

To What Extent Do Outsourcing Decisions Go Beyond Cost Savings?

A Discrete Choice Examination

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ABSTRACT

The question of whether firms should pursue outsourcing has traditionally come down to whether the positive financial impact of outsourcing overcomes the potential organizational liabilities. We argue such thinking underestimates the positive organizational benefits that arise from outsourcing by giving inadequate consideration to the impact of outsourcing on the innovation cycle of outsourcing providers. This research adds to our understanding of outsourcing decision-making in three important ways. First, we outline how innovation benefits potentially arise from outsourcing. Second, we extend our understanding of outsourcing by examining the effect of value appropriation and contractual efficiency on the decision to outsource. Third, we provide a rigorous empirical approach, a discrete choice experiment, to understanding managerial preferences and the components of outsourcing decision-making. Our results reveal that a significant segment of managers do indeed look beyond cost in choosing to outsource, focusing instead to concentrate broadly on a supplier's commitment to innovate, value creation and value appropriation.

Keywords: Strategic Outsourcing; Discrete Choice Experiment; Managerial Decision-making; Innovation; Value Appropriation

INTRODUCTION

From a traditional perspective, the question of whether outsourcing is a good or bad organizational practice has come down to whether the positive financial impact of outsourcing overcomes the potential organizational liabilities. However, such thinking underestimates the positive organizational benefits that arise from outsourcing by giving inadequate consideration to the second order impact that outsourcing has on the innovation cycle of the outsource providers. It is the role of this second order impact and its consideration by managers in their decisions to outsource activities that is the focus of this paper.

The majority of theoretical outsourcing scholarship has followed the transaction cost perspective, which posits that outsourcing will occur when the economic efficiency of an outsourcing arrangement is perceived to be better than doing the same tasks in-house, taking into consideration the associated organizational and informational costs of the arrangement (e.g., Abraham and Taylor, 1996, Bettis et al., 1992). However, this perspective has been questioned by those focusing on the threats posed by outsourcing. The most obvious argument posits that by transferring an activity to an external provider firms are at risk of losing critical knowledge and skills (Aron et al., 2005, Earl, 1996). Both of these perspectives are limited in that they view the outsource provider as a static player and limit the decision being made by the outsourcing firm to one that is relatively limited in time.

Our approach takes a different perspective that looks at a flow of knowledge and innovation in a direction previously ignored – from the outside suppliers back into the outsourcing firms – and views the outsourcing firm as being cognizant of longer term benefits from its outsourcing arrangements. We focus on the advantages firms can gain from their supplier's knowledge and innovativeness and suggest that when firms are conscious of potential innovation benefits from their outsourcing engagements there are real opportunities for innovative gains. More broadly, our research examines the important normative questions: *To what extent are potential innovation and cost benefits important to managerial outsourcing decisions? To what extent is the ability to appropriate value an important driver of outsourcing? And, to whom are these beneficial factors important?*

Utilizing a discrete choice methodology, we investigate managerial preferences with respect to cost, innovation, and contractual factors (value appropriation) in outsourcing decision-making. The

use of experimental stated preference approaches is relatively new to strategic management (see Buckley et al., 2007); however, it is appropriate here because the benefits we are examining are not clearly operational in most current outsourcing arrangements. The results from this study aim to reveal the differential value of these factors and reflect managers concerns in outsourcing decisions.

The remainder of the paper is organized as follows. In the next section, we discuss the conceptual model of strategic outsourcing decision-making in which cost benefits, innovation benefits, and value appropriation are integrated. We then describe the empirical method and the sample used in our study followed by a detailed discussion of the results. We conclude by setting out some of major implications for new insights into strategic outsourcing decision-making and opportunities for extending outsourcing as a strategic means to drive innovation more broadly. As the theoretical model is discussed in detail elsewhere (citation excluded for anonymity), we focus our attention here on the empirical findings.

