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Investor Reactions to Substitution-Based Outsourcing Agreements*

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In response to pressures from both domestic and global competitors, countless U.S. firms have attempted to reduce their costs and increase their focus on core competencies by increasing their reliance on outsourcing. This increased expansion of outsourcing has recently caused a significant amount of debate in academic and political circles, as well as extensive coverage in the media. A good deal of the media coverage and political debate has centered on outsourcing's negative effects on those whose jobs have been lost to outsourcing, especially outsourcing of work by U.S. firms to foreign partners.

Academic research on outsourcing has also increased in recent years. Most early academic work on outsourcing was theoretical in nature and focused primarily on outsourcing's influence on organizational competitiveness (i.e., Bettis *et al.,* 1992; Quinn, 1992). Such early examinations of the outsourcing-performance relationship made

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many intuitively appealing arguments for the benefits and concerns of outsourcing. In particular, there was concern that outsourcing would "hollow out" the American industrial base, leaving the U.S. economy floundering as a result of what appeared to be sound business decisions initially. Bettis *et al.* (1992) argued that outsourcing reduced innovation, shifted critical organizational knowledge to unscrupulous partners, and gave away control of organizational processes. Thus, Bettis *et al.* (1992) argued rather strongly that outsourcing by U.S. firms would eventually lead to "industrial decline."

Quinn (1992), on the other hand, suggested just the opposite. More specifically, Quinn (1992) argued that outsourcing's many benefits would outweigh the disadvantages. In particular, Quinn (1992) argued that the increased focus on a firm's core competencies that is possible through outsourcing would yield superior performance in the long-run. More recently, Holcomb and Hitt (2007) suggested additional benefits from outsourcing, such as a short-term increase in capital available to the firm due to asset sales and a long-term reduction in capital required to operate.

Initial concerns about outsourcing's negative effects on firm performance and, by extension, economic vitality, revolved mainly around manufacturing outsourcing because services outsourcing was relatively rare. Recently, however, new concerns about outsourcing's effects on the U.S. economy have surfaced, and these concerns now center on the outsourcing of service-related activities. Many service-related activities that were previously believed to be "safe" from outsourcing are indeed not (Barthelemy and Quelin, 2006). Much of the recent service-related outsourcing that is occurring is being made possible by advances in information technology. Further, research by Farrell and Agrawal (2003) suggested that services-related outsourcing is expected to grow at a rate of 30% to 40% in the coming years, leading to increased anxiety about the issue.

Despite the various concerns about outsourcing's effects on the performance of individual firms and the U.S. economy in general, relatively few attempts have been made to assess the effects on firm value of outsourcing agreements, both services-related and manufacturing-related. There is anecdotal evidence that outsourcing can be good or bad for the economy as a whole, depending on whom you ask. For instance, the McKinsey Global Institute believes that the U.S. gains about $1.14 for every dollar of work outsourced abroad, which stands in stark contrast to the dire predictions of Bettis *et al.* (1992). Conversely, estimates from consulting firms such as Deloitte Consulting and Forrester Research estimate U.S. firms may lose between 2 million and 3.3 million jobs, primarily in the service sectors by 2015 (Halogen Corporation, 2010). Regardless, the effects of a broad range of outsourcing types on individual firms have been rarely studied (see Gilley and Rasheed, 2000). The current study examines investors' reactions to a broad range of types of outsourcing using an event methodology. In addition, this study also conducts supplemental regression analyses to examine those agreement-related and firm-specific factors that may influence the magnitude of the reactions to outsourcing announcements.

While there are competing theories of how firms should be managed, increasing shareholder wealth is the foundation for the "value maximization" hypothesis. Even in the competing model, stakeholder theory, shareholders are considered to be an important stakeholder; increasing their wealth is how managers would respond to this stakeholder group. Measuring investor reaction is how the wealth effects of an event such as outsourcing are determined, and it, therefore, establishes if the outsourcing agreement is consistent with the purpose or one of the purposes of the firm.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS

Before moving forward, it is useful at this point to discuss exactly what outsourcing is and what it is not. Prior work has exhibited some confusion as to the precise definition of outsourcing, thus slowing theory development on this important issue. Outsourcing has been defined as a "significant contribution by external vendors" (Loh and Venkatraman, 1992: 9), a "reliance on external sources for manufacturing components and other value-adding activities" (Lei and Hitt, 1995: 836), and "components and finished products supplied to the firm" (Kotabe, 1992: 103), among others. These definitions are insufficiently specific as to provide a solid foundation for theory development. Clearly, not all items or services supplied to the firm should be considered outsourced, because then *everything* a firm purchases on the market would be considered outsourced (i.e., office supplies, equipment used in manufacturing processes, and so on). This overly broad view of outsourcing serves to muddy the theoretical waters. Thus, a more fine-grained view of outsourcing, following Gilley and Rasheed (2000), is taken here. For the purposes of this study, a particular type of outsourcing is examined – that which occurs when an organization shifts production of a manufacturing process or service activity from inside the firm to an external supplier. This is outsourcing through substitution (Gilley and Rasheed, 2000)[1], because the organization is substituting a market transaction for internalization of an activity. Gilley and Rasheed (2000) do not explicitly address whether a firm is required to shift 100% of an activity to an external supplier to be considered engaged in substitution-based outsourcing. However, what seems clear from reading this work and the work of others in the area of outsourcing is that substitution-based outsourcing occurs when the firm shifts its work to an outside supplier, and that the firm does not have to shift 100% of a given function to an outside supplier to be engaged in substitution-based outsourcing. Thus, the theoretical framework and methodology in this study are designed to address this particular form of outsourcing.

It would appear that outsourcing is a phenomenon in search of a theoretical framework. Indeed, several bodies of management literature may help explain the potential firm performance implications of outsourcing agreements. Core competence work, vertical integration, resource-based view, transaction cost theory, contingency theory, institutional theory, and more may be used to explain certain aspects of this growing trend. It would appear that the choice of theoretical framework used in prior outsourcing research depends on the particular benefit or cost of outsourcing being examined in a particular piece of research. For instance, Ang and Straub (1998) employed transaction cost economics in their investigation of information systems outsourcing, while Ang and Cummings (1997) used institutional theory to explain outsourcing decisions. Further, contingency theory was employed by Gilley *et al.* (2004) to explain the antecedents of manufacturing outsourcing and by Gilley and Rasheed (2000) in their examination of the performance implications of such outsourcing.

As noted above, the current paper explores the anticipated firm value effects of substitution-based outsourcing by publicly traded U.S. firms. In analysis using transaction cost economics (Coase, 1937; Williamson, 1971, 1979) and a core competence perspective (Prahalad and Hamel, 1990), a reduction in transaction costs and an increase in a company's focus on core competencies have been cited previously

[1]Outsourcing through abstention (Gilley and Rasheed, 2000), wherein an organization likely could have internalized a particular function but chose instead to never do so and, rather, turn to the market, would be much more difficult to measure in a study of this type.

as two key benefits associated with outsourcing (Gilley and Rasheed, 2000). These two theoretical frameworks provide interesting perspectives on the likely reactions of investors to announced outsourcing agreements. Indeed, the choice of theoretical framework employed may depend on the perceived benefit of a particular outsourcing decision. For instance, some outsourcing decisions are made in an attempt to reduce costs within an organization, leading to a transaction cost economics explanation, while others may be made based on a concern related to firm capabilities, thus leading to an explanation based in the core competence literature.

Transaction Cost Economics

Traditional views of vertical integration versus outsourcing suggest that firms internalize transactions to reduce the risks associated with contracting on the open market, but that they do so only when the costs of internalization are not significantly outweighed by any efficiency gains possible through market-based transactions (Williamson, 1971). These ideas were first advanced by Coase (1937) and they suggest that organizational actors make decisions between two alternate forms of producing goods or services, namely, market transactions or internal activities.

At its very root, the market transactions of transaction cost economics focus on individual transactions along with the human actors who are integral participants in the exchange (Williamson, 2008). Although this lens begins with individuals, the extension of the paradigm must encompass a systems viewpoint as the scope is broadened to the outsourcing perspective. This perspective ties the boundaries of rational decision making and human self-interest to the importance of completing positive transaction costs for the firm.

The basic premise is in the analysis of the make-or-buy decision transaction paradigm. Within this paradigm, the conservation of transaction costs is the primary variable making the actual transaction equivalent to the unit of analysis. The markets, hybrids, and organizational hierarchies provide additional structural variables with their own strengths and weaknesses to be considered (Williamson, 2008). Ultimately, the decision comes down to which transaction costs within a specific market, hybrid, and organizational structure produce the overall greatest benefit to the organization (Barney and Hesterly, 1996).

Coase (1960) justified the use of transaction costs by analyzing transactions as transaction costs approached zero. As they approached zero, the rationale for engaging in transaction cost analysis was also eliminated. Transaction costs must be positive for the firm to realize the advantages of transaction cost economics at the micro economic level.

