An Empirical Assessment of Transaction Risks of IT Outsourcing Arrangements: An Event Study

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Abstract

Our study uses stock market reactions to assess various risks associated with IT outsourcing. Because much of the value and cost of IT outsourcing is intangible, hidden, and long-term oriented, most prior studies have articulated IT outsourcing risks conceptually and paid little attention to an empirical validation of such risks. We employ an event study methodology to assess how investors perceive and evaluate the risks related to IT outsourcing. More precisely, we empirically test the extent to which sources of IT outsourcing transaction risk (including asset-specificity, resource dependency, technological discontinuity, and performance monitoring) influence investors’ reactions to IT outsourcing announcements. Our results indicate that investors exhibit two extreme responses: one perceives that benefits from IT outsourcing outweigh the risks associated with it; the other adopts the exact opposite view. Further analyses reveal that asset specificity of the IT resources to be outsourced and the size of the contract are negatively correlated with investors’ reactions as measured by stocks’ cumulative abnormal returns (CARs). Contrary to our predictions, contract duration and performance monitoring problems were not significantly associated with the market reaction. We discuss these findings and offer implications for both research and practice.

1. Introduction

In recent years, IT outsourcing has become a widespread phenomenon in the business community despite the persistent debate over its impact on business performance [8]. Potential benefits from IT outsourcing include reduced costs, improved quality, the ability to focus on core competencies, and access to new technologies. These benefits have been well documented conceptually [30] and also supported by a number of empirical studies [5, 21]. Nonetheless, issues pertaining to the potential hazards associated with IT outsourcing have remained a primary focus of attention, spawning numerous studies exploring the risks of IT outsourcing [2, 7].

The literature suggests that IT outsourcing bears inherent risks that include loss of control, knowledge transfer, and vendor opportunism. [2]. Although numerous studies have articulated various risks that result from IT outsourcing, most have been either descriptive or prescriptive in nature and provide only conjectures or anecdotal evidence for the presumed risks. Because much of the value of IT itself is intangible, hidden, and long-term in nature, an empirical validation and assessment of such risks and benefits has not been feasible. In this study, we fill the gap by using an event study methodology, which empirically assesses how investors perceive and evaluate the risks of IT outsourcing. Recently, the event study method has been widely employed in studying the relationship between IT and business performance, due to its ability to measure the intangible costs and benefits associated with IT investments [6, 14, 27].

We examined the stock market’s reaction to IT outsourcing announcements as a way to assess transaction risks due to problems such as asset specificity, resource-dependency, inability to monitor performance, and technological discontinuities [2]. For example, we anticipate different market reactions to IT outsourcing announcements, depending on the extent to which the resources and activities to be outsourced are asset-specific. Similarly, we expect the level of resource dependency and the likelihood of technological discontinuity to negatively effect investors’ responses to the specific outsourcing announcement. This study makes several contributions to our understanding of the risks associated with IT outsourcing. In particular, we identify several factors, most of which were articulated only conceptually in past research, and we empirically examined their
impacts on investors’ responses to IT outsourcing announcements. Prior event studies in the IS literature have assumed a positive market reaction to IT-related announcements and have developed their hypotheses accordingly. As a result, the other side of story (potential negative market reactions to IT-related announcements) has received little attention, and negative results are often assumed to be aberrations or outliers. This study seeks to fill the gap by providing some empirical evidence for the hypothesized risks of IT outsourcing.

The results obtained from this study also provide practical contributions to executives who make IT outsourcing decisions. Our findings will help them to maximize the informational value of outsourcing arrangements, offering valuable insights regarding how much detail to provide when publicizing their outsourcing plans. Similarly, the study also suggests how to minimize the potential harm that may result from negative market reactions to IT outsourcing announcements (in terms of reduced share price).