A CONCEPTUAL MODEL OF STRATEGIC OUTSOURCING DECISION MAKING

Outsourcing has been characterized by different interpretive lenses. Whereas the conventional paradigm has been informed by the principles of transaction cost economics (Williamson, 1975, Williamson, 1985) and constrains its explanation of outsourcing arrangements to economic motives (e.g., cost reduction), a more strategic perspective focuses on how firms leverage non-financial benefits and value creation when outsourcing involves the use of valuable specialized capabilities (see Holcomb and Hitt, 2007). This implies that we need a broader purposeful definition of outsourcing that allows us to capture the strategic imperative writ large. For the purpose of this study, we adopt the definition of *strategic outsourcing* of Holcomb and Hitt (2007, p. 466) as “the organizing arrangement that emerges when firms rely on intermediate markets to provide specialized capabilities that supplement existing capabilities and create value beyond those achieved through cost economies.”

Consistent with this thinking, we propose that there are two main beneficial components underlying strategic outsourcing decision-making: cost savings and innovation benefit. As cost savings are, without a doubt, the “have-to-have” strategic requirement of outsourcing, it follows that few organizations make outsourcing decisions without consideration as to the reward of reducing headcount and costs (Lonsdale and Cox, 1997). The heart of our thesis is the inclusion of innovation

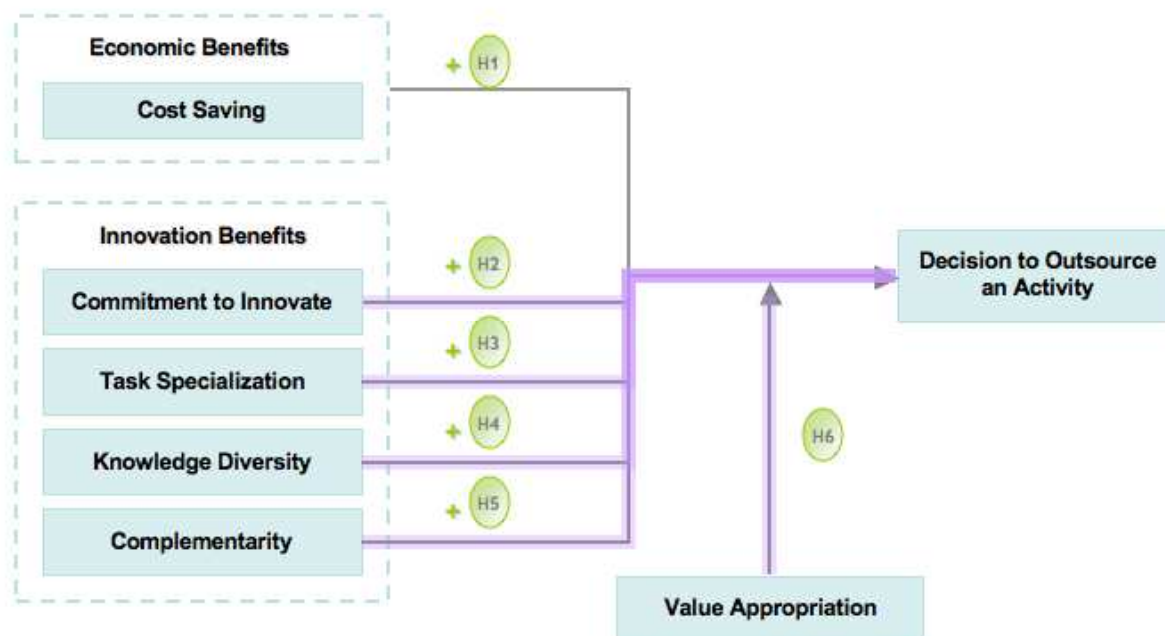
benefits. We propose four innovation advantages arising from outsourcing: (1) the **motivation** a supplier receives by controlling its own focal activities, (2) the innovation **scale** obtained from a supplier's specialization, (3) the innovation **scope** that an outsourcing supplier achieves through its exposure to clients with different problems in different industries, and (4) the **complementarity** of capabilities between an outsourcing firm and its supplier.

Despite the potential for cost savings and innovation advantages from outsourcing, it is not guaranteed that a firm will capture all or even a portion of the gains from a contract with a supplier. Outsourcing involves risks and costs that can easily outweigh the gains. Specifically, firms need to put together an outsourcing contract that is sufficiently efficient to ensure that they can expect to capture their share of the benefits while protecting themselves from the risk of exploitation and hold-up.

