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Antecedents of IS Backsourcing

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Abstract

This research examines the change in the sourcing of corporate IS function and grounds for the decision to return IS back in-house. A model of factors affecting IS backsourcing that integrates transaction cost theory and agency theory is presented. In this model costs, goal conflict, and opportunism all influence the decision to backsource. Identifying the underlying causes for undertaking backsourcing can provide managers with more effective decision tools when reviewing outsourcing contracts or responding to changes in the company as well as in the environment.

Keywords: IS sourcing, IS backsourcing, termination of contract

Introduction

Information systems backsourcing is a business practice in which a company takes back in-house assets, activities, and skills that are part of its information systems operations and were previously outsourced to one or more outside information service suppliers. Backsourcing, as the term implies, follows the initial outsourcing arrangement, and can be a result of a renegotiated or terminated outsourcing contract.

Companies of all sizes pursue outsourcing arrangements, and many multimillion deals have been widely publicized. While companies often turn to IS outsourcing for costs savings, outsourcing for this reason is not an enduring value proposition. There needs to be a business benefit to make the outsourcing relationship last (Buxbaum, 2002).

Even though IS outsourcing deals increasingly exhibit high success rates, some problems still arise in this customer-supplier relationship. Outsourcing frequently has been found to be poorly controlled, high in cost, and a drain on quality and service performance (King and Malhotra, 2000). Outsourcing disadvantages include loss of expertise and control of IS direction, increased costs, lack of flexibility in addressing change in the business, and dissatisfied customers. Often outsourcing contracts do not specify outsourced services in detail. This usually is more detrimental to the customer than the outsourcing provider because it places the customer at a disadvantage in terms of pricing services. As a result some IS outsourcing deals get renegotiated or even canceled before expiration.

What happens to companies when they cancel IS outsourcing contracts? Companies could turn to other outsourcers, or they could bring the IS function back in-house. Lacity and Willcocks found that almost one-third of the canceled contracts were eventually brought back in-house, or backsourced (2001). Most frequently reported is incremental backsourcing, when the company renegotiates the contract and brings the strategically important functions back to be implemented inside the company.

Why would organizations take back in-house assets, activities, and skills previously outsourced? Backsourcing seems motivated by a change in circumstances, redefinition of the character of outsourced service, or discovery of flaws in the initial assessment that led to outsourcing (Lacity & Willcocks, 2000). When looking closely at cost savings offered by the outsourcing provider, the internal IS department often decides that it can implement the same effective strategies and policies.

What criteria should be used for making backsourcing judgments? This is the question that this research seeks to answer. To do so I develop a theoretical framework that integrates two theories that previously have been applied to explorations about outsourcing: transaction cost theory (Ang and Straub, 1998; Grover, Cheon and Teng, 1996; Poppo and Zenger, 1998; Wang,

2002), and agency theory (Ho, Ang and Straub, 2003; Logan, 2000). My goal is to identify possible antecedents of the backsourcing decision at the organizational level of analysis.

Literature Review

While IS outsourcing as well as insourcing have been widely examined in the IS academic literature, backsourcing is a significant trend that has not received much research attention. However, Lacity and Willcocks recognized its importance when they called for the investigation of the factors that lead to backsourcing (2000). Understanding the underlying reasons for taking the IS function partially or completely back in-house can provide managers with better decision tools when reviewing the outsourcing contract as termination nears or as major environmental changes occur. Looking at the reasons underlying the backsourcing decision helps identify a potential framework for future assessments. Thus, the analysis of the circumstances and decisions that lead to backsourcing should be beneficial for both academics and practitioners.

IS Backsourcing vs. IS Outsourcing

IS sourcing decisions are made throughout the life of a business organization. Outsourcing involves business arrangements to manage IS activities outside the original organization. Backsourcing on the other hand is the partial or complete reversal of the outsourcing contract. IS outsourcing and IS backsourcing are both sourcing stages that deal with IS operations. However, the decision to outsource is made early in the sourcing cycle, while IS backsourcing is made after the outsourcing decision is executed and toward the end of the sourcing cycle. Outsourcing and backsourcing have different motivations and goals underlying them.