2. Literature Review

IT outsourcing is a relatively recent phenomenon, although the controversy over the “make-or-buy” decision or the “markets-versus-hierarchies” governance debate has persisted in the business community for decades [11, 24]. Because the primary research question of IT outsourcing is subsumed by the classical “make-or-buy” problem, several theoretical perspectives – including agency theory [15] and transaction cost economics [32] – have been proposed to assess the economic value of IT outsourcing arrangements. We reviewed academic literature on IT outsourcing identifying five streams of research. Based on case study evidence, the earliest research on IT outsourcing focused on describing the business impact of IT outsourcing [10, 22]. Many of these studies highlight the benefits of IT outsourcing, including cost savings, increased strategic focus, improved efficiency, and access to the latest technologies, while paying little attention to the costs or risks that accompany outsourcing. A second research stream explored the drivers and antecedents of IT outsourcing, typically employing surveys to identify factors associated with the decision to outsource [21, 30].

A third research stream focuses on managing the complex relationship between the client and vendor, identifying various types of outsourcing arrangements, such as alliances and partnerships – both from an economic perspective, as well as from psychological and social perspectives [3, 18, 26]. Many of these studies employ theories from the strategic management literature (including mergers-and-acquisitions, strategic alliances, partnerships, and joint ventures) to articulate both positive and negative outcomes of different outsourcing relationships. The fourth research stream examined the risks and costs associated with IT outsourcing [2, 7]. These studies assessed the risks of outsourcing relative to other arrangements, such as insourcing [12], dual-sourcing [19], and selective sourcing [20].

An emerging fifth stream is beginning to employ content-based event studies, with two prior studies examining the market reaction to IT outsourcing announcements. Based on 78 outsourcing announcements between 1990-1997, Hunton, Reck & Hayes [13] found a significant positive return one day after (day +1) the announcement (p < 0.10). In addition, they discovered an inverse relationship between the market’s reaction and the client firm’s size. Similarly, Peak, Windsor & Conover [28] examined how the market reacted to IT outsourcing announcements during three specific time periods: (1) during a pre-event period (from day -45 to day -2), (2) around the immediate event (from day -1 to day +1), and (3) during a post-event period (from day +2 to +45). They found a significant positive excess return to the IT outsourcing announcement during the event period (p < 0.05). Conversely, they found no significant market reaction during the pre-event and post-event periods. Further analysis revealed that the variance in the market’s reaction could be explained by the stated objective for outsourcing that was expressed in the announcement: The market exhibited a positive reaction to announcements seeking “vendor services or expertise” as their primary objective. In contrast, there was no significant market reaction when “focusing on core competences” and “improving service quality” were the stated objectives. Peak et al. concluded that the market reacts asymmetrically to IT outsourcing announcements – showing a positive reaction to outsourcing initiatives that seek to vendor service, while not reacting (either positively or negatively) to those initiatives seeking to improve service quality or focus on a firm’s core competencies.

Although these studies have contributed to our understanding of whether and how IT outsourcing announcements lead to significant abnormal returns in stock prices, little consideration has been given as to why researchers obtained such results. In fact, these two event studies produced conflicting results, which limits our understanding of the “true” relationship between the market perception and firms’ IT outsourcing activities. Our study extends previous studies by considering why such mixed results have occurred in prior studies. In particular, we examined the specific risks associated with IT outsourcing – a
topic that has drawn significant topical interests in recent years, but which has only been studied conceptually to date. We used the market evaluation of the risks associated with IT outsourcing as a proxy for the business value of such initiatives. Our study investigates the extent to which the key factors associated with risks of IT outsourcing, including asset-specificity, resource-dependency, and technological discontinuity influence the market’s reaction as measured by the cumulative abnormal returns (CAR).

