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Human resource outsourcing: Market and operating performance effects of administrative HR functions

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ABSTRACT

Using event study methodology and two-stage regression analysis on a sample of firms announcing human resource outsourcing (HRO) contracts, this study tests the association between administrative HRO and firm-level capital market and long run operating performance, with archival financial data controlling for endogeneity and outsourcing decision optimality. The results demonstrate that the equity capital market responds positively to client firms announcing administrative HRO, particularly service firms and those outsourcing transactional HR tasks. Additional statistical analysis shows that suboptimal outsourcing is negatively associated with long run operating performance measured as return on assets and operating return on assets. This study contributes to outsourcing literature by more precisely quantifying outsourcing performance through archival financial data and employing capital market empirical tests. Further, it controls for outsourcing decision optimality in examining long run operating performance effects. This research focuses on HR, a critical function within the firm and value enhancing to the firm.

1. Introduction

Firms outsource human resource (HR) services for cost savings, efficiency, service improvements, access to HR expertise and increased flexibility (Bendorf, Barge, & Graziano, 2005; Lee, 2007; Marquez, 2007; Oshima, Kao, & Tower, 2005). Transaction cost economics (TCE) along with capital market and resource based theories suggests an association between outsourcing HR services and overall firm performance (e.g., Lai & Chang, 2010). Yet the existing outsourcing literature has not established an empirical link between human resource outsourcing (HRO) and firm performance, nor has a link been established to the equity capital markets. Prior HRO research primarily addresses the client's decision to outsource (e.g., Adler, 2003; Delmotte & Sels, 2008; Klaas, McClendon, & Gainey, 2001; Kosnik, Wong-MingJi, & Hoover, 2006), characteristics of outsourcing clients (Klaas et al., 2001), the outsourcing relationship (Lievens & Corte, 2008), and the effect of outsourcing on employees (Fisher, Wasserman, Wolf, & Wears, 2008; Kessler, Coyle-Shapiro, & Purcell, 1999). Given the far-reaching effect of the HR function within the firm, understanding the outsourcing decision impact is critical for managers desiring to improve profitability and equity market impact.

Managing a firm's workforce effectively and strategically can increase shareholder value by 10 to 20% (Becker & Huselid, 2003). This underscores the economic importance of the HR system. Outsourcing HR services can potentially improve organizational efficiency and HR service performance, as well as provide significant cost savings. In fact, some estimate that transforming human resources to optimize efficiency can result in labor cost savings of $9.8 billion for a typical Fortune 500 company (Hansen, 2008) and should lead to improved firm performance.

Understanding the market and operating performance effects of outsourcing is important to stakeholders and investors, and closes a gap in the HRO literature (Shen, 2005). This study extends the HR literature in several ways. First, prior studies have lacked proprietary HRO data, and have constructed proxies for outsourcing costs or relied on surveyed managers' perceptions of performance following outsourcing (e.g., De Vita, Tekaya, & Wang, 2010; Dickmann & Tyson, 2005; Gainey, Klaas, & Moore, 2002; Gilley, Greer, & Rasheed, 2004; Klaas, McClendon, & Gainey, 1999; Lilly, Gray, & Virick, 2005). Heretofore, with few exceptions, researchers have not conducted empirical archival studies seeking to link HR management to corporate performance or market value (Abowd, Milkovich, & Hannon, 1990; Jiang & Qureshi, 2006). Second, in addition to operating performance, this study investigates the capital market reaction to firms announcing administrative HRO contracts. Third, the reported results statistically control for the boundary condition, optimality of the outsourcing decision. Finally, the study addresses outsourcing HR services which can directly and indirectly affect firm performance through the services provided to and treatment of employees.

Whereas human resource outsourcing encompasses a broad range of functions, Klaas et al. (1999, 2001) distinguish the particular types of HR functions examined in this study, namely, HR generalist, transactional, human capital and recruiting. HR generalist activities include for example, performance appraisal, planning and EEO/diversity. Transactional

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activities are payroll, benefits and HRIS. Human capital activities include training and development and employee assistance, while recruiting involves staffing functions. The focus of this paper is on administrative HR services including payroll processing, benefits administration, employment verification, staffing, training, and workforce management.

In summary, within the HRO performance literature, this study is distinct in investigating overall stock market and operating performance of client firms to pinpoint empirically and systematically, the impact of outsourcing critical administrative HR functions on financial performance using archival financial data as an alternative to perceived financial operating performance.

2. Theory and hypotheses

Transaction cost economics (TCE), capital market theory, and resource based theory are the theoretical constructs underpinning this study. First, TCE provides a basis for the outsourcing decision and its expected impact on firm value and profitability. Internal production minimizes the number of contracts with managers thus lowering transaction costs (Coase, 1937). In contrast, market allocation of resources through outsourcing poses risks of incomplete contracts and opportunistic behavior inducing higher transaction costs.