The motivation behind IS sourcing decisions is very often the opportunity to save significant amounts of time and money by modifying the management of IS functions (McKeen, Smith, Joglekar and Balasubramanian, 2002). While outsourcing frequently is driven by cost savings and access to highly qualified IS personnel, backsourcing is typically a result of the change of circumstances, redefinition of the contract, or discovery of flaws in the outsourced service (Lacity and Willcocks, 2000). Opportunistic behavior on the part of the provider may have been a motivating factor in ending the relationship.

Interorganizational Relationships

The outsourcing contract is based on an interorganizational relationship between a client and a provider. Ring & Van De Ven view the development and evolution of interorganizational relations as a repetitive sequence of negotiation, commitment and execution stages, each of which is assessed in terms of efficiency (1994). During the negotiation stage involved parties assess uncertainty associated with the contract, each other's trustworthiness, rights and obligation in the transaction, and possible usefulness of the transaction. In the commitment stage parties reach an agreement and establish terms of contract. The execution stage involves actual administration of the contract details. Usually in this stage as the parties continue to become more familiar with each other performance uncertainty is reduced, which makes interactions more predictable. As the contract progresses conflicts, misunderstanding and also changing expectations are inevitable. During the assessment stage, all of these factors lead to reconsideration of the terms of the relationship (Ring and Van de Ven, 1994).

The ways in which parties negotiate, execute, and modify the terms of the interorganizational relationship strongly influence the beliefs about the efficiency of the relationship (Guth, Schmittberger, & Schwarze, 1982, as cited in Ring et al., 1994). If the customer is not satisfied with the existing relationship, alternatives for the management of the IS function are considered. Thus, backsourcing is one of the options in the assessment stage.

Lacity & Willcocks (2000) examined stakeholder relationship in IS outsourcing and identified six phases of outsourcing activities: scoping, evaluation, negotiation, transition, middle and mature phases. These stages can be mapped into more general Ring & Van de Ven model of interorganizational relationships. These stages help highlight the sourcing cycle and the alternating emphasis on sourcing and backsourcing. The decision to backsource is likely to be made in Ring & Van de Ven's assessment stage or Lacity & Willcock's mature phase.

Research Model

The conceptual model of factors underlying the backsourcing decision integrates transaction cost theory and agency theory (Figure 1). Its main focus is the link between the factors involved in the evaluation of the current sourcing arrangement and information systems backsourcing.

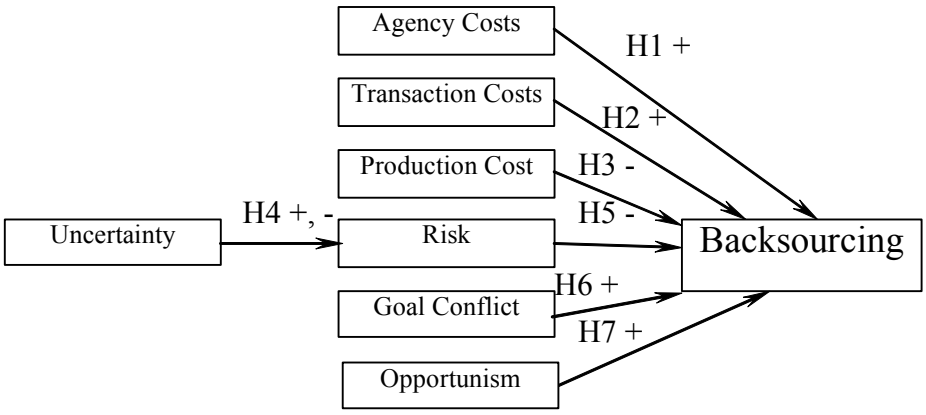

Figure 1. Research Model

Costs

The make-or-buy decision that all firms face compares the costs of in-house production with market prices. According to economic theory, firms acquire goods and services in the marketplace when they have comparative cost disadvantages and provide to markets goods and services when they have a comparative cost advantage. Three major types of costs are salient here: agency, transaction, and production costs. *Agency costs* include the costs of structuring, monitoring, and bonding a set of contracts among agents and principals with conflicting interests. *Transaction costs* refer to the effort, time, and costs incurred in searching, creating, negotiating, monitoring, and enforcing a service contract between buyer and suppliers (Mahoney, 1992, cited by Ang & Straub, 1998). *Production costs* include the cost of manufacturing a product or costs of operations.