3. Hypothesis Development

IT outsourcing is an arrangement whereby firms obtain necessary IT resources, both physical and human, through external vendors rather than developing them internally [22]. Service-providing vendors (hereafter simply vendors) are therefore expected to take full or partial responsibility for a firm’s IT requirements. Several theoretical perspectives have been employed to assess various types of risks with respect to IT outsourcing. Aubert et al. [2] identified three types of risks, namely (1) agent risk, (2) principal risk, and (3) transaction risk. Generally, agent and principal risks occur due to discrepancies between the objectives of the principal (i.e., the client firm) versus those of the agent (i.e., the vendor firm) [11]. Agent risk results from agents’ opportunistic behavior, which seeks to maximize their own self-interest at the expense of the principal or client [2]. Due to difficulties in monitoring their behavior, agents may be tempted to exhibit opportunistic behavior, resulting from moral hazard, adverse selection and imperfect commitment. The agent’s lack of experience for the activity to be outsourced may also contribute to this risk. Principal (clients) risk, on the other hand, refer to the risks associated with the principal’s lack of experience and expertise with the activity to be outsourced [2]. Principals (i.e., the client or contract-granting firms) who lack the experience necessary to evaluate the quality of the service rendered may encounter problems since they make themselves vulnerable to the agent’s opportunistic behavior.

In contrast to the agent and principal risks – both of which are incurred due to discrepancies between the objectives of the two parties involved – transaction risks result from transaction-specific factors, including asset-specificity, frequency, interdependency, and technological discontinuity [2]. This study focuses exclusively on the impact of these transaction risks on the market’s reaction to IT outsourcing announcements. While both agent and principal risks can be assessed only post hoc (after implementing the outsourcing arrangement), transaction risks can be assessed at the time of the announcement. We derived the following variables from various perspectives, including transaction cost economics, agency theory, and contract theory.

Asset Specificity: A resource can be described as asset specific if “it cannot readily be redeployed by other firms because of site specificity, physical asset specificity, or human asset specificity” [24]. Asset specificity is considered a critical dimension of many forms of IT because many IT resources are proprietary, by nature, and are developed only to satisfy a firm’s specific need (e.g., custom software) [1]. Thus, highly asset-specific IT resources cannot be easily redeployed for other purposes. From the perspective of transaction cost economics, client firms that outsource highly asset-specific resources (e.g., proprietary software technologies) are likely to encounter higher transaction risk than firms that outsource commodity-type resources1 (e.g., hardware or infrastructure resources). There are two reasons for this. First, given that the termination value of specific assets is extremely low, vendors are less worried about the client’s potential termination of the contract and may behave more opportunistically, maximizing their own self-interests at the expense of the client (i.e., negligence, sub-optimal performance, and shirking) [32]. Second, when proprietary IT resources are developed by the vendor – even if the vendor does not meet its expectation – substituting another vendor would be prohibitively costly and could likely result in a significantly delays. Thus, clients are likely to encounter a technological lock-in scenario, in which they can be “held hostage” to a given service provider until the contract expires.

Prior research has shown conflicting arguments regarding the relationship between asset specificity and IT outsourcing. Consistent with our argument, Grover et al. [10] found a negative relationship between specific assets and IT outsourcing success. Ang and Cummings [1] found no evidence of a relationship between asset specificity and outsourcing – although, based on the logic of institutional theory, they had expected to find one. In summary, outsourcing highly asset-specific IT resources increases the risk of vendor lock-in and provides the vendor with an incentive to pursue their own interests “with guile” [32]. Thus, we predict:

Hypothesis 1: The stock market’s reaction to IT outsourcing announcements will be inversely

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1 We chose to focus on certain dimensions of transaction cost economics that could be examined with the data available.
related to the degree to which the IT resources to be outsourced are asset specific.

**Contract Size:** Resource dependence theory [29] posits that firms exchange resources to reduce uncertainty and to remain competitive. IT outsourcing with the goal of securing capabilities and resources that are not available internally is a manifestation of resource dependency between client and vendor. Kern and Kreijger [17] argue that the level of dependency is a function of the value of the resource for the client, the number of alternative suppliers, and the costs of switching to another vendor, if necessary.