Based on these assumptions, Williamson's (1979) TCE identifies functional characteristics of individual activities (asset specificity, uncertainty and frequency) allowing managers to minimize total processing costs. Asset specificity indicates difficulty transferring to a different use or user or being of little value outside of a particular relationship (Lohtia, Brooks, & Krapfel, 1994). Uncertainty is the expected variation in the demand for activities or the inability to monitor activities leading to control issues and limitations on future planning (Pilling, Crosby, & Jackson, 1994). While higher uncertainty is a probable precursor to increased monitoring costs, establishing trust between partners can mitigate additional costs (Bharadwaj & Matsuno, 2006). Frequency is the volume or rate of activity performance. These attributes as well as finding a suitable partner, enforcing incomplete contracts and providing incentives to minimize opportunistic behavior cause firms to incur transaction costs (Grossman & Helpman, 2005; Klaas, 2008; Pilling et al., 1994). Theoretically and empirically documented, managers seeking to maximize profits consider production and transaction costs in the HR outsourcing decision (Ang & Straub, 1998; Grossman & Helpman, 2002), selecting the option with lower total costs. Following the HRO decision, capital market theory and resource based theory offer explanations for the resulting performance effects. By publicly announcing HRO contracts, managers provide new information to the capital market concerning their operating strategies that the market should quickly incorporate into the stock price, linking HRO to financial market performance. Resource based theory views the firm as a collection of productive resources and capabilities that become the primary source of profit for a firm (Grant, 1991; Penrose, 1995). Engaging in HRO allows managers to focus resources on strategic HR functions that support the firm's core competencies and overall performance rather than administrative or transactional functions that an external provider can perform at possibly a lower cost.

2.1. Market response

Capital market theory suggests that changes in stock returns around the announcement of new information result from reduced information asymmetry and signaling the market regarding expected future cash flows of the firm. While investors might interpret HRO as weakness in HR operations, an HRO client voluntarily releasing HRO contract information likely means they expect investors to interpret the action positively due to potential increased profits and cash flows to the firm in the long term due to cost savings and efficiency.

While no research exists, to our knowledge, examining the investor wealth effect of HRO specifically, Hayes, Hunton, and Reck (2000) use event study methodology to examine the impact of information systems (IS) outsourcing announcements on the market value of contract-granting firms (outsourcing client firms) and find positive abnormal stock returns of smaller firms and service industry firms one day following the outsourcing announcement. Based upon the theoretical framework and consistent with Hayes et al. (2000), the first hypothesis is stated in the alternative form:

H1. The capital market reaction to client firms announcing HRO contracts is positive.

In determining internal or external performance of a function, TCE uses the attributes of asset specificity, uncertainty and frequency (Williamson, 1979, 1991). Frequent activities and those requiring specific assets should be performed internally because of the higher transaction costs of external coordination (Widener & Selto, 1999), whereas activities not requiring specific assets regardless of frequency or that are low in knowledge intensity, are optimal candidates for outsourcing (Varadarajan, 2009). De Vita et al. (2010) find support for this theoretical expectation and document that buyers' asset specificity has a negative impact on outsourcing relationship performance. Further, Lui, Wong, and Liu (2009) find that generating cooperative behavior rather than reducing opportunistic behavior influences the relation between asset specificity and partnership performance.

Although some HR services are unlikely candidates for outsourcing because of potentially higher transaction costs, economies of scale allow external providers to perform services at lower costs than client firms, resulting in improved profitability. Increased cash flows may follow outsourcing routine services or those not requiring specific assets (e.g., payroll and employment or income verification) over non-routine activities. Therefore, the second hypothesis states:

H2. The capital market response to client firms announcing outsourcing contracts for HR services that are routine and do not require specific assets is positive.

2.2. Operating performance

Outsourcing strategy effects should be observed in long term operating performance for two reasons. First, assuming management bases its outsourcing decision on the tenets of TCE with the goal of minimizing costs, overall performance should improve. Second, the market response to an outsourcing announcement is the result of investors' revised expectations about future cash flows based on newly available information. A positive market response to an announcement suggests investors expect improved future operating performance. Likewise, resource based theory suggests that even an outsourcing decision resulting in a negative net wealth effect enables the firm to focus resources on strategic activities indirectly leading to improved operating performance.

Although theory suggests expected improved operating performance following HRO, empirical survey research to date reports mixed results on the relation between outsourcing and firm performance. Gilley et al. (2004) employ survey methodology in firms outsourcing training and payroll functions, and find no relation between managers' perceived firm operating performance and HRO. Empirical studies investigating profitability effects of other types of outsourcing are inconclusive. Namely, no direct effect of outsourcing peripheral and core activities on firms' financial and non-financial performance (Gilley & Rasheed, 2000), a negative short term and positive long term impact of outsourcing business services on firm performance (Gorzig & Stephan, 2002), no effect of outsourcing business services on profits (Görg & Hanley, 2004) and a decline in profitability in the year of the announcement, but improvement in subsequent years (Juma'h & Wood, 2000). These contradictions show that notwithstanding the prevalence of outsourcing, there is no clear empirical evidence that firm operating performance improves following HRO strategy implementation.

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Recognizing that the outsourcing decision and factors determining operating performance may be endogenous choices, the optimality of the outsourcing decision is introduced as a boundary condition. Leiblein, Reuer, and Dalsace (2002) show that technological performance improvements following outsourcing are dependent upon the alignment of governance decisions with contractual hazards; suggesting an influence of the optimality of the outsourcing decision on firm performance. Taken together with the inconclusive prior literature, this suggests the following hypothesis:

H3. Operating performance will decline following the outsourcing of human resource services if the firm's outsourcing participation is not optimal.

3. Methods

3.1. Sample and data collection

The sample includes HRO announcements publicly released between 1984 and 2005 identified by searching *Business Wire* on Lexis-Nexis for keywords such as "outsource," "contract," "agreement," "human resource," "HR," and HRO provider names (Hayes et al., 2000; Nicolaou, 2004). The final samples include 100 announcements for the market performance tests and 180 announcements for the operating performance tests.

