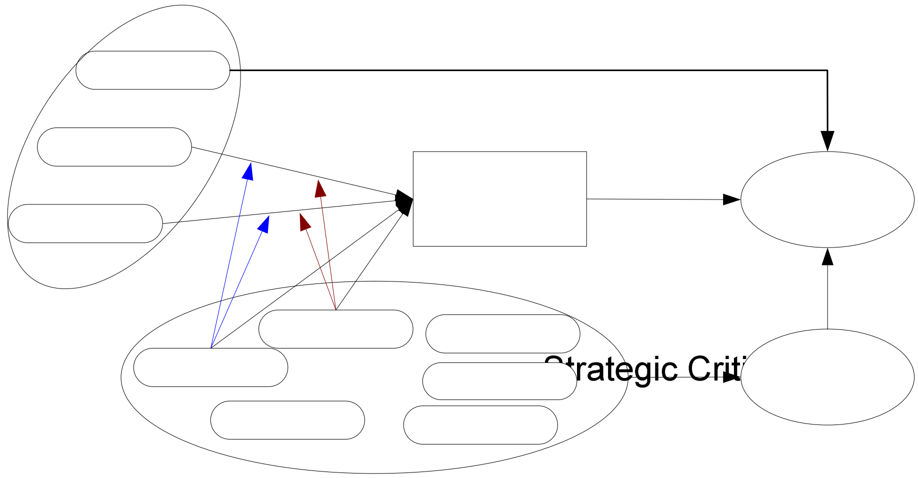

Figure 2 A Decision Framework f

HYPOTHESES DEVELOPMENT

Business processes with high asset specificity involve specialized know-how of, and a good level of customization. Asset specificity of the process determines the ability of a firm to shift to competitive market and this limits a firm's ability to switch vendors (Williamson, 1985, Klein et al., 1978). Further a firm is vulnerable to vendor's opportunistic renegotiations (referred to as hold-up problem in TCE). For instance, the business processes of payroll may be similar across firms and thus less risky to procure from the market. On the contrary, the process of personnel training may involve idiosyncratic components of the firm and be less likely to outsource. Therefore,

H1: The greater the asset specificity involved in a business process, the lower the likelihood of outsourcing.

Maturity of business processes characterize the extent to which the processes are executed with few exceptions, few uncertainties and near standardized interactions. In early stages of process innovation there are many exceptions and uncertainties which become absorbed within the organizational processes over time and develop into standardized procedures. Thus it is possible to decouple a "matured" process from the value chain without incurring much extra coordination costs. Therefore,

H2: The greater the maturity of a business process, the greater the likelihood of outsourcing.

Strategic criticality refers to the comparative advantages provided by the business process over its competitors. Firms may be reluctant to forfeit the control of those processes that generate competitive advantages for the firm. First, it might be hard to decouple those processes from other organization processes because they tend to involve tacit, idiosyncratic features, and to be deeply embedded in the organization's social fabric and other organizational tangible or intangible resources. Second, complementing other organizational resources and skills, business processes may be embodied with tacit knowledge, organizational memory and other intellectual assets that a firm does not want competitors to imitate. Contracting to outside vendor exposes the firm to the risks of releasing critical technologies or information. Therefore,

H3: The greater the strategic criticality of a business process, the lower the likelihood of outsourcing.

It seems intuitive that the wage differential between US and developing countries is driving the offshore trend. Nevertheless, the extensive literature on the determinants of foreign direct investment and international trade has extensively addressed the influence of such location-specific advantages on service and production costs (Cooke, 1997). According to classic Heckscher-Ohlin theory of international trade, when the technology is portable, products that are more intensive in one factor, e.g. labor, should be produced in countries with more abundant and consequently cheaper labor. When other factors are held constant, firms tend to move to the country with lowest factor price. As IT substantially reduces the barrier of process and coordination between nations, it is possible to transfer business processes overseas and take advantage of lower wages in developing countries (Harris, 2001). Therefore,

H4: The bigger the wage differential between US and the foreign country, the greater the likelihood of offshoring business processes to that country.