Production cost advantage has been reported to lead to a greater degree of IS outsourcing (Ang & Straub, 1998). Since a cost advantage influences the decision to outsource, it should also have an effect on the decision to bring all or part of IS functions back in-house, or backsource. Even though a company may desire to bring its IS function back in-house for a variety of reasons, the lower production costs offered by the outsourcing provider may be an impediment.

However, substantial agency and transaction costs diminish the effect of the costs savings generated by decrease in production costs due to IS outsourcing. Transaction costs are important, but often underestimated, when the outsourcing contract is initiated. In contrast, agency costs are often not adequately considered at the time of outsourcing. Costly maintenance of the contract provisions has a negative impact on the success of the outsourcing and tends to play a key role in the backsourcing decision. Unsuccessful outsourcing contracts are likely to be scrutinized and renegotiated or canceled upon reconsideration. Performing IS function back in-house at lower agency and transaction costs may create economic advantages, as well as provide strategic advantages.

Hypothesis 1: Agency costs are positively related to the decision to backsource.
Hypothesis 2: Transaction costs are positively related to the decision to backsource.
Hypothesis 3: Production costs are negatively related to the decision to backsource.

Uncertainty and Risk

Uncertainty is another important factor that impacts backsourcing decision, albeit indirectly. Researchers (Bensaou and Anderson, 1999; Walker and Weber, 1984) identify two distinct sources of uncertainty: (1) *technology uncertainty,* or the uncertainty due to technological changes, and (2) *volume uncertainty,* or the uncertainty about volume due to demand/supply fluctuations and

the inability to predict the fluctuations. Heide and John (1990) propose still a third type of uncertainty, *performance ambiguity,* or the uncertainty due to performance. These three types of uncertainty all help motivate sourcing arrangements by reducing or increasing the risk faced by the outsourcing client. Frequently organizations turn to outsourcing providers to fill in gaps in their technological expertise created by the frequency of technological advances in the IS field (Saunders, Gebelt and Hu, 1997) or to deal with periods of unusually high demand. In situations of performance uncertainty, the outsourcing client is concerned with the contractual behavior of the provider, as well as with any changes in the environment that may lead to loss of competitive advantage. Outsourcing relationships are likely to be successful if the outsourcing provider can reduce the risks created by the three types of uncertainty. But high uncertainty in any of these three areas is likely to result in difficulties for the provider to assuage the risks of the customer, and therefore, can create tension between the unsatisfied client and the provider that feels that the extended efforts to manage the risk arising from the uncertainty are not gratified by the terms of the contract. High uncertainty creates greater risk and places strain on the relationship of the two parties. Thus, increased risk can lead the outsourcing client to backsource.

Technology and volume uncertainty are likely to increase risks and, hence, reduce the likelihood of backsourcing. On the other hand, when the performance of the outsourcing provider is of poor quality, inadequate, or hard to measure, as is often the case when a company is considering backsourcing, the uncertainty may be reduced by taking the operations back under the company's wing. Hence the risks may be reduced and the company may be more motivated to backsource.

Hypothesis 4a: Uncertainty (technological or volume) is positively related to risk.
Hypothesis 4b: Performance uncertainty is negatively related to risk.
Hypothesis 5: Risk is negatively related to the decision to backsource.

Goal Conflict

Goal conflict, or the extent to which the goals of the outsourcing company and its provider differ, may be an important factor in the decision to backsource. The provider is paid for executing the agreed-upon tasks at the performance levels specified in the contract. However, the contract cannot specify all exigencies. Over time it may become clear that the provider's interests are no longer aligned with those of the outsourcing company and the outsourcing company no longer has the contract to curb provider opportunism. As goal conflict increases, there is an increasing motivation for the type of outcome-based contracts found in outsourcing relationships (Eisenhardt, 1989). Where these contracts are inadequate, the outsourcing company may turn to backsourcing.

Hypotheses 6: Goal conflict is positively related to backsourcing.