Figure 1 illustrates our conceptual framework of strategic outsourcing decision-making, which includes six factors we posit as candidates to influence outsourcing decisions. We discuss these outsourcing factors in detail in the sections follow.

FIGURE 1

A Conceptual Framework of Strategic Outsourcing Decision-making



The Potential Cost Benefit

Theoretically, cost-driven outsourcing arises when outsourcing suppliers can achieve lower

costs for a service than in-house production (Aubert et al., 1996, Bienstock and Mentzer, 1999, Kremic et al., 2006, Vining and Globerman, 1999). Economies of scale and specialization are the major mechanisms driving this level of efficiency and allowing outsourcing suppliers to perform their specialized function (Monteverde, 1995, Domberger, 1998, Hill, 1990, Williamson, 1975, Williamson, 1985). Consistent with the previous research in outsourcing, we propose:

Hypothesis 1: Potential cost savings from an outsourcing will increase the likelihood a firm will pursue strategic outsourcing.

The Potential Innovation Benefits

A common refrain heard in the more popular literature is that outsourcing, being dominantly a cost reduction mechanism, undervalues more tacit benefits, such as the enhancement of innovation. However, there is no theoretically logical reason that this should be the case. Anecdotal evidence also suggests that firms can, and do, tap external suppliers as a source of expertise and innovation and achieve advantages by drawing together unique combinations of capabilities from intermediate markets (Clegg et al., 2005, Holcomb and Hitt, 2007, Quinn, 1999, Carson, 2007). We define “*innovation benefit*” as the total value that is created, to both the outsourcing firm and its customers and the outsourcing supplier, from the successful implementation of creative ideas. This line of reasoning goes beyond the outsourcing of innovation and technology functions and our discussion should not be confused with the literature dealing with those topics (see, for example, Chesbrough and Teece, 1996, Quinn, 2000). It is our argument that these benefits arise as a natural part of the outsourcing process, whether recognized by the participants or not. In the following sections, we draw on management and innovation theories to explain the four major innovation benefits outlined earlier.

Motivation in outsourcing suppliers

The first factor affecting innovation in outsourcing arrangements is the motivation that the institutional structure associated with outsourcing creates. This involves three elements. First, the centrality of the specific outsourced task(s) to the outsourcing supplier, which now has a clearer focused set of activities to manage. Task-focused motivation (Sternberg and Lubart, 1991, Sternberg and Lubart, 1993) is a particularly appropriate model of innovation for outsource providers, as their business is, by its very nature, one of a task-focused specialist supplier. It encourages organizations to

develop expertise in the target work domain and generates an incentive to innovate as the link between task improvement and the rewards are clear. Second, the motivation that ownership of the outsourced tasks creates for the outsourcing supplier. Finally, the motivation to innovate to gain business in a competitive marketplace adds powerful incentives for outsourcing suppliers to innovate (Brown et al., 2002, Domberger, 1998). The natural forces of competition encourage suppliers to find new niches where they would have an advantage over their rivals. In contrast, an internal provider will not be operating under the same pressure, as the competition for internal budgets is less fluid and intense. Comparing an outsourcing firm and a supplier in the aspects discussed above, we argue that:

Hypothesis 2: The strong motivation to innovate in an outsourcing supplier will increase the likelihood a firm will pursue strategic outsourcing.

Task Specialization

By serving many clients with similar needs, outsourcing suppliers are more likely to accumulate knowledge and build up capabilities in their specialized domain. Task specialization in outsourcing suppliers allows them to achieve ‘*innovation scale*’, defined as the efficient degree of specialization that yields an increased innovative output when a firm gains more knowledge and expertise. We suggest that scale arises because of: (1) access to sufficient human and organizational resources and (2) the buildup of specialized capabilities. Not only does the knowledge and expertise of outsourcing suppliers provide direct benefits to their own innovation process, it also allows outsourcing firms to avoid the investment costs in the requisite technology and capabilities that is being provided by the now-outsourced function (Brown and Wilson, 2005). Furthermore, because learning from these activities is difficult to articulate and costly to transfer to other organizations (Polanyi, 1958, Teece, 1998), Holcomb and Hitt (2007) suggest that firms may acquire an access to these valuable yet specialized capabilities via their outsourcing relationships. Given that markets can offer the specialized capabilities and innovation scale that firms do not possess, we argue that:

Hypothesis 3: The task specialization of an outsourcing supplier will increase the likelihood a firm will pursue strategic outsourcing.