The monetary size of the contract is also expected to play a significant role in determining the level of dependency. Intuitively, as the size of the contract increases, the client tends to lose control over its internal resources and becomes more dependent on the vendor. Barki, Rivard and Talbot [4] show that the size of IT projects determines one dimension of the risk profile, identifying a positive relationship between project size and the level of risk, due to task uncertainty. The size of the contract is also positively correlated with the strategic importance of the IT functions to be outsourced and the level of switching costs required to substitute another vendor. In addition, the cost associated with monitoring the supplier increases as the contract size increases [15]. Thus, due to increased dependency and the substantial monitoring cost, investors are expected to react negatively to larger IT outsourcing announcements.

**Hypothesis 2:** The market’s reaction to IT outsourcing announcements will be inversely related to the size of the contract.

**Duration of Contract:** The proposed duration of the contract plays a significant role in many types of IT outsourcing arrangements [26]. In particular, contracts of longer duration become more problematic when the business environment in which the firm operates is uncertain and difficult to predict. Not only business environment uncertainty, but also technological uncertainty exacerbates the risk of long-term contracts – due to the potential for technological discontinuities. Considering the speed at which technologies change and become outdated, signing a long-term contract with an IT service vendor may be risky. The business environment has become more and more uncertain even within a short period of time, while continuously forcing firms to rely more on cost-effective technologies. For example, in recent years, we have witnessed dramatic changes in the IT services marketplace, including the rise and fall of e-commerce vendors, a reduction in hardware and software costs, the proliferation of powerful web servers and applications, the emergence of open source platforms, Application Service Providers (ASP) and web services.

In recent years, the landscape of IT service industry has become more competitive due to lower entry barriers, compared to a decade ago when only a handful of large vendors dominated the outsourcing market. Increased competition has reduced the prices vendors charge, while offering higher quality service bundles. Hence, a long-term commitment to a particular vendor is likely to be less cost-effective, and may reduce the client’s ability to leverage cost-saving technologies.

In addition to cost factors, long-term contracts tend to limit a firm’s strategic flexibility. In the worst case, a so-called “partnership” that locks the client in to a poorly-performing vendor may become a strategic liability, constraining the client’s flexibility [27]. In an uncertain market environment, frequent strategic changes might be necessary to find new ways to compete [25]. Assuming that IT is a fundamental strategic resource, long-term outsourcing relationships are likely to constrain the firm from seeking more flexible strategies. Finally, being legally obligated to one vendor for a long period of time may prevent the client from assessing the newest technologies and from combining best-of-breed innovations available in the marketplace. Thus, we predict:

**Hypothesis 3:** The market’s reaction to IT outsourcing announcements will be inversely related to the proposed duration of the contract.

**Performance Monitoring:** From a game-theoretic perspective, many service providers are intrinsically tempted to behave opportunistically by shirking – or otherwise failing to do their best work – when their performance is difficult to monitor. Several objectives have been identified for why firms outsource their IT resources (including cost-savings, improved quality, access to new technologies, and the ability to focus on core competencies without worrying about tangential details). These goals center around two overarching objectives: efficiency and effectiveness. Traditionally, measuring the efficiency impact of IT, such as cost-reduction, has been relatively easier than quantifying its impact on effectiveness, such as revenue-growth or market share growth [31]. Cost reduction is an internal matter and thus can be demonstrated by comparing costs before and after the deployment of IT outsourcing contracts, while a firm’s revenue is determined by various external factors, including the level of competition, government regulations, foreign exchange rates, etc. Hence, vendors that provide IT services with the primary goal of enhancing the client’s
revenues can attribute any resulting poor performance to these external factors or to unforeseen events. From the client perspective, pinpointing the changes in their revenues as a result of such IT outsourcing is extremely difficult due to these confounding factors.

Inherently, the impact of IT on revenue-generation has been considered very difficult to detect because of its long-term orientation and intangibility. Enhancing revenues through IT (so-called strategic information systems) often requires a long-term horizon to improve customer service, increase product variety, and develop new alliances [16]. In contrast to outsourcing which seeks to reduce costs, outsourcing with the goal of enhanced revenue generation is less likely to result in instant economic gains and is more difficult to measure. Measuring operational efficiencies under a new outsourcing arrangement is more direct, tangible, and is less compounded by external factors.