Transaction cost economics provides a useful framework for examining outsourcing's effects on anticipated organizational performance because outsourcing represents an apparent opportunity for the outsourcing firm to enhance its financial position through market-based transactions. As suggested by prior work in transaction cost economics (see Harrigan, 1985), companies should retain in-house those activities that are more economical for it to produce in-house or that provide a source of competitive advantage when retained in-house. Thus, from a transaction cost perspective, one would expect a positive investor reaction to announcements of outsourcing agreements due to the apparent economic advantages inherent in that form of organization work.

Core Competence Perspective

A core competence approach (Prahalad and Hamel, 1990) to the study of outsourcing may shed a different light on why organizations choose to outsource some functions and not others. The foundation of the core competence approach asserted by Prahalad and Hamel (1990) was in the collective knowledge base of an organization. They proposed three variables that serve to identify a core competence. First, the potential competency must provide admission to a wide variety of markets. Second, customers must perceive a benefit in the product that has been significantly affected by the competency. And third, the competency must be difficult to imitate by competitors. Since knowledge fades if not used, core competencies must receive commitment, involvement, and communication across the firm; however, the emphasis on sets of competencies must be examined in terms of cost effectiveness.

The make-or-buy decision paradigm has traditionally been made through the use of cost accounting methods (Balakrishnan and Cheng, 2005). The core competence perspective changes the angle of that lens from cost effectiveness to the knowledge base within the firm. Although an outsourcing choice that does not comply with a fiscal, cost accounting rationality may appear on the surface to be suboptimal, the core competence lens provides a contrasting viewpoint that may provide a more advantageous solution in complex business environments.

Core competencies retained in house may actually be *more* expensive to produce in-house than to acquire on the market. However, executives may choose to retain those functions in-house, despite the firm being at a cost *dis*advantage, for strategic purposes that may be explained by a core competence approach. Gilley and Rasheed (2000) suggested that there will be a different performance consequence for outsourcing core versus non-core activities. However, what is considered "core" by a given management team may vary significantly, even within industries, making *a priori* categorization by researchers difficult. For instance, within the aerospace industry, there are significant variations across firms in their levels of outsourcing, where some firms (Boeing, for example) outsource significantly more than others in the industry. It is reported that Boeing is outsourcing nearly three-quarters of their new 787 aircraft, while Airbus outsources a much smaller percentage of their activities (Dubois, 2008). Likewise, some functions outsourced may be outsourced despite being slightly more costly to acquire when taken at face value. However, the improved organizational focus that comes from reducing the variety of tasks the organization must complete may yield difficult-to-measure cost and competitive advantages.

Corporate Outsourcing Decisions

When companies make outsourcing decisions, they may do so as a way to increase shareholder wealth. Effects of a decision on shareholder wealth can be measured by the effect of the decision on firm value. The value of a firm is the present value of the firm's expected future cash flows. When firms make long-term decisions to maximize or increase shareholder wealth, they do so when a proposal either increases expected cash flows or reduces risk (thereby reducing the firm's cost of capital). In this regard, it is likely that outsourcing decisions face these same criteria. The equation below illustrates this concept.

$$\Delta E(CF_i) = +/- \Delta E(REV_i) \; -/+ \Delta E(Op.Costs_i) \qquad (1)$$

From any proposal such as a proposal to outsource, the change in expected cash flow in year i, $\Delta E(CF_i)$, would be equal to the potential change in expected revenue in year i, $\Delta E(REV_i)$, and the change in expected operating costs in year i, $\Delta E(Op.Costs_i)$. Expected cash flow increases from the outsourcing proposal could occur if, by outsourcing, the firm expects revenues to increase or expenses to decrease. Revenue increases could occur if, by outsourcing, the firm is able to sell a "better" product. Here, the source firm may have superior technology or production capabilities for, say, a component of the final product. While the firm could possibly develop this capability on its own, it may be outside their core competency making it too expensive to develop in-house, as well as unnecessarily binding the firm to a particular type of technology (Leiblein *et al.*, 2002). An example might be in the auto industry with the decision to outsource production of computer chips. The auto company does not have the core competency to manufacture these chips so management outsources their production. By having computer chips in the automobiles, the automobile company produces a better car, sells more of them, and increases revenue. Assessments of internal capabilities relative to those of potential suppliers have been argued recently to affect outsourcing decisions (Leiblein and Miller, 2003; Jacobides and Hitt, 2005; Holcomb and Hitt, 2007).

Similarly, outsourcing could reduce expenses. As specified in transaction cost economics, if the purchase price of the outsourced component or activity plus any increased monitoring and contracting costs are lower than the in-house production costs, outsourcing may reduce operating expenses. By reducing expenses, the company's cash flow would increase.