In the operating performance sample, the number of announcements by type of service ranges from 6 to 37 with HR information technology software or systems being the least frequent and benefits administration and income/employment verification the most frequent. Staffing, benefits administration, income/employment verification, workforce management and payroll and tax filing represent at least 30 announcements each. Learning and comprehensive HR services represent 16 and 17 announcements respectively. The proportions are similar for the market performance sample.

With the exception of 1996, the sample includes less than 10 announcements each year between 1984, the year of the first announcement identified, and 1998. The 1999 BP contract with Exult for all transactional and administrative HR services signaled a change in the human resource outsourcing market (Adler, 2003) which is evident by the increase in announcements in 1999 and the years following with between 14 and 23 announcements each year from 2000 to 2005 (operating performance sample).

Requirements for the various statistical tests resulted in removing several announcements from the sample as described below. Duplicates and announcements by government or private organizations were removed along with those for firms lacking required data on Compustat and CRSP. A group of 23 announcements released on one day, referencing the same provider, was also eliminated because this clustering implies commonalities and cross-section correlation (Boehmer, Masumeci, & Poulsen, 1991), a violation of OLS regression.

Event study methodology tests market response to outsourcing announcements by isolating an event or release of new information to the market and measuring excess returns or the differences between actual and expected returns during an event period and this imposes another sample constraint. The expected returns are estimated from returns during an estimation period prior to the event. To mitigate the possibility of other events contemporaneous to the HRO announcements confounding the market response to outsourcing, the event study sample excludes announcements by firms with other press releases within a 13 day window around the HRO announcement (10 days before to 2 days after).

Finally, to reduce potential noise introduced by subsequent announcements, the operating performance analyses include only the first HRO announcement for each firm. Each outsourcing firm is matched with a control sample firm meeting the following criteria: 1) no outsourcing or Enterprise Resource Planning (ERP) system announcements, 2) publicly traded securities, 3) financial data available on the annual Compustat database, 4) same two-digit SIC classification as sample firm, and 5) sales within 30% of those for the matched outsourcing firm in the year preceding the HRO announcement.

3.2. Control variables

Both market and operating performance analyses incorporate control variables representing other factors influencing overall firm performance. Following previous literature, included are firm size measured as the natural log of sales (Alessandri & Khan, 2006; Hayes et al., 2000; Singh, Nejadmalayeri, & Mathur, 2007) and industry captured as a dichotomous variable identifying service industry firms or those with SIC classifications of 5000 or higher. Service firms rely on human resources to perform their core competencies and therefore HRO is likely to have a greater impact on these firms than manufacturing firms that might rely more heavily on automation.

To control for prior performance which is related to market performance (Alessandri & Khan, 2006), the operating performance variable is lagged one year. Growth opportunity, measured as book value per share divided by market price per share (book-to-market) is likely to be related to operating performance (Said, HassabElnaby, & Wier, 2003; Singh et al., 2007). Advertising intensity defined as advertising expense divided by sales, capital intensity calculated by dividing total assets by sales (Greer, Ireland, & Wingender, 2001), and R&D intensity measured as R&D expense divided by sales are included to control for the firm's expected operating performance changes resulting from increased advertising, strategic employment of assets and research and development efforts (Sashi & Stern, 1995). Finally, leverage measured as long term debt divided by total assets controls for the role high debt can play in hindering a firm's ability to improve overall operating performance (Singh et al., 2007). Descriptive statistics of these variables are presented in Table 1.

3.3. Estimation methods

3.3.1. Market performance — *H1* and *H2*

Patell's (1976) standard event study methodology is employed to examine the short-term market response to HRO announcements similar to Hayes et al. (2000), Greer et al. (2001) and Marciukaityte, Roskelley, and Wang (2009). Returns are estimated over a 200 day window starting 260 days before the announcement date using the market model, and consistent with prior literature, the value-weighted market return which more accurately captures the total wealth effects experienced by investors (Chen & Zhang, 2007; Fama, 1998). Abnormal returns are calculated for each firm day in the event period as the difference between the actual returns and the expected returns. Cumulative abnormal returns are the sum of the abnormal returns over a two-day event window including the day of and the day after the announcement (Greer et al., 2001; Marciukaityte et al., 2009). Cumulative abnormal stock returns significantly different from zero represent market reaction to new information. Regression analysis is used to determine the relation between types of HR services contracted and the market response measured as the 2-day cumulative abnormal return and to investigate the drivers of the market response.

Types of HR services outsourced are identified by dichotomous variables with a value of one for firms contracting each of the following HR services: staffing, benefits administration, income and employment verification, workforce management and internal communication, payroll processing, learning and training, information technology, and comprehensive HR services. A value of zero indicates a firm does not contract the service.

3.3.2. Operating performance — *H3*

Regression analysis is also used to test the expected long term operating performance, mitigating the risk of inaccurately capturing

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Table 1
Descriptive statistics and correlations of operating performance variables[a,b].

	Mean	S.D.	1	2	3	4	5	6	7
1. Return on assets	−0.00	0.21							
2. Operating return on assets	0.06	0.21	0.88						
3. Growth opportunity	274.27	3129.42	−0.02	−0.01					
4. Size	8.07	1.88	0.42	0.40	−0.06				
5. Advertising intensity	0.01	0.03	−0.21	−0.20	−0.03	−0.13			
6. Capital intensity	55.30	961.88	−0.02	−0.02	−0.01	−0.28	−0.02		
7. R&D intensity	0.03	0.07	−0.50	−0.44	−0.04	−0.23	0.26	−0.02	
8. Leverage	0.23	0.22	−0.14	−0.05	0.05	−0.15	0.05	0.06	−0.13

[a] $n = 360$. Correlations greater than .13 (absolute value) are significant at $p < .10$.
[b] Variables are measured in year of outsourcing announcement.

the economic impact of HRO when relying only on short term market response (Oler, Harrison, & Allen, 2008). Each announcement requires observations before and after the announcement for both the outsourcing firm and the control firm. Robust standard errors are used to correct for non-normality and heteroskedasticity.