**Hypothesis 4**: The market’s reaction to IT outsourcing announcements will be positively related to cost-reducing IT outsourcing contracts.

### 4. Data and Methods

Using four keyword phrases, we employed Lexis-Nexis to access articles and press releases about IT outsourcing for the period January 1998-December 2001. The keywords were carefully selected based on a combination of terms describing IT and a set of action verbs (e.g., award, outsource, purchase, sign, contract, etc.). Because many outsourcing arrangements occur in the form of partnerships or more complicated multi-vendor arrangements [27], we also employed phrases such as partnership, alliance, marketplace to identify these current practices.

Two graduate students were hired to initially filter thousands of news articles recovered by our search, of which 142 were identified as relevant. Many excluded articles were related to outsourcing of non-IT resources, such as manufacturing sub-contracting. The first author read all 142 announcements to determine if there were any confounding events occurring around the event date. This step is important in event study research to prevent the results from being contaminated by other events occurring within the event “window” to be examined. We eliminated 46 articles at this stage either because (1) the article was concerned with the completion or renewal of an existing outsourcing arrangement, or (2) the outsourcing announcement was subject to a confounding effect (e.g., the firm announced a new CEO, new product line, etc., during the event window). This resulted in a final sample of 97 announcements.

**Constructs and Measures**

**Cumulative Abnormal Returns**: Cumulative abnormal returns (CAR) indicate the extent to which investors adjust their belief about the firm’s value due to new events. Positive CARs are likely to occur when most market participants perceive that the new “event” will result in significant future cash flows. Conversely, negative CARs are expected when investors hold pessimistic views regarding the announced event. With respect to the method by which CARs are obtained, we followed the same procedures employed in prior IT event studies [6] to compute the CARs. The market model used to compute CARs is as follows:

\[
R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt},
\]

where

- \( R_{jt} \) : rate of return for firm j on day t,
- \( R_{mt} \) : rate of return on the equally weighted market portfolio on day t,
- \( \alpha_j \) and \( \beta_j \) : intercept and slope parameter for firm j, respectively
- \( \epsilon_{jt} \) : error term for firm j on day t.

We followed three steps to compute the CARs for each announcement: First, we determined the parameters (\( \alpha_j \) and \( \beta_j \)) of \( \alpha_j \) and \( \beta_j \) for the market model by using daily stock return data during the period from day -200 to day -30 (where 0 is the “event” date). Second, the average abnormal returns (\( A_{jt} \)) for each firm were obtained by subtracting the returns during the event “window” surrounding the announcement date from the expected returns, based on the market model: \( A_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt}) \). The average abnormal return (AAR) is the sample mean:

\[
AAR_t = \frac{\sum_{j=1}^{N} A_{jt}}{N}
\]

where t is defined in trading days relative to the event date.

Third, CARs are obtained by aggregating average abnormal returns for the period of the test:

\[
CAR_{t_1,t_2} = 1/N \left( \sum_{j=1}^{N} A_{jt} \right)
\]

Where t₁ is the beginning trading day and t₂ is the ending trading day for the period.

Consistent with prior studies [6, 14], we employed the standardized abnormal return method and calculated Z-statistics, using the standard abnormal returns for each firm on Day t, to examine the significance of CARs around the event date (e.g., the outsourcing announcement). In our model (Equation

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\[\text{Equation}\]
outsourcing seeks to enhance revenues.

The goal of outsourcing seeks to cut costs, if the stated goal of outsourcing seeks to cut costs, 0 if the stated goal of outsourcing seeks to enhance revenues.

We performed an analysis for potential selection bias to determine discontinuity, where we expected longer contract duration to leverage any potential technological discontinuity. Therefore, the contract duration was an appropriate proxy for assessing the likelihood of technological discontinuity.