Knowledge Diversity

The diversity of knowledge and skills is claimed to be a powerful predictor of innovation because it brings usefully differing perspectives together (Paulus, 2000, West, 2002). The efficient exploitation of knowledge diversity, which we term ‘*innovation scope*’, is beneficial to an organization’s innovation process (Sutton, 2001, Chesbrough, 2003, Hargadon and Sutton, 1997). Innovation scope benefits arise for reasons not dissimilar to those seen earlier for innovation scale. However, in the case of innovation scope it is knowledge reapplication and recombining (Majchrzak et al., 2004, Alavi and Leidner, 2001) that is critical. Consistent with this concept, we observe that organizations often do not possess adequate knowledge and skills to innovate in all functions they perform, whilst outsourcing suppliers, who serve many clients facing various challenges in different industries, are more likely to apply a range of knowledge and experience to generate innovative products and processes. It becomes obvious that when outsourcing can extend a firm’s innovation scope beyond internal resources and outstrip the knowledge endowment of an individual firm it is a viable option. These arguments lead to the following hypothesis:

Hypothesis 4: The knowledge diversity of an outsourcing supplier will increase the likelihood a firm will pursue strategic outsourcing.

Complementarity of capabilities

Critical resources may extend beyond a firm’s boundaries. Many strategy scholars have argued that firms may enhance their value chain performance when they align with exchange partners in order to access complementary capabilities (Rothaermel, 2001, Teece, 1986). The “relational view” (Dyer and Singh, 1998) suggests that firms can develop valuable resources by carefully managing relationships with external entities and that complementary resources and capabilities allow firms to generate greater rents than the sum of those obtained from the individual resources of each partner. When complementary resources and capabilities are idiosyncratic and indivisible, strategic outsourcing can provide access to them (Holcomb and Hitt, 2007) and outsourcing suppliers often become an important source of innovation (Clegg et al., 2005). Accordingly, we argue that:

Hypothesis 5: The complementarity of capabilities between an outsourcing firm and a supplier will increase the likelihood a firm will pursue strategic outsourcing.

Value Appropriation

The fact that we emphasized the advantageous components of outsourcing does not mean that we can simply ignore the risks associated with outsourcing. However, we suggest that these risks can be mitigated and overwhelmed through well-managed value appropriation. Complex environments populated by boundedly rational managers creates room for opportunism and other forms of moral hazard, which the contracting parties attempt to mitigate through monitoring, penalties and incentives, and reputational investments aimed at aligning the interests of the signatories. Another classic point of conflict is the issue of specialized asset investment. Specific assets are considered an obstacle to market efficiency because they are costly to redeploy to alternative uses (Williamson, 1991), thereby increasing the switching cost and creating a potential “*hold-up*” problem. To avoid, or at least mitigate, these risks, firms need an appropriate mechanism to protect the potential values and manage risks that might arise in an engagement. Assuming self-interested corporations, drawing up an “*efficient outsourcing contract*” (Barthelemy, 2003, Saunders et al., 1997, Harris et al., 1998) can govern a relationship and ensure that value from the potential cost and innovation benefits can be effectively captured. An efficient contract also reduces the probability of ex-post transaction costs (e.g., costly negotiation). Hence, we propose that:

Hypothesis 6: Potential value appropriation moderates the relationship between potential (cost and innovation) benefits and a decision to pursue strategic outsourcing.

METHODS

Sample

The sample consists of 72 managers/executives drawn from the membership of The International Association of Outsourcing Professionals (IAOP). These managers are familiar with outsourcing, senior in their organizations, with a range of experience in outsourcing decision-making from none to more than 10 years. Their organizations are representative of large multinational firms plus a sample of smaller firms with the median firm having approximately 5,000 employees.