The initial analysis of the long-term effect of HRO tests the change in operating performance before the announcement to one, two, and three years after using a matched control sample of firms. The overall operating performance metrics reported are return on assets (ROA) measured as income before extraordinary items-available for common, divided by average total assets (Hunton, Lippincott, & Reck, 2003) and operating return on assets (OROA) measured as operating income after depreciation divided by average total assets (Nicolaou, 2004). These measures and time lag are commonly used in academic performance research (e.g. Marciukaityte et al., 2009; McDonald, Khanna, & Westphal, 2008; Said et al., 2003; Singh et al., 2007). The data used to calculate these variables are from the Compustat database.

The independent variable is an interaction term (Client × Year) composed of client, a dichotomous variable distinguishing outsourcing firms from control sample firms and year, a dichotomous variable identifying individually the three years after the outsourcing announcement. A significant coefficient indicates a change in operating performance of outsourcing firms relative to the control sample in the years following the HRO announcement.

The possibility that the outsourcing decision and operating performance explanatory variables are jointly determined raises concerns regarding endogeneity and biased estimators (Chenhall & Moers, 2007). If all firms are operating according to TCE expectations (under equilibrium conditions), their outsourcing decisions will be optimal and HRO will have no effect on performance (Chenhall & Moers, 2007; Demsetz & Lehn, 1985; Ittner, Lanen, & Larcker, 2002; Larcker & Rusticus, 2007). Following Ittner et al. (2002), Said et al. (2003), and Larcker, Richardson, and Tuna (2007), additional residual analysis is used to determine the extent to which firms in the cross-section are temporarily off-equilibrium (Chenhall & Moers, 2007).

To determine the optimality of HRO, demand uncertainty and promotion opportunity which are associated with reliance on HR outsourcing (Klaas et al., 2001), are used as instrumental variables. The proxy for HR staff member promotion opportunities calculated as the ratio of the highest HR executive salary to the average salary of the top five executives is not analyzed because of insufficient data. Using demand uncertainty as an instrumental variable, the Durbin–Wu–Hausman test does not indicate endogeneity. To address optimality of HRO, however, logistic regression including demand uncertainty predicts the probability of outsourcing HR services according to TCE, with the residuals measuring the extent to which firms' outsourcing decisions are not optimal.

Finally, regression analysis tests the relation between the operating performance variables and the logistic regression residuals controlling for the optimality of the outsourcing decision. Positive residuals of the logistic regression indicate participation in HRO with a predicted probability of participation of less than one. The coefficient of this variable is expected to be negative, as performance should decline if outsourcing is not the optimal decision. Negative residuals indicate non-participation in HRO with a predicted probability of participation greater than zero (Ittner et al., 2002). The coefficient of this variable is expected to be positive, as performance should also decline if firms do not outsource when predicted to do so.

4. Results

4.1. Market performance

Results supporting H1 are reported in Table 2 and document a significant positive mean abnormal return the day after the announcement (+1) (AR = 0.22%, $p < .10$) and a reversal five days after the announcement (+5) with a significant negative mean abnormal return (AR = −0.29%, $p < .10$). The abnormal returns are consistent with previous IS outsourcing event study research (Hayes et al., 2000). The cumulative abnormal return (CAR) over a two day event window (0, +1) is statistically and economically significant (CAR = 0.43%, $p < .05$) with a mean abnormal gain on equity of $87,226,650 ($p < .01$) winsorized at 2% to mitigate the effect of outliers. The abnormal gain on equity is the market value of equity fifteen days prior to the outsourcing announcement multiplied by the abnormal return the day following the announcement. The statistical tests are based on the standardized prediction error (Patell, 1976) and standardized cross-sectional method (Boehmer et al., 1991; Cowan, 2005).

Table 2, Panel D presents the cross section regression analysis of the two-day (0, +1) CAR and the types of HR services outsourced. The model, estimated using robust standard errors, has significant explanatory power (F value = 2.81; $p < .01$; $R^2 = 0.28$). The coefficients on four of the transactional outsourced HR services are positive and significant: benefits administration ($p < .10$); income and employment verification ($p < .05$); learning ($p < .05$) and information technology ($p < .01$), supporting H2 that outsourced HR service type influences market expectations. Outsourcing these particular HR functions appears to positively influence market participants' expectations of increased cash flows.

Additionally, consistent with previous research, the sample of service industry firms experiences a differential positive market effect upon announcing HRO contracts ($p < .01$), (Hayes et al., 2000; Klaas et al., 2001) suggesting that the market values an HRO strategy involving administrative HR functions when the management of human capital is essential to firm goals, as it is with service firms. Control variables indicating new, renewed or extended HRO relationships yield insignificant results signifying that these conditions do not change market expectations of future cash flows.

4.2. Operating performance

Preliminary operating performance regression results are presented in Table 3. In Panel A, the significant and positive coefficient on Client × Year in year two ($\beta_3 = 0.04$, $p < .10$) indicates that two years following the announcement, ROA for outsourcing firms is significantly

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Table 2
Market reaction to human resource outsourcing announcements.