These expenses may be influenced by certain company conditions. For example, companies with considerable debt may decide to outsource (Lei and Hitt, 1995). For these firms, it may be expensive to raise new capital for either production or product development. Further increases in debt may likely increase the company's risk and raise not only the cost of the firm's debt but also the cost of the firm's equity (Hamada, 1972). Outsourcing would not have the same capital requirements and the high-debt firm may be able to avoid issuing new debt.

Furthermore, young firms are more likely to vertically integrate rather than outsource because they are more focused and less diversified (Argyres, 1996; Stigler, 1951). Younger firms are often more focused in an area of specialty or industry. They choose not to outsource because vertical integration gives them options to develop related products in the future (Leiblein and Miller, 2003) and allows them to maintain a higher level of flexibility (Dess *et al.*, 1995). Older firms, especially those that are already multi-divisional, will feel the need to focus on core competencies rather than developing capability in an area that can be outsourced (Lei and Hitt, 1995). Having many divisions to manage is likely to make outsourcing more attractive because these firms gain less from specializing in a single activity (Grossman and Helpman, 2002).

As noted above, expected changes to risk will influence the value assessment of an outsourcing proposal. When a company's risk increases, its cost of equity capital increases, driving down value. Managers could perceive that outsourcing would either increase or decrease risk. By outsourcing, the firm loses some control over an activity creating uncertainty and risk (Hoetker, 2005). This uncertainty can be mitigated by developing an intra-firm governance structure to settle disputes and keep communication open, but these monitoring and contracting costs may be large (Poppo and Zenger, 1998). Vertically integrated firms can settle disputes in-house, but once a firm has outsourced, the ultimate governance or dispute settlement mechanism is common law (Williamson, 1999).

On the other hand, outsourcing can also reduce risk and uncertainty. By outsourcing, the firm may be able to guarantee access to a product or service that would be risky to attain on its own. Outsourcing may also allow a firm to "lock into a price" reducing future price uncertainty. Because demand for a firm's products or services varies over time, outsourcing essentially allows the firm to transfer risk to the supplier (Holcomb and Hitt, 2007).

A company would be unlikely to decide to outsource if the management team believed that such a decision would adversely affect long-term competitive advantage (Gilley and Rasheed, 2000). Since shareholder wealth is affected by expected revenue changes, expected expense changes, and expected risk changes, items that affect these factors will influence the value of the firm and therefore, the stock market reaction to outsourcing announcements.

It should be noted that it may not always be current increases in revenues, decreases in operating costs or changes to risk that drive the outsourcing decision. The source of gains may be more long-term in nature. For example, the source firm may be better able to keep up with technological improvements in the future than the outsourcing firm. This can result in greater benefits in the future than currently exist. While these future benefits may be difficult to quantify, they may nevertheless factor into the decision. An example would be the decision by many firms to outsource some or all of their cash management activities. Here, one criterion for deciding to outsource is the ability of the source firm to "develop new services, update technologies and meet future needs of the company" (*Essentials of Treasury Management*, 2004: 480).

These potential costs and benefits that drive the decision to outsource come from both a transaction cost perspective and a core competence perspective. As a result, there should be a significant, positive effect of outsourcing on anticipated firm performance which would be reflected in the stock price of the firm at the time of the outsourcing announcement. Regarding transaction costs, outsourcing represents an apparent increase in an organization's economic performance. A core competence approach suggests that outsourcing signals to investors that the firm has found a superior way to organize its activities while simultaneously focusing on its core activities. Through outsourcing, firms are likely to greatly improve the quality of the activities contracted (Dess *et al.*, 1995), because many, if not most, activities performed by public organizations are better left to specialist organizations for whom the task is their core competence (Quinn, 1992). Outsourcing allows the firm to focus its efforts on what it does best and avoid the distraction of managerial attention away from the firm's core competencies (Gilley and Rasheed, 2000). Further, those activities that can be outsourced are unlikely to be a source of long-run competitive advantage on their own because other firms possess the competencies to produce them. Outsourcing greatly reduces costs for a number of reasons, including transferring an activity to a more efficient producer and encouraging competition among external suppliers (Kotabe and Murray, 1990). As a result, both the transaction cost economics and core competence theoretical lenses are valuable in predicting investor reactions to announced outsourcing agreements, and both suggest that investors will react positively. A transaction cost perspective suggests that firms will outsource activities at which they are at a disadvantage relative to the marketplace, while a core competence perspective leads to the conclusion that rational executives will choose to focus their firms' energy on those activities at which the firm excels and to outsource remaining activities. It is important to be clear that managers are unlikely to make outsourcing decisions specifically based on a rational analysis of anticipated

investor reactions and shareholder wealth. Rather, their decisions are made based upon the likely performance effects that such decisions have on the firm, which ultimately affect firm value and investors' beliefs in the value of the firm. Thus, the hypothesis is:

> *Hypothesis: Investors will react positively to announcements of outsourcing, thus suggesting an anticipated increase in the firm's value as a result of outsourcing.*

RESEARCH METHOD

Sample and Data Collection Procedures

The data for this sample were collected using the keywords "outsourcing agreement" in a search of Proquest national newspaper archives for the period 1992 through 2007. The archives included the *New York Times*, *USA Today*, and *Wall Street Journal*. To be more inclusive, the sample was expanded to the full Proquest Research Library of 3,864 titles, which included journals, trade publications, newspapers, and magazines.

The initial query yielded 173 articles that were screened in an attempt to eliminate confounding events. To complete the study, stock return data was needed from the Center for Research in Security Prices (CRSP) and firm accounting data was needed from the S&P COMPUSTAT database. Since these databases covered only U.S. firms, the sample was limited to U.S. firms that were entering outsourcing agreements. Therefore, all non-U.S. corporations were excluded from the sample. Second, some outsourcing announcements were reported in multiple sources, so all duplicate announcements were eliminated. Finally, the remaining announcements were screened to insure there had been no other public announcements over a five-day window that included the day of the outsourcing announcement as well as two days before and two days after the announcement. This helped to insure only relevant information pertaining to the outsourcing announcement was influencing the share price (McWilliams and Siegel, 1997). The screened sample was merged with stock return data from the CRSP database and accounting data from the COMPUSTAT database. The final screened and merged sample contained 94 announcements.[2]

A number of measures were recorded for each outsourcing agreement. In addition to the announcement data (e.g., source, author, article title, date, etc.), the name of the outsourcing firm and the specific activity that was being outsourced were documented. From this information an assessment was made as to whether the activity being outsourced was a manufacturing or a service related activity, and whether the activity was being outsourced to a domestic or foreign organization.[3] Finally, the date of the planned outsourcing agreement was noted as was the length of the agreement in years and total dollar value.[4]

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[2]The sample included announcements for 79 firms. Of these firms, 68 (86.08%) made a single announcement, eight (10.13%) made two announcements, two (2.53%) made three announcements, and one (2.27%) made four announcements over the 15 year sample period.

[3]The sample contains 21 (22%) foreign outsourcing agreements and 80 (85%) service-related outsourcing agreements.

[4]The reason for the outsourcing agreement was also classified based on one of five keywords or phrases found in the announcement. The five keywords or phrases were "expertise," "reduced costs," "core function," "cost effective," and "consolidating outsourcing agreements." This variable was insignificant in supplementary tests and not reported.

Method

To determine the stock market's reaction to announcements of outsourcing agreements, an event methodology is used. Day 0 is the announcement date. The single index market model is used to predict returns.

$$R_{it} = \alpha_i + \beta_i(R_{mt}) + e_{it} \quad (1)$$

where

R_{it} = the return on security i at time t;
α_i = the estimated intercept for security i's regression equation;
β_i = the estimated slope for security i's regression equation;
R_{mt} = the return on the market at time t as proxied by the equally weighted index available from CRSP; and
e_{it} = the error term from the regression for company i at time t.

The regression is estimated over the period -120 to -31 relative to the announcement date, day 0. The abnormal return for security i at time t was obtained as follows:

$$AR_{it} = R_{it} - (\alpha_i - \beta_i R_{mt}) \quad (2)$$

Abnormal returns from day -30 to day +30 were then computed. The cumulative abnormal return for security i, CAR_i, over various intervals T_{1i} to T_{2i} was computed as:

$$CAR_i = \sum_{t=T_{1i}}^{T_{2i}} AR_{it} \quad (3)$$

For a sample of N securities the mean cumulative abnormal return, CAR, was computed as:

$$CAR = \sum_{i=1}^{N} CAR_i \, /N \quad (4)$$

If there is no abnormal stock price movement, then the CAR would be zero. To test if the CAR is non-zero, a robust *t*-statistic was used. The number of positive and negative CAR_i was counted and a chi-square statistic, χ^2, was used to determine if the number of positive CAR_i is different from the expected value. The expected value would be 50% positive and 50% negative in the absence of abnormal performance.