Contract Duration:

Contract duration is an important factor that influences the ability of the client firm to leverage any potential technological discontinuity. Therefore, the contract duration was an appropriate proxy for assessing the likelihood of technological discontinuity, where we expected longer contract duration to have a negative impact on the investors’ evaluation of the announcement. The duration of the contracts in our study ranged from six months to eleven years. Many announcements did not provide details of the proposed contract duration; however, 47 announcements included such contract details.

Performance Monitoring: Difficulty in monitoring the vendor’s performance was considered one of the sources of transaction risk. As described earlier, the performance of IT investments seeking to cut costs or improve operational efficiency is relatively easier to monitor than IT investments seeking to increase revenues or enhance the firm’s competitive position [31]. We coded the dummy variable as 1 if the announcement mentioned a goal of cost reduction and 0 if it described goals such as revenue-enhancement or “strategic” systems.

5. Results

Although the primary objective of our study was to investigate the factors that influence investors’ perceptions of IT outsourcing risks, we first present the overall market reaction to IT outsourcing announcements. In contrast to prior studies, our results provide only weak evidence (at the 10% significance level) with respect to investors’ positive reaction to IT outsourcing announcements. Table 1 indicates the average abnormal returns during an 11-day “window” from five days before the announcement to five days after the announcement. The market appears to react positively to the news on the event date and also four days afterward (p < 0.10).

<table>
<thead>
<tr>
<th>Days</th>
<th>Mean Abnormal Return</th>
<th>Positive (number of events)</th>
<th>Negative (number of events)</th>
<th>Generalized Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5</td>
<td>+0.51%</td>
<td>41:56</td>
<td></td>
<td>0.742</td>
</tr>
<tr>
<td>-4</td>
<td>+0.16%</td>
<td>45:52</td>
<td></td>
<td>0.831</td>
</tr>
<tr>
<td>-3</td>
<td>-0.05%</td>
<td>50:47</td>
<td></td>
<td>-0.406</td>
</tr>
<tr>
<td>-2</td>
<td>+0.12%</td>
<td>49:48</td>
<td></td>
<td>0.273</td>
</tr>
<tr>
<td>-1</td>
<td>-0.08%</td>
<td>44:53</td>
<td></td>
<td>-0.276</td>
</tr>
<tr>
<td>0</td>
<td>+0.63%</td>
<td>50:46</td>
<td></td>
<td>2.019*</td>
</tr>
<tr>
<td>1</td>
<td>+0.01%</td>
<td>50:47</td>
<td></td>
<td>0.625</td>
</tr>
<tr>
<td>2</td>
<td>-0.23%</td>
<td>49:48</td>
<td></td>
<td>-0.074</td>
</tr>
<tr>
<td>3</td>
<td>+0.17%</td>
<td>48:49</td>
<td></td>
<td>-0.288</td>
</tr>
</tbody>
</table>

3 We performed an analysis for potential selection bias to determine if the sample of announcements that contained this financial information differed significantly from those excluding it [23]. Since the Levene’s test indicated that the variance for the CARs was statistically equivalent, a t-test was performed to determine the equality of means for the variable. The results showed that the CARs for the two groups did not differ significantly (p > 0.05), thus showing no selection bias.

4 We performed the same Levene’s test to determine the existence of a selection bias for those announcements providing the contract duration information versus those lacking it. As was the case for contract size, the CARs showed no evidence of selection bias (p > 0.05).
Table 2: Cumulative abnormal return around IT investment announcement (N = 97)

<table>
<thead>
<tr>
<th>Days</th>
<th>Mean CAR</th>
<th>Precision</th>
<th>Generalized Z</th>
<th>Sign Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-5,-1)</td>
<td>0.66%</td>
<td>0.33%</td>
<td>0.520</td>
<td>0.901</td>
</tr>
<tr>
<td>(0,+1)</td>
<td>0.65%</td>
<td>0.75%</td>
<td>1.869*</td>
<td>1.105</td>
</tr>
<tr>
<td>(+2,+5)</td>
<td>0.57%</td>
<td>0.48%</td>
<td>0.837</td>
<td>0.698</td>
</tr>
</tbody>
</table>

* Significance at the 0.1 level.