Panel A. Mean abnormal returns[a]

Event day	Mean abnormal returns	Patell's (1976) z-statistic	Boehmer et al.'s (1991) z-statistic
(−5)	0.03%	−0.31	−0.25
(−4)	−0.45%	−1.09	−0.82
(−3)	−0.66%	−1.61**	−1.42*
(−2)	0.03%	0.16	0.17
(−1)	−0.41%	−1.40*	−1.30*
(0)	0.21%	0.77	0.76
(+1)	0.22%	1.54*	1.67**
(+2)	−0.15%	−0.25	−0.21
(+3)	0.08%	0.15	0.14
(+4)	−0.06%	−0.72	−0.78
(+5)	−0.29%	−1.56*	−1.69**

Panel B. Mean cumulative abnormal returns (CARs)

Event window	Mean cumulative abnormal returns	Patell's (1976) z-statistic	Boehmer et al.'s (1991) z-statistic
(−5, −1)	−1.47%	−1.90**	−1.91**
(0, +1)	0.43%	1.63**	1.81**

Panel C. Mean abnormal gain on equity of client firms on day t+1

	Mean	t-Statistic
Abnormal gain on equity	$87,226,650	2.30***

Panel D. Regression Analysis of 2-day CARs and type of human resource service outsourced[b]

Independent variables	CAR (0, +1)	
Staffing	0.01	(0.01)
Benefits administration	0.02*	(0.01)
Income and employment verification	0.03**	(0.01)
Workforce management	0.01	(0.01)
Payroll	−0.01	(0.01)
Learning	0.03**	(0.02)
Information technology	0.07***	(0.03)
End-to-end	0.01	(0.02)
Size	0.00	(0.00)
Industry	0.02***	(0.01)
Constant	−0.03	(0.02)
F value	2.81***	
R^2	0.28	
N	92	

[a] $n=100$; *$p<.10$, **$p<.05$, ***$p<.01$.
[b] Robust standard errors are in parentheses.

Table 3
Operating performance analysis[a].

	One year after outsourcing announcement		Two years after outsourcing announcement		Three years after outsourcing announcement	
Return on assets						
Outsourcing client firm × year after announcement	−0.00	(0.02)	0.04*	(0.02)	−0.00	(0.02)
Outsourcing client firm	0.01	(0.01)	−0.01	(0.01)	−0.02	(0.02)
Year after announcement	−0.02	(0.01)	−0.01	(0.01)	0.01	(0.01)
Prior year performance	0.52***	(0.10)	0.42***	(0.03)	0.57***	(0.15)
Growth opportunity	−0.00	(0.00)	−0.00***	(0.00)	−0.01**	(0.00)
Size	0.02**	(0.01)	0.00	(0.00)	0.00	(0.00)
Advertising intensity	−0.15	(0.16)	−0.52	(0.37)	0.14	(0.15)
Capital intensity	0.00*	(0.00)	−0.00**	(0.00)	0.00	(0.00)
R&D intensity	−0.73	(0.47)	−0.22*	(0.12)	−0.18*	(0.10)
Leverage	−0.20***	(0.07)	−0.07**	(0.03)	−0.06*	(0.03)
Constant	−0.05	(0.04)	0.06	(0.04)	0.05	(0.03)
N	348		252		188	
F	10.37***		38.08***		12.92***	
R^2	0.69		0.59		0.45	
Operating return on assets						
Outsourcing client firm × year after announcement	−0.03**	(0.01)	0.01	(0.01)	0.01	(0.01)
Outsourcing client firm	0.02**	(0.01)	0.01	(0.01)	−0.02	(0.01)
Year after announcement	0.02	(0.01)	−0.01	(0.01)	0.01	(0.01)
Prior year performance	0.95***	(0.10)	0.83***	(0.08)	0.74***	(0.12)
Growth opportunity	−0.00**	(0.00)	0.00	(0.00)	−0.00**	(0.00)
Size	0.00*	(0.00)	−0.00	(0.00)	−0.00	(0.00)
Advertising intensity	−0.02	(0.11)	−0.32	(0.31)	0.27	(0.18)
Capital intensity	0.00	(0.00)	−0.00**	(0.00)	−0.00	(0.00)
R&D intensity	−0.41*	(0.24)	−0.11	(0.08)	−0.05	(0.09)
Leverage	−0.07**	(0.03)	0.02	(0.04)	−0.01	(0.02)
Constant	−0.02	(0.03)	0.03	(0.02)	0.06*	(0.03)
N	348		252		188	
R^2	0.84		0.73		0.76	
F	61.75***		65.65***		45.61***	

[a] *$p<.10$, **$p<.05$, ***$p<.01$; robust standard errors are in parentheses.

different from ROA before outsourcing and from the matched control group performance before and after the announcement. In Panel B, the significant negative coefficient on Client × Year in year one ($\beta_3=-0.03$, $p<.05$) indicates a decline in OROA immediately after the outsourcing announcement suggesting a delay in operating performance improvement, perhaps due to the cost of implementation or time needed to realize the full financial impact of HRO (Greer et al., 2001).

The results of the logistic regression presented in Table 4 show that for this sample, firms with lower financial performance unpredictability (higher financial predictability) and higher levels of R&D investment are more likely to outsource HR services. Likewise, firms with low growth opportunity and low debt levels, as well as larger firms are also more likely to outsource HR services. The model is significant (Chi-square = 50.63; $p<.01$) and the Pseudo R^2 (0.11) is consistent with that reported by Ittner et al. (2002).