RESULTS

Abnormal Returns

Table 1 contains the CAR estimates for various intervals around the outsourcing announcements. Abnormal returns for this group of firms are computed centered around the outsourcing announcement day, day 0. The CAR on day 0 is 0.80%. Its *t*-statistic is 2.746 which is statistically significant at the 0.05 level. In addition, on this day, the number of positive CAR_i is 56 and 38 are negative. The χ^2 is significant at the 0.10 level. The number of positive CAR_i is unlikely to have occurred by chance. Neither the CAR on day -1 or on day 1 is statistically significant. The reaction to the announcement seems to be contained to day 0. This one day abnormal return is nearly 1 percent, and it is

Table 1
Cumulative Abnormal Returns Computed over Various Intervals Surrounding the Announcements of Outsourcing (N = 94)

Interval	Cumulative Abnormal Return	Robust t−statistic	Number of pos/neg.
−30 to 0	2.70%	0.896	55:39
−5 to 0	0.30%	0.558	44:50
−1 to 0	0.50%	1.585	53:41
−1	−0.30%	−1.166	44:50
0	0.80%	2.746**	56:38*
1	0.40%	1.184	47:47
−30 to 30	1.90%	0.613	51:43

* $\rho \leq 0.10$; ** $\rho \leq 0.05$.

consistent with the hypothesis that the market anticipates an increase in the firm's value as a result of outsourcing.

Regression Analyses

Supplementary analyses are conducted to determine if the magnitude of the abnormal return is affected by the dollar value of the outsourcing and/or the time length of the contract.[5] A model with the CAR_i from day 0 as the dependent variable was estimated. Two primary test variables, the dollar value of the project and the agreement length, from the news release are obtained. In the regressions, the natural log of the project value is obtained to account for skewness in the variable. When data are unavailable for either of these variables, the value is set equal to zero. A binary variable is created that takes the value of 1 when the information is undisclosed and 0 otherwise.

The nature of the outsourcing activity is also controlled using additional information from the news release. A binary variable equal to 1 is created when the activity is being outsourced to a foreign organization and 0 for domestic organizations. In addition, a binary variable equal to 1 is created when the activity being outsourced was service related and 0 if it was manufacturing related.

Finally, several accounting control variables are obtained from COMPUSTAT. Firm size is controlled for by using the natural log of assets as of the end of the prior calendar year. Firm performance is used as a control as well, and it is measured using the return

[5]Although there are no specific hypotheses offered on these two variables, if outsourcing positively affects firm value, then larger projects and those that last a longer time will have a more material effect on firm value. Future research is needed to fully develop a model or models on these issues.

Table 2
Summary Statistics and Correlation Matrix

Variable	Mean	S.D	1	2	3	4	5	6	7	8
1. CAR (0,0)	0.01	0.03	1.00							
2. Project Value[a]	738.11	3224.40	-0.18	1.00						
3. Agreement Length	4.51	3.71	0.00	0.56*	1.00					
4. Total Assets[a]	127750.10	369821.20	-0.47*	0.35*	0.13	1.00				
5. ROA	-10.52	113.33	-0.12	0.12	0.14	0.38*	1.00			
6. Sales Growth	103.19	271.90	0.12	0.00	-0.04	-0.10	-0.34*	1.00		
7. Debt to Equity	178.41	297.74	-0.10	0.16	-0.06	0.5038*	0.06	0.22*	1.00	
8. Total Diversification	0.65	0.69	-0.01	0.18	0.09	0.08	0.00	-0.06	-0.15	1.00

* $p < 0.05$
[a] Correlations are for logarithmic transformations of variables.

Table 3
Cross Sectional Regressions

	(1) CAR (0,0)	(2) CAR (0,0)	(3) CAR (0,0)	(4) CAR (0,0)	(5) CAR (0,0)
LN (Project Value)	-0.00488*				-0.00501*
	(-1.69)				(-1.72)
Project Value Undisclosed = 1	-0.0172				-0.0279
	(-0.95)				(-1.45)
Agreement Length	0.0000649				0.000408
	(0.04)				(0.25)
Agreement Length Undisclosed = 1	-0.00150				-0.00696
	(-0.11)				(-0.54)
Foreign = 1		0.00371			0.00540
		(0.39)			(0.60)
Service = 1			0.00706		-0.00245
			(0.64)		(-0.23)
LN (Assets)				-0.0105***	-0.0110***
				(-5.60)	(-5.37)
ROA				0.00000247	0.00000198
				(0.22)	(0.17)
Sales Growth				0.0000673**	0.0000626**
				(2.35)	(2.12)
Debt/Equity				0.0000289**	0.0000283*
				(2.01)	(1.88)
Total *Diversification*				0.00298	0.00489
				(0.37)	(0.59)
Total Diversification Missing = 1				-0.00249	-0.00129
				(-0.22)	(-0.11)
2-Digit SIC Dummies	Yes	Yes	Yes	Yes	Yes
N	94	94	94	92	92
adj. R^2	0.012	-0.019	-0.015	0.306	0.291
F–Stat.	1.035	0.940	0.953	2.181	1.933

t statistics in parentheses. $^{*}p < 0.10$; $^{**}p < 0.05$; $^{***}p < 0.01$.