Opportunism

Opportunism is concerned with economic actors' propensity to satisfy its own interests and trustworthiness (Williamson, 1981). Agency theory assumes self-interest, and thus, opportunism is a potential threat to the success of the outsourcing relationship. Opportunistic behavior on the part of the provider should be controlled by the legal outsourcing contract and norms of the relationship. The provider's actions in the interest of the client are motivated by the economic incentives that are part of the outsourcing contract. If the provider is exhibiting opportunistic behavior, the client is likely to seek alternative ways to manage its information technology, and may take the IS function back.

Hypothesis 7: Provider opportunism is positively related to backsourcing.

Methodology

Data Sources

The data that will be used to test the above hypotheses will be drawn from a survey and archival data. Two questionnaires will be designed to investigate all of the constructs under consideration and their influence on the decision to backsource. The first questionnaire will gather perceptions of the client. It will measure opportunism of the IS services provider, transaction and agency costs associated with outsourcing of IS, production costs (hardware, software and personnel), risk and goal conflict associated

with the client – provider relationship and the uncertainty facing the IS function. The survey will also be used to collect data on the IS activities that were previously outsourced, currently outsourced activities, and some information about the company. The second questionnaire will be used to collect data from the provider. It will contain measures of the success of client-provider relationships, agency costs associated with the contract, as well as risk and goal conflict associated with the arrangement.

Once the design of the questionnaire is complete, cognitive interview will be conducted to ensure that all of the questions make sense and are properly understood by the respondent (Dillman, 2002). Q-sorts will be conducted to assess the validity of the measures. The questionnaire will then be pilot tested on several IS managers (Straub, 1989) to ensure the clarity and readability of the questionnaire. Their feedback will be incorporated into the final questionnaire. All construct measures will be analyzed using factor analysis to ensure construct validity. Reliability of the measures will be assessed with Cronbach's alphas.

Data Collection Procedures and Data Analysis

Participants in the survey will be solicited from the former and current clients of an outsourcing provider. The company under consideration has contracts with about 250 different outsourcing clients. All of those clients will be contacted to request participation. Once the companies agree to participate, three managers in charge of information systems function in each organization will be asked to complete the first questionnaire. Multiple responses are solicited from each organization, so that the results can be triangulated on the basis of evaluators. The questionnaire will be available to the respondents on line. After the initial contact, all of the managers will be contacted again thanking those who have participated and reminding others to participate. The potential respondent will most likely hold a title of CIO, CTO or VP of technology.

Additionally the provider staff will be surveyed. The second questionnaire will be used to collect their views about the relationship with each particular client. Individuals directly responsible for managing the contract with each client will be asked to complete the questionnaire. This questionnaire will also be available on-line and participation will be solicited via e-mail.

The dependent variable IS backsourcing will be operationalized as intent to backsource. This intention will be measured using a 5-point Lickert scale items addressing intention to backsource due to either economic, strategic or relationship reasons. Additionally details of intended backsourcing activities will be gathered, as well as specific reasons for backsourcing of each function.

To analyze the data structural equation modeling (SEM) will be used. This technique allows answering a set of interrelated research questions in a single, systematic and comprehensive analysis by modeling relationships among multiple independent and dependent constructs simultaneously. SEM not only assesses the assumed causation among a set of dependent and independent constructs (structural model), but also evaluates loadings of the observed items and their expected latent variables (measurement model). This combined analysis of the measurement and structural models allows analyzing the measurement errors of the observed variables as integral part of the model, and also incorporates factor analysis into one operation together with hypotheses testing (Gefen, Straub & Boudreau, 2000).

Conclusions and Implications

This research examines the change in the outsourcing of corporate IS functions and the grounds for this decision. Problems in the relationship between the partners, changes in the market environment, and reconsideration of strategic competencies within the company can all lead to the change in outsourcing governance. Failure to maintain productive and trusting relationship with the provider is often a cause of predicaments with the outsourcing arrangement. Many contracts do not include all the possible contingencies, promoting opportunism on the part of the provider. Outsourcing clients who consider their partners unreliable, or unable to successfully complete their contracts, find advantages in backsourcing.

A decision to take the outsourced IS functions back in-house can occur for a number of reasons. The conceptual model proposed in this paper aims to explain the antecedents of backsourcing in different situations. Identifying the underlying causes for undertaking backsourcing can provide managers with more effective decision tools when reviewing outsourcing contracts or responding to changes in the market environment.

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