However, labor costs in a specific country does not only depend on the explicit wages and benefits that firms paid for given skilled labor, but also are associated with the constraints of the local labor markets such as access to skilled labor and labor practices and regulations, the potential risks of the macro-environment such as political instability and cultural distance. For the sake of brevity, we shall not describe in detail all the hypotheses related to the offshoring decision, which should be in accordance with the theories of international trade and foreign direct investment. Instead, we focus on in the following country risk and distance factors that we expect to moderate the effect of the business process characteristics on outsourcing/insourcing decision.

Country risk refers to the political, institutional and legal environment of a country. It is usually measured with an index of assessment of risk to international investors, which integrates 1) law and order 2) bureaucratic quality; 3) corruption; 4) risk of expropriation; 5) government repudiation of contracts, and an index of openness of a country to trade. Risky countries are less attractive to firms. Furthermore, given the decision of entering a country, the full-controlled subsidiary directly face the risks of the political and institutional instability (Henisz, 2000). As vertical integration entails a larger amount of resource commitment, it would lack the agility to react to the changing environment. Therefore,

H5: Given the decision of entering a country, the higher the risk of the host country, the greater the likelihood of outsourcing business processes than that of establishing subsidiaries in that country.

Also, we argue that the distance between US and the country in political system, legal environment and culture (Deardorff, 1997) may occur additional risks and costs. The cultural distance refers unfamiliarity between trade parties such as linguistic difference and other historical and cultural differences. The empirical studies of foreign market entry have concluded that cultural distance causes a significant amount of uncertainty in monitoring and evaluating employee performance (Jones and Hill, 1988). It would be costly for the firm to directly control subsidiaries as the cultural distance would make it difficult to transplant the previous managerial and operational knowledge. The effect of cultural distance on arm-length contractual relationship may be smaller. Therefore,

H6: The larger the cultural distance between the firm's country and the host country, the greater the likelihood of outsourcing business processes than establishing subsidiaries in the host country.

METHODS

Measurement and Data Collection

We have developed a survey instrument and pilot-tested it for content verification and validity with CIOs of large corporations that are currently involved in different sourcing mechanism. We have obtained a list of top executives of large corporations in the U.S. As the response rate of such survey may be problematic, we are mailing to about 3,000 firms. Following-up mails and phone calls will be conducted to increase the response rate. We expect to collect required survey data by end of May and to complete analyses by last week of June.

The following table summarizes the main constructs of interest and referred literature.

Macro-level data of various countries such as productivity/labor quality, labor cost, and physical infrastructure has been obtained through secondary sources. We will be able to present our results during July/August.

Construct	Measurement	Reference
Strategic Criticality	5 items adapted from the literature, assessing the extent to which the business process is important for generating competitive advantages	(e.g. McGrath et al., 1996, Quinn and Hilmer, 1995, Barney, 1991)
Asset Specificity	5 items adapted from the literature, assessing the specific human assets related to the business process	(e.g. Rindfleisch and Heide, 1997, Anderson, 1985)
Process Maturity	5 items Assessing the extent to which the process: 1) is fully understood; 2)the process-related technologies and procedures are stable and well-defined; 3) involves a lot of uncertainties and problems; 4) has few exceptions and unexpected contingencies	(e.g. Gersick and Hackman, 1990)
Culture Distance	Common language (1 if yes) Western culture (1 if yes)	(e.g. Rose, 2004)

CONCLUSION

We have developed a framework to analyze firm's business process sourcing strategies. The study examines the significant factors of business processes and offshore countries that affect the sourcing strategies. The results would have important managerial and policy implications for firms to make business process sourcing decisions with the comprehensive picture of benefits and risks of process outsourcing. The parsimonious characterization of business processes may supply a useful conceptual framework for managers to scrutinize their business processes before unbundling the processes from the value chain. Our theoretical and comprehensive analysis of location choice provides the guidance for firm's offshore decision to alleviate the risks of foreign environment.

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