on assets, ROA, from the prior year. To control for firm growth, the five year sales growth rate is used. For the firm's leverage, the prior year's debt to equity ratio is used as a control. Debt is used as a control because Lei and Hitt (1995) argue that a firm's level of debt may impact its decision to outsource. The firm's level of diversification is measured using the Jacquemin-Berry entropy measure following Palepu (1985). Controlling for diversification is important because multi-divisional firms may find it more advantageous to outsource (Lei and Hitt, 1995). When necessary data for calculating the entropy measure are unavailable, total diversification is set equal to zero and a binary variable is created taking the value of 1 for these cases and 0 otherwise. Industry-based differences using dummy variables are controlled for with 2-digit SIC codes.

Table 2 contains descriptive statistics and a correlation matrix for the independent variables in the regressions. The average (median) prior year ROA is -10.52% (2.68%) and the firms grew at an average (median) non-compounded growth rate of 103.19% (44.29%) over the previous five years. The firms are largely profitable and growing fast.[6]

Table 3 contains the cross-sectional regression results. In regression 1, a model is estimated including only the two test variables and their binary variable for missing values. The estimated coefficient for the log of project value is negative and marginally significant at the 10% level ($t = -1.69$).[7] The estimated coefficient for the length of the agreement is statistically insignificant.

Regressions 2 and 3 estimate models using the nature of the outsourcing agreement, foreign or service, respectively. The estimated coefficients for foreign and service are statistically insignificant.

In regression 4, a model with only the four control variables is estimated. The estimated coefficient for the log of assets, the measure for firm size, is negative and significant at the 1% level ($t = -5.60$). The abnormal returns are larger for smaller firms. The estimated coefficients for sales growth rate and the debt to equity ratio are both positive and significant at the 5% level ($t = 2.35, 2.01$). The abnormal returns are larger for faster growing firms and those with higher debt levels. The estimated coefficients for the prior year ROA and diversification are statistically insignificant.

In regression 5, all test and control variables are included. Here, the estimated coefficient for project value remains negative and marginally significant at the 10% level ($t = -1.72$). This result implies that the market views smaller projects as more profitable. However, the estimated coefficient for the agreement length is statistically insignificant. As in regression 4, the estimated coefficient for the log of assets remains negative and significant at the 1% level ($t = -5.37$). Similarly, the estimated coefficients for sales growth rate and the debt to equity ratio remain positive and significant at the 10% and 5% levels, respectively ($t = 2.12, 1.88$).

[6]The negative average ROA is driven by a large negative value for one of the sample firms (−1082%). Similarly, the high positive average sales growth rate is driven by a large positive value for one of the sample firms (2209%). The results are quantitatively similar after winsorizing these two variables at the top and bottom 1% level or dropping these observation from the analysis.

[7]The interpretation of statistical significance at the 10% level is motivated by Hair *et al.* (1998: 12), who showed that with an effect size of 0.35 (which lies between a small and moderate effect size), the suggested power level of 80% is achieved for this sample size at an alpha (α) level of 0.10. Furthermore, project value is also significant at the 5% level ($t = -2.23$) after winsorizing all continuous variables at a level sufficient to remove severe outliers. Severe outliers (x) are defined as: $x < Q(25)\text{-}3IQR$ or $x > Q(75)+3IQR$, where Q(25) is the 25th percentile, Q(75) is the 75th percentile, and IQR is the interquartile range [Q(75) – Q(25)].

DISCUSSION

Findings of a positive stock market reaction to announced outsourcing yield a number of interesting suggestions. One is that, by reacting positively, investors in general believe that the management of outsourcing firms has properly identified the resource and competence bundles that are important to retain in-house. Thus, perhaps investors are rewarding managerial initiatives to focus on core competencies designed to enhance organizational focus through outsourcing. Alternatively, investors may simply be rewarding management in their focus on transaction costs for exploiting cost advantages that may be found in market-based transactions. It appears that a combination of transaction cost effects and core competence effects may be at play. Indeed, taking transaction costs and core competence effects in tandem suggests that investors view outsourcing as a way to enhance organizational efficiencies and effectiveness, and that the financial implications are positive from a cost accounting perspective (i.e., the added efficiency and effectiveness outweigh the added costs of negotiating, monitoring, and enforcing market-based contracts).