The residual analysis regression results presented in Table 5 support H3 and are compelling for the operating performance results. ROA declines in year three for firms whose HRO participation does not match predicted probability as shown by the positive and negative residual coefficients ($\beta_1=-0.04$, $p<.05$; $\beta_2=0.01$, $p<.10$). For firms outsourcing HR with low predicted probability of doing so, OROA also declines ($\beta_1=-0.04$, $p<.10$).

These results support H3 that outsourcing HR services does, in general, have a negative long term effect on operating performance if outsourcing participation is not optimal. Sample firms operating outside of their optimal outsourcing condition based on residual analysis experience a decline in operating performance. This suggests a clear linkage between operating performance and outsourcing decision optimality.

5. Discussion

In contrast to the varying results reported by existing outsourcing research, and the critical strategic influence of HR, this analysis uniquely documents the short and long term wealth effects associated with HRO. Based on transaction cost economics, resource based theory and capital market theory, the sample of firms publicly releasing HRO announcements and the matched control sample of non-outsourcing firms provide evidence of positive market wealth effects resulting from adopting a human resource outsourcing strategy and of negative operating performance when the outsourcing decision is not optimal.

The results support H1 with a significant positive market response after the outsourcing announcement equating to an economically significant mean abnormal gain on equity the day following the

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Table 4
Logistic regression prediction of human resource outsourcing participation[a].

	Coefficient	Chi-square
Demand uncertainty	0.0001	12.89***
Growth opportunity	−0.009	3.67*
Size	0.512	32.26***
Advertising intensity	1.890	0.24
Capital intensity	0.043	2.48
R&D intensity	9.212	11.69***
Leverage	−1.808	4.11**
Intercept	−3.680	23.81***
Pseudo R^2	0.11	
Chi-square	50.63***	
N	353	

[a] *$p<.10$, **$p<.05$, ***$p<.01$.

announcement of over $87 million. Additionally, the transactional HR functions (benefits administration, income and employment verification, learning or training and HR information technology) are differentially related to the positive market response (H2) indicating an expectation of positive cash flows resulting from outsourcing these services. Consistent with Hayes et al.'s (2000) study on IS outsourcing, the results show that for this sample, service industry firms experience a positive market response. This suggests that the capital market may view favorably firms that rely greatly on human capital and outsource their transactional HR functions.

In keeping with the capital market theory increased cash flow expectations, this study documents a decline in OROA in the short term, but improved ROA two years after the announcement. An important result relies on residual analysis which provides a means to evaluate the optimality of the outsourcing decision, and controls for potential endogeneity concerns. Firms whose HRO participation is suboptimal experience a decline in ROA three years after the announcement (H3).

Table 5
Residual analysis.

	Return on assets		Operating return on assets	
Panel A: residual analysis for three years following the announcement[a,b]				
Positive residual	−0.02	(0.01)	−0.01	(0.01)
Negative residual	0.01	(0.01)	0.01	(0.01)
Prior period performance	0.58***	(0.12)	0.76***	(0.10)
Growth opportunity	−0.00***	(0.00)	−0.00***	(0.00)
Size	−0.00	(0.00)	0.00	(0.00)
Advertising intensity	−0.06	(0.25)	0.04	(0.25)
Capacity intensity	−0.00***	(0.00)	−0.00***	(0.00)
R&D intensity	−0.09	(0.08)	−0.07	(0.08)
Leverage	−0.06***	(0.02)	−0.02	(0.02)
Intercept	0.06***	(0.02)	0.03	(0.03)
F value	21.40***		157.65***	
R^2	0.53		0.72	
N	356		356	
Panel B: residual analysis in year 3 following the announcement				
Positive residual	-0.04**	(0.02)	−0.04*	(0.02)
Negative residual	0.01*	(0.01)	0.01	(0.01)
Prior period performance	0.41***	(0.06)	0.61***	(0.09)
Growth opportunity	−0.01*	(0.01)	−0.01**	(0.00)
Size	−0.00	(0.00)	−0.00	(0.00)
Advertising intensity	0.46***	(0.16)	0.48***	(0.18)
Capacity intensity	0.00	(0.00)	−0.00	(0.00)
R&D intensity	−0.13*	(0.07)	0.07	(0.08)
Leverage	−0.03	(0.05)	−0.01	(0.03)
Intercept	0.08**	(0.04)	0.09**	(0.04)
F value	14.65***		28.81***	
R^2	0.66		0.82	
N	97		97	

[a] *$p<.10$, **$p<.05$, ***$p<.01$; robust standard errors are in parentheses.
[b] The positive residual coefficient is expected to be negative indicating that HRO participants with low predicted probability of participation are expected to achieve lower performance.

Unique to outsourcing literature, this study provides an initial foray into the use of archival financial data to more precisely quantify the relation between outsourcing and performance. This study documents the short term market effect, the significant economic impact and the long term operating effects of outsourcing administrative HR services. Given the direct and indirect importance of human resource services to overall firm performance, outsourcing these functions can have positive and negative consequences for the firm, providing fertile ground for further investigating the outsourcing phenomenon.

Finally, this study's results offer critical information for managers considering cost cutting strategies, efficiency improvements, or strategic focus on the firms' core activities. While, some managers are hesitant to voluntarily disclose information pertaining to internal operations, the results suggest firms can experience benefits by doing so. The findings of declining long term operating performance when the outsourcing decision is suboptimal underscore the care and diligence required to make value enhancing outsourcing decisions.