Interestingly, the market’s reaction was symmetrically distributed: among the 97 announcements, 46 produced negative market reactions, while 50 generated positive reactions (and one exhibited a zero CAR value). The mixed reactions suggest that investors exhibit two different responses: one perceives that benefits from IT outsourcing outweigh the risks associated with it; the other adopts the exact opposite view. We believe that these contrasting reactions, when combined together, produced the weak, but positive market reaction (p<0.10), by aggregating the two sets of cases.

Table 3 presents correlation coefficients for all variables included in the model to assess the factors that influence investors’ perception towards the risks associated with IT outsourcing. The dependent variable (CAR) is negatively associated with asset specificity (p<0.01) and with contract size (p<0.05). Asset specificity is significantly related to all other independent variables. In particular, the degree of asset specificity is significantly related to the type of IT resources (cost-reduction and revenue-enhancing): Revenue-enhancing IT resources appear to be more asset specific, which is appropriate given that they are more strategy-oriented and complex accordingly. In contrast, cost-reducing IT resources are generally more “standardized” across the industry, as a result of which their asset specificity is lower relative to revenue-generating counterparts. As would be expected, the association between contract size and contract duration is particularly high (r = 0.58).

Table 4: Regression results

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.206</td>
<td>3.76**</td>
</tr>
<tr>
<td>ASSTSPEC</td>
<td>-0.031</td>
<td>-2.37**</td>
</tr>
<tr>
<td>CONTSIZE</td>
<td>-0.011</td>
<td>-3.41***</td>
</tr>
<tr>
<td>CONTLENG</td>
<td>0.001</td>
<td>0.51</td>
</tr>
<tr>
<td>MEASURE</td>
<td>-0.002</td>
<td>-0.10</td>
</tr>
</tbody>
</table>

Dependent Variable: CAR, F=3.99, p <0.01
***, ** Correlation is significant at the 0.01 and 0.05 levels, respectively.

6. Discussion and Implications

Consistent with our prediction, IT outsourcing announcements involving firm-specific assets resulted in negative stock market reactions. The potential lock-in problem resulting from asset specificity seems to contribute to these negative market reactions. We also found contract size to be negatively associated with the market’s reaction, suggesting that investors perceive
larger contracts as riskier. Current trends in IT outsourcing are moving to more specialized and segmented arrangements, as seen by the emergence of short-term ASP-based arrangements. Moreover, outsourcing arrangements have become increasingly more complex due to the proliferation of partnership-based, alliance-, and joint venture-driven arrangements [27]. In a fast-changing and uncertain world, a larger contract poses a greater risk and be viewed as opposing current trends.

In contrast to our prediction, contract duration was not significantly associated with the market reaction. It appears that investors care more about the size of the contract, rather than its duration when they assess the degree of the risk inherent in IT outsourcing initiatives. Finally, we also posited that, due to the difficulty in directly observing outcomes, vendors might be more tempted to shirk or exhibit opportunistic behavior when they control revenue-generating IT than when they manage cost-reducing IT. Our data provided no support for this hypothesis. However, although a significant relationship was not found, a further t-test revealed that the market reaction was indeed influenced by the type of IT (p<0.01): The mean of the CAR for cost-reducing IT was positive (0.015), whereas the mean for revenue-generating IT was negative (-0.008). This difference suggests that investors perceive higher risk when clients pursue revenue-generating outsourcing initiatives, than for cost-reduction initiatives.

Our study has a number of implications for both research and practice. From the research perspective, our study provides valuable insights into the prior mixed market reactions to announcements of IT investments. Non-significant reactions were observed in previous studies [14], but these results have not been fully explained by contemporary IT event studies. Furthermore, the positive assumption made in previous event studies, in conjunction with the impact of IT on firm performance, needs to be re-evaluated because many investors regard IT departments as cost-centers rather than profit-centers. There seems to be strong symmetry with regard to the evaluation of IT outsourcing activities: about half of the announcements in our study triggered positive reactions; the other half produced negative responses.