The results of the analyses show that relatively larger projects do not produce as positive a result as do relatively smaller projects. Alchian and Demsetz (1972) argue that one problem with transaction cost theory is the requirement to monitor any type of joint or team production, which would characterize an outsourcing arrangement. The monitoring of these arrangements requires human actors with expertise in contractual negotiations and rational decision making paradigms reflective of the organization's purpose. Individuals for these roles may not be available within the firm and necessitate the selection of an outside party. Williamson (1975, 1985) maintains that selecting an outside agent to reduce transaction costs can create informational uncertainty. One explanation for the less positive market reaction to relatively larger projects is that larger projects are likely associated with greater information asymmetry and the need for greater monitoring. Servaes and Zenner (1996) find this relation in mergers. Relatively larger acquisitions increased informational and monitoring costs. Given the results, it is likely that larger outsourcing projects are associated with greater informational asymmetry and would also require greater monitoring costs, which yielded a less positive stock market reaction by investors. Future research could be directed at this issue.

Managerial Implications

The results of this study suggest that managers need to understand investors' perceptions of outsourcing's effects on value creation (i.e., outsourcing is viewed positively). Thus, perhaps investors are telling managers to focus their resources more narrowly on their core competencies. At the same time, investors are indicating that they prefer smaller versus larger outsourcing agreements, which would indicate that an organization's core competencies must still be a substantial portion of the business rather than the business model found in many of the dot com organizations from a few years past. Additionally, since the cumulative abnormal returns are larger in firms with faster growing sales, investors may be telling managers of firms growing quickly that they may be expected to spin-off non-essential activities more so than managers of slow growth organizations.

Just as there are positive implications for managers involved in outsourcing

agreements, so there are negative consequences as well. Managers that do not properly identify competency and resource bundles by outsourcing a core competency in search of lower transaction costs may find their stock punished by investors that disagree with the decision. In the sample, this study finds that 40% of firms' stock did not respond positively to the outsourcing announcements. The same may be true of organizations that outsource broad expanses of their business or that are slow in growing sales. Results suggest that any combination of these decisions may influence investors and lead to negative implications for managers.

Directions for Future Research

Academic research on outsourcing is an evolving process. This study has attempted to show through empirical analysis some of the consequences of outsourcing agreements on anticipated firm performance. Although the results are significant, it is nonetheless difficult to offer prescriptive guidance. In that light, there is much work yet to be done in the study of outsourcing, and the following are suggestions for future research.

The field has recently seen a greater propensity to build empirical research based on either transaction cost theory and, to some extent, institutional theory. It may be premature at this point to restrict research to one theoretical paradigm, however appropriate that perspective may seem. Examination of outsourcing from multiple theoretical perspectives is likely to yield more insights than premature consensus on a single perspective. The hope is that this study using both transaction cost economics and a core competence perspective will provide impetus in this new direction.

A majority of the empirical studies on outsourcing has focused on organizational performance as the outcome variable. Although organizational performance is the dependent variable of prime interest in much strategy research, it is important to rethink whether performance, operationalized as financial performance in a given year, is the most appropriate variable. Cumulative abnormal returns have been used as a proxy to study investor reactions. More variety in the dependent variable is called for in studies of outsourcing.

Future research should also be directed at why value is created. That is, are there really cost economies to be obtained from outsourcing? Does outsourcing really allow a firm to focus on its core competencies? Data for this type of study would need to be obtained from firms on a firm by firm basis since this type of information is buried within a company's accounting reports.

A relatively unexplored area of investigation is the relationship between the life cycle stage of the firm and appropriateness of outsourcing strategies. Most studies of outsourcing have primarily focused on large, established organizations. It is important to study firms in different stages of their life cycle before researchers can develop useful prescriptive conclusions and further research in this area is needed.

This study highlights one potential and overlooked area for future research. That is, it is only able to find a relatively small number of firms that announced outsourcing plans. This may come from reluctance on the part of firms to announce outsourcing plans given that outsourcing may lead to job loss at the company. Researching this issue would require surveying managers of firms that outsource but do not publicly announce such plans.

Given the progress that has been made in recent years in the study of outsourcing, it is hoped that this analysis will add to the growing body of literature by providing some explanation of the effects of a broad range of types of outsourcing on the anticipated

long-term financial performance of organizations. This research also offers supplemental analyses examining those agreement-related and firm-specific factors that may influence the magnitude of the reactions to outsourcing announcements. Additionally, the implications for managers and directions for future study are provided in the hope of helping to guide and motivate research, contributing to an improved understanding of the theory and practice of outsourcing.

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