Research Approach

The approach and results discussed here are part of a larger study that examines the differential value of factors influencing strategic outsourcing decision-making. Because the factors we

investigate are based on potential benefits, we chose to examine their validity using a stated preference (SP) approach. The strength of the SP approach is its ability to statistically capture preferences of managers while controlling for variables underlying their decisions. In the current case, the method is uniquely appropriate because we are positing potential relationships that may not naturally occur in the market and, hence, be the basis of an econometric examination using panel data (which clearly do not exist). The larger study utilized two experimental methodologies: best-worst scaling (BW) and discrete choice modeling (DCM) plus case analysis of 16 organizations. The work presented in this article describes the results from the DCM experiment only.

The Discrete Choice Experiment

Discrete choice methodology (see Louviere et al., 2000, Train, 2003) has a theoretical basis in Random Utility Theory (McFadden, 1973, Thurstone, 1927). It uses the systematic factorial manipulation of independent variables and their levels to elicit rank orders that capture the impact of the independent variables (Louviere et al., 2000, Street and Burgess, 2007). Based on structured interviews with senior outsourcing practitioners and the preliminary results from the BW experiment, we determined 6 theoretical factors potentially underlying general outsourcing decisions and other environmental factors that may influence outsourcing decision-making (see Table 1 for definitions). The design of the DCM experiment was based on the fractional factorial design (Street and Burgess 2004, 2007; Street et al. 2005), allowing us to orthogonally estimate the main effects of outsourcing factors and two-way interaction effects between value appropriation and other five factors.

TABLE 1
Outsourcing Factors and Definitions

Outsourcing Factors	Factors in the Experiment *	Definition
Cost Benefits	Cost Savings	Cost Savings are how much your organization saves by outsourcing an activity to an external operator compared to the cost of an in-house operation. It is measured by the percentage decrease in the cost incurred in performing an activity after it has been outsourced.
An outsourcing supplier's commitment to innovate	Commitment to Innovation	Commitment to Innovation states how much your outsourcing supplier is committed to improving existing products, services or processes or creating new products, services or processes. For instance, compare Firm A, who has a willingness to improve their existing products and introduce new products to the market, with Firm B, who aims at maintaining their existing products. In this case, we say that <u>Firm A has more commitment to innovation than Firm B.</u>
Task Specialization	Task Specialization	Task Specialization is the degree of expertise of your outsourcing supplier in a particular task. Think of it as the number of different business functions your outsourcing supplier provides to the marketplace. For instance, compare Firm A, who concentrates heavily on offering call center outsourcing services to the market, with Firm B, who offers a range of services from application, infrastructure and business process outsourcing without concentrating on a particular service. In this case, we say that <u>Firm A has more task specialization than Firm B.</u>
Knowledge Diversity	Industry Specialization	Industry Specialization is the degree of knowledge diversity which your outsourcing supplier has across industries. Think of it as the number of different industries your outsourcing supplier serves. For instance, compare Firm A, who offers software testing service to clients in banking industry, with Firm B, whose clients span across several industries, e.g., banking, airline and retailing. In this case, we say that <u>Firm A has more industry specialization than Firm B.</u>

TABLE 1 (CONT)**Outsourcing Factors and Definitions**

Outsourcing Factors	Factors in the Experiment *	Definition
Complementarity of Capabilities	Value Creation	Value Creation is the extra value created from the combination of knowledge and capabilities of the parties (i.e., your company and the outsourcing supplier) involved in an outsourcing engagement. Think of it as the percentage of value increase after an activity has been outsourced to an outsourcing supplier. For instance, when operating an IT activity in-house, Firm A generates \$100 million worth of value from this activity. After outsourcing it to an IT service provider, the value generated from this activity increased to \$115 million. Therefore, 15% increase in value is the value creation from this outsourcing activity.
Value Appropriation	Value Capture	Value Capture is how efficient your outsourcing contract is in allowing you to gain value created in an outsourcing relationship. Think of it as a ratio of value gained to total value created from an outsourcing activity as a percentage. For instance, given that the fair share of total value generated by an outsourcing activity should yield Firm A \$100 million worth of value, Firm A actually gains \$75 million worth of value. \$25 million is the value lost which an outsourcing contract failed to capture for Firm A. In this case, we say that the outsourcing contract had a 75% efficiency in value capture for Firm A.