6. Limitations and avenues for future research

The results of this study are subject to some limitations. This paper focuses only on the client or outsourcing firm, and does not address the provider or the provider–client relationship. The sample is limited to publicly traded firms with publicly available HRO information and excludes private, governmental and nonprofit organizations. While this study is restricted to HRO, a critical component of the outsourcing industry, similar analyses are needed for manufacturing, financial services and customer service outsourcing, for example. Likewise, controlling for the effectiveness of HR management by outsourcing firms through ERP implementation is a potential extension of this research. The focus of this study on overall performance is an initial step in establishing the value proposition of HRO. Further research is needed to establish the specific components of this overall effect.

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References

Abowd, J. M., Milkovich, G. T., & Hannon, J. M. (1990). The effects of human resource management decisions on shareholder value. *Industrial & Labor Relations Review*, *43*, 203S–236S.
Adler, P. S. (2003). Making the HR outsourcing decision. *MIT Sloan Management Review*, *45*, 52–61.
Alessandri, T. M., & Khan, R. H. (2006). Market performance and deviance from industry norms: (Mis)alignment of organizational risk and industry risk. *Journal of Business Research*, *59*, 1105–1115.
Ang, S., & Straub, D. (1998). Production and transaction economies and IS outsourcing: A study of the U.S. banking industry. *MIS Quarterly*, *22*, 535–552.
Becker, B., Huselid, M. (2003). Measuring HR? *HR Magazine*, *48*, 56–61.
Bendorf, M., Barge, B. N., & Graziano, C. d. M. (2005). Ask FERF about ... outsourcing human-resource services. *Financial Executive*, 60.
Bharadwaj, N., & Matsuno, K. (2006). Investigating the antecedents and outcomes of customer firm transaction cost savings in a supply chain relationship. *Journal of Business Research*, *59*, 69–72.
Boehmer, E., Masumeci, J., & Poulsen, A. B. (1991). Event-study methodology under conditions of event-induced variance. *Journal of Financial Economics*, *30*, 253–272.
Chen, P. F., & Zhang, G. (2007). Segment profitability, misvaluation, and corporate divestment. *The Accounting Review*, *82*, 1–26.
Chenhall, R. H., & Moers, F. (2007). The issue of endogeneity within theory-based, quantitative management accounting research. *The European Accounting Review*, *16*, 173–196.
Coase, R. H. (1937). The nature of the firm. *Economica*, *4*, 386–405.
Cowan, A. R. (2005). *Eventus software, version 8.0.* : Cowan Research LC.

De Vita, G., Tekaya, A., & Wang, C. L. (2010). Asset specificity's impact on outsourcing relationship performance: A disaggregated analysis by buyer–supplier asset specificity dimensions. *Journal of Business Research*, *63*, 657–666.

Delmotte, J., & Sels, L. (2008). HR outsourcing: Threat or opportunity? *Personnel Review*, *37*, 543–563.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*, 1155–1177.

Dickmann, M., & Tyson, S. (2005). Outsourcing payroll: Beyond transaction-cost economics. *Personnel Review*, *34*(451–467), 511–512.

Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, *49*, 283–306.

Fisher, S. L., Wasserman, M. E., Wolf, P. P., & Wears, K. H. (2008). Human resource issues in outsourcing: Integrating research and practice. *Human Resource Management*, *47*, 501–523.

Gainey, T. W., Klaas, B. S., & Moore, D. (2002). Outsourcing the training function: Results from the field. *Human Resource Planning*, *25*, 16–22.

Gilley, K., Greer, C., & Rasheed, A. (2004). Human resource outsourcing and organizational performance in manufacturing firms. *Journal of Business Research*, *57*, 232–240.

Gilley, K., & Rasheed, A. (2000). Making more by doing less: An analysis of outsourcing and its effects on firm performance. *Journal of Management*, *26*, 763–790.

Görg, H., & Hanley, A. (2004). Does outsourcing increase profitability? *Economic and Social Review*, *35*, 267–287.

Gorzig, B., & Stephan, A. (2002). *Outsourcing and firm-level performance.* : German Institute for Economic Research Discussion Papers 309 (October).

Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, *33*, 114–135.

Greer, C. R., Ireland, T. C., & Wingender, J. R. (2001). Contrarian human resource investments and financial performance after economic downturns. *Journal of Business Research*, *52*, 249–261.

Grossman, G. M., & Helpman, E. (2002). Integration versus outsourcing in industry equilibrium. *Quarterly Journal of Economics*, 85–120.

Grossman, G. M., & Helpman, E. (2005). Outsourcing in a global economy. *The Review of Economic Studies*, *72*, 135–159.

Hansen, F. (2008). A lofty ideal. *Workforce Management*, *87*(31–32), 34–37.

Hayes, D. C., Hunton, J. E., & Reck, J. L. (2000). Information systems outsourcing announcements: Investigating the impact on the market value of contract-granting firms. *Journal of Information Systems*, *14*, 109–125.

Hunton, J. E., Lippincott, B., & Reck, J. L. (2003). Enterprise resource planning systems: Comparing firm performance of adopters and nonadopters. *International Journal of Accounting Information Systems*, *4*, 165–184.

Ittner, C. D., Lanen, W. N., & Larcker, D. F. (2002). The association between activity-based costing and manufacturing performance. *Journal of Accounting Research*, *40*, 711–726.