By means of a more systematic approach, we have assessed the risks associated with IT outsourcing and presented empirical evidence to test claims that have long been the subject of speculation based on case studies or other anecdotal evidence. Future research should expand upon our model to include other factors that influence investors’ reactions to IT outsourcing announcements. Firm or industry characteristics such as growth potential and market concentration might explain the portion of the variance that was not explained in this study. In addition, although no significant difference was observed with respect to the CAR between the announcements with full contract details (e.g., size and duration of the contract) and those without, a further investigation seems necessary to shed light on why only some firms offer such details in their announcements, while others withhold this information. In order to increase the external validity of our findings, an analysis should be performed with a larger sample of announcements, including more announcements containing full details of contract size and duration. Future research should also be conducted to examine the impact of other risks associated with IT outsourcing (i.e. agent and principal risk). Specific determinants of agent risk should be explored in order to understand the causes of opportunistic behavior by some service providers.

Finally, our study can benefit practitioners by offering insights that may help them to maximize the market impact of their initiatives. Although a further examination is needed to substantiate our findings, executives should expect a negative reaction from investors when they announce new IT outsourcing initiatives dealing with highly asset-specific resources (e.g., development of proprietary software). In fact, considering the fact that the majority of the announcements are typically made by vendors (with the anticipation of positive impacts on their own stock prices), client firm managers may wish to require that vendors not publicly broadcast the contract details, especially when contracting for asset-specific services. One way to ensure such confidentiality is to make it a part of their contract so that the client can be legally protected against any negative repercussions, in terms of reduced stock prices that accompany the public announcement. Managers should also take into consideration the fact that the market does not appear to welcome large-scale outsourcing arrangements. Therefore, they may be better off to avoid disclosing the contract details, and to prevent vendors from exploiting such informational details in the pursuit of their own interests. Given this finding, it is perhaps not surprising that over half of the announcements in our study failed to specify either the contract size or the proposed duration of the contract.

There are a few limitations of our study. First of all, the sample of announcements that we coded was relatively small (n=97) and from a limited number of years (1998-2001). Our analysis should therefore be replicated with a larger sample. Second, in terms of contract size, we analyzed the absolute dollar value of the contract, but a $1 million contract for a medium-sized firm may represent a much larger proportion of its IT budget (and hence, greater risk) than the same...
amount for a much larger firm. Since transaction risk may be more a factor of the contract size relative to the overall IT budget or as a percent of firm revenues, our analysis should be repeated using other techniques that take these factors into account. Finally, we did not consider the brand name of the vendor, although this may be an additional factor that may shape investors’ risk perceptions. In future research, we hope to remedy these shortcomings.

7. Conclusions

To outsource or not to outsource IT resources is a strategic decision that may critically affect a firm’s performance [2]. Numerous theoretical perspectives have been employed to assess the costs and benefits of IT outsourcing. To the best of our knowledge, this is the first study that examines the contracts from transaction cost economics, including asset-specificity, to analyze investors’ reactions to IT outsourcing. Interestingly, according to our data, investors exhibit varied responses regarding the business value of IT outsourcing: one-half of the announcements triggered positive responses, while the other half produced negative market reactions. According to our two hypotheses that received support, the asset specificity of the IT resources to be outsourced and the size of the contract appear to be key sources of the negative reaction observed in this study. These findings indicate that investors are aware of these potential transaction risks that accompany the transfer of responsibility for IT assets from client to vendor firms.

New trends in the IT outsourcing arena, such as short-term ASP-based arrangements, open-source outsourcing, and multi-vendor or alliance-based arrangements have emerged as alternatives to help client firms mitigate these risks. Such options also allow clients greater agility in responding to business and technology uncertainty, and to fully leverage leading-edge technologies in a cost-effective manner. We predict that these trends will continue and become more common practices among firms in the future.

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9. References


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