* To facilitate respondents in completing the DCM task, we rename some outsourcing factors to an easy-to-understand name. However, their meanings remain the same as what we discussed earlier in the conceptual model.

In the DCM experiment, each respondent was put into one of two outsourcing situations – the outsourcing of a customer-facing operation or the outsourcing of a back-room operation – and was required to make decisions about 24 outsourcing pairs with varying levels across the six outsourcing factors by indicating which of the options: (1) “would be their most preferred” and (2) they would “recommend to their firm’s Board of Directors”. These two decisions are akin to asking the manager a “consideration set” question and “forced to choose” question. In this sense, the choice from question (2) generates individuals’ consideration set individuals that would include the forced-to-choose choice from decision (1). Figure 2 provides an example of choice tasks from the DCM experiment.

FIGURE 2

Example of the DCM Experiment

Outsourcing Factors	Option A	Option B
Task Specialization	Offers a range of services	Offers one specific service
Industry Specialization	Provides services within one industry sector	Provides services within one industry sector
Commitment to Innovation	High commitment to innovation	Low commitment to innovation
Value Creation	10% increase in value	10% increase in value
Value Capture	25% value captured	25% value captured
Cost Savings	Decrease 20% or more	Decrease 10% or less

Q1. Which outsourcing option is your MOST preferred? (Tick one)	☒ Option A	☐ Option B
Q2. Which option, if any, would you recommend to the Board of Directors for further consideration? (Tick one)	☐ Option A	☐ Option B
	☐ Both A and B	☒ Neither

RESULTS

Aggregate Sample Results

The DCM responses are analyzed using series of multinomial logit (MNL) models (Train, 2003). The results of MNL models are presented in Table 2. The results from Model 1 reveal that all six factors proposed in the conceptual model matter to outsourcing decisions. However, task specialization tends to have a slightly negative effect on a decision to outsource, opposite to what we proposed in Hypothesis 3. In support of Hypothesis 2, a supplier’s commitment to innovate has the significant influence on the decision to outsource an activity. The results also confirm Hypotheses 5

and 6 as both value creation and value capture have a statistically significant effect on outsourcing decisions. As one might expect, cost saving is another influential factor underlying outsourcing decisions. This reaffirms the role of cost saving proposed in prior studies and supports Hypothesis 1. However, although cost saving is traditionally considered the focal reason for firms to outsource we find that its influence is smaller than that of some innovation and contractual components (i.e., commitment to innovate, value creation and value capture).

TABLE 2
Aggregate DCM Experiment Results

Variables	Model 1			Model 2		
Value Capture	0.314	***	(0.02)	0.314	***	(0.02)
Cost Saving	0.291	***	(0.01)	0.292	***	(0.01)
Commitment to Innovate	0.338	***	(0.01)	0.339	***	(0.01)
Task Specialization	-0.097	***	(0.01)	-0.098	***	(0.01)
Industry Specialization	0.029	**	(0.01)	0.028	**	(0.01)
Value Creation	0.313	***	(0.01)	0.314	***	(0.01)
<i>Interactions</i>						
Value Capture x Cost Saving				-0.001		(0.01)
Value Capture x Commitment to Innovate				-0.017		(0.01)
Value Capture x Task Specialization				-0.033	**	(0.01)
Value Capture x Industry Specialization				-0.033	**	(0.01)
Value Capture x Value Creation				0.055	***	(0.01)
R^2	0.221			0.22		
Adjusted R^2	0.226			0.23		
LL	-7865.68			-7846.11		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

To test Hypothesis 6 we included in Model 2 interactions between value capture and the other five outsourcing factors. The result partially confirms Hypothesis 6 as it illustrates the significant relationship between: (1) value capture and value creation, (2) value capture and industry specialization, and (3) value capture and task specialization. The significant moderating effect between value capture and value creation implies that not only firms expect to gain extra value from complementary capabilities but they are also cognizant of capturing the value. In other words, when firms are more certain about the ability of their contract to appropriate the value created in a

relationship, the potential benefits from complementarity of capabilities will have a stronger influence on outsourcing decisions. Although the interaction effects of value capture and a supplier's specialization (both in task and industry) are statistically significant, they are relatively small in magnitude. Despite the minor main effect of task and industry specialization and their small interaction effects with value capture, the results imply that managers associate the benefits from their supplier's task and industry specialization with the expectation that their contract will be able to capture this value.