Jiang, B., & Qureshi, A. (2006). Research on outsourcing results: Current literature and future opportunities. *Management Decision*, *44*, 44–55.

Juma'h, A. H., & Wood, D. (2000). Outsourcing implications on companies' profitability and liquidity: A sample of UK companies. *Work Study*, *49*, 265–274.

Kessler, I., Coyle-Shapiro, J., & Purcell, J. (1999). Outsourcing and the employee perspective. *Human Resource Management Journal*, *9*, 5–20.

Klaas, B. S. (2008). Outsourcing and the HR function: An examination of trends and developments within North American firms. *International Journal of Human Resource Management*, *19*, 1500–1514.

Klaas, B. S., McClendon, J. A., & Gainey, T. W. (1999). HR outsourcing and its impact: The role of transaction costs. *Personnel Psychology*, *52*, 113–136.

Klaas, B. S., McClendon, J. A., & Gainey, T. W. (2001). Outsourcing HR: The impact of organizational characteristics. *Human Resource Management*, *40*(2), 125–138.

Kosnik, T., Wong-MingJi, D. J., & Hoover, K. (2006). Outsourcing vs insourcing in the human resource supply chain: A comparison of five generic models. *Personnel Review*, *35*, 671–683.

Lai, W. -H., & Chang, P. -L. (2010). Corporate motivation and performance in R&D alliances. *Journal of Business Research*, *63*, 490–496.

Larcker, D. F., Richardson, S. A., & Tuna, I. (2007). Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review*, *82*, 963–1008.

Larcker, D. F., & Rusticus, T. O. (2007). Endogeneity and empirical accounting research. *The European Accounting Review*, *16*, 207–215.

Lee, C. -W. (2007). Strategic alliances influence on small and medium firm performance. *Journal of Business Research*, *60*, 731–741.

Leiblein, M. J., Reuer, J. J., & Dalsace, F. (2002). Do make or buy decisions matter? The influence of organizational governance on technological performance. *Strategic Management Journal*, *23*, 817–833.

Lievens, F., & Corte, W. D. (2008). Development and test of a model of external organizational commitment in human resources outsourcing. *Human Resource Management*, *47*, 559–579.

Lilly, J. D., Gray, D. A., & Virick, M. (2005). Outsourcing the human resource function: Environmental and organizational characteristics that affect HR performance. *The Journal of Business Strategy*, *22*, 55–73.

Lohtia, R., Brooks, C. M., & Krapfel, R. E. (1994). What constitutes a transaction-specific asset? An examination of the dimensions and types. *Journal of Business Research*, *30*, 261–270.

Lui, S. S., Wong, Y. -Y., & Liu, W. (2009). Asset specificity roles in interfirm cooperation: Reducing opportunistic behavior or increasing cooperative behavior? *Journal of Business Research*, *62*, 1214–1219.

Marciukaityte, D., Roskelley, K., & Wang, H. (2009). Strategic alliances by financial services firms. *Journal of Business Research*, *62*, 1193–1199.

Marquez, J. (2007). Reducing costs a sore subject at HRO meeting. *Workforce Management*, 7–8.

McDonald, M. L., Khanna, P., & Westphal, J. D. (2008). Getting them to think outside the circle: Corporate governance, CEOs' external advice networks, and firm performance. *Academy of Management Journal*, *51*, 453–475.

Nicolaou, A. I. (2004). Firm performance effects in relation to the implementation and use of enterprise resource planning systems. *Journal of Information Systems*, *18*, 79–105.

Oler, D. K., Harrison, J. S., & Allen, M. R. (2008). The danger of misinterpreting short-window event study findings in strategic management research: An empirical illustration using horizontal acquisitions. *Strategic Organization*, *6*, 151–184.

Oshima, M., Kao, T., & Tower, J. (2005). Achieving post-outsourcing success. *Human Resource Planning*, *25*, 7–11.

Patell, J. M. (1976). Corporate forecasts of earnings per share and stock price behavior: Empirical test. *Journal of Accounting Research*, *14*, 246–276.

Penrose, E. (1995). *The theory of the growth of the firm.* New York: Oxford University Press.

Pilling, B. K., Crosby, L. A., & Jackson, D. W., Jr. (1994). Relational bonds in industrial exchange: An experimental test of the transaction cost economic framework. *Journal of Business Research*, *30*, 237–251.

Said, A. A., HassabElnaby, H. R., & Wier, B. (2003). An empirical investigation of the performance consequences of nonfinancial measures. *Journal of Management Accounting Research*, *15*, 193–223.

Sashi, C. M., & Stern, L. W. (1995). Product differentiation and market performance in producer goods industries. *Journal of Business Research*, *33*, 115–127.

Shen, J. (2005). Human resource outsourcing: 1990–2004. *Journal of Organisational Transformation and Social Change*, *2*, 275–296.

Singh, M., Nejadmalayeri, A., & Mathur, I. (2007). Performance impact of business group affiliation: An analysis of the diversification-performance link in a developing economy. *Journal of Business Research*, *60*, 339–347.

Varadarajan, R. (2009). Outsourcing: Think more expansively. *Journal of Business Research*, *62*, 1165–1172.

Widener, S. K., & Selto, F. H. (1999). Management control systems and boundaries of the firm: Why do firms outsource internal auditing activities? *Journal of Management Accounting Research*, *11*, 45–73.

Williamson, O. E. (1979). Transaction-cost economics: The governance of contractual relations. *Journal of Law and Economics*, *22*, 233–261.

Williamson, O. E. (1991). Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, *36*, 269–296.

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