Heterogeneity in Outsourcing Determinants

The aggregate results do not allow us to identify whether there are different preference profiles in the sample. To capture both observed and unobserved heterogeneity we utilized latent class clustering to classify respondents based on their DCM responses and related this to individual and firm characteristics. Latent class cluster analysis (LCCA) is a statistical method for finding subtypes of related cases (latent classes) from multivariate categorical data and, hence, a useful approach for unearthing segments of respondents with quite different preferences (see Vermunt and Magidson, 2000, Lazarsfeld and Henry, 1968). We compared MNL models for one to four clusters using four information criteria for determination of the most parsimonious specification: Improvement in the Log Likelihood, Bayesian information criteria (BIC), and two Akaike Information Criteria (AIC and AIC3) (see Fraley and Raftery, 1998). Based on this a two-cluster solution was considered optimal and is used in the remainder of this paper (the specific results are excluded for space limitations).

TABLE 3

Latent Class Multinomial Logit Estimates of Outsourcing Factors in 2-Class Model

Variables	Class 1	se	Class 2	se	Wald	Wald (=)
Value Capture	0.332 *** (0.02)		0.514 *** (0.04)		*** (413.27)	*** (18.43)
Cost Saving	0.052 *** (0.01)		0.831 *** (0.03)		*** (1043.28)	*** (714.42)
Commitment to Innovate	0.532 *** (0.01)		0.147 *** (0.02)		*** (1540.14)	*** (284.16)
Task Specialization	-0.251 *** (0.01)		0.067 *** (0.02)		*** (344.63)	*** (194.09)
Industry Specialization	0.004 (0.01)		0.154 *** (0.02)		*** (59.36)	*** (38.39)
Value Creation	0.147 *** (0.01)		0.827 *** (0.03)		*** (1136.91)	*** (539.87)
<i>Interactions</i>						
Value Capture x Cost Saving	0.036 * (0.02)		-0.055 † (0.03)		* (8.11)	* (6.55)
Value Capture x Commitment to Innovate	-0.055 *** (0.02)		-0.022 (0.02)		** (11.86)	(1.45)
Value Capture x Task Specialization	0.037 * (0.02)		-0.156 *** (0.02)		*** (55.72)	*** (49.19)
Value Capture x Industry Specialization	-0.034 * (0.02)		-0.040 † (0.02)		† (7.55)	(0.04)
Value Capture x Value Creation	0.052 ** (0.02)		0.031 (0.03)		** (10.66)	(0.34)
<i>Predictors</i>						
Customer-Facing Operation	0.030 * (0.01)		0.0336 † (0.02)		* (8.669)	(0.03)
Back-Room Operation	-0.030 * (0.01)		-0.0336 (0.02)			
R^2	0.26		0.45			
Adjusted R^2	0.27		0.46			
LL	-6769.1801					

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 presents the MNL models characterizing the effect of specific factors and interaction terms on outsourcing decision-making for the two separate clusters.¹ An examination of the coefficients of the two-cluster solution in Table 3 shows a number of distinctions between clusters. First, all factors, except industry specialization, have a statistically significant effect on the outsourcing choices of managers. Among outsourcing factors, those in the first cluster strongly value a supplier's commitment to innovate and the ability of an outsourcing contract to capture value. They also do not view an outsourcing supplier's task specialization as important (indeed they view it slightly negatively). Given their strong concern about a supplier's commitment to innovation, we characterize the first cluster as managers concerned about '*innovation-driven outsourcing*'. In contrast, managers in the second cluster are more concerned about cost saving and the extra value gained from complementary capabilities. Consistent with the first cluster, the ability of a contract to appropriate the value created in a relationship has a significant effect on manager's choices. Accordingly, we characterized managers in the second cluster as being focused on '*cost and value-driven outsourcing*'.

The coefficients for the directionality of an activity (a choice model predictor) reveal that managers are not so concerned whether an about to-be-outsourced activity has a direct exposure to their customers. As long as outsourcing can offer benefits and a contract can guarantee efficient value appropriation, the fact that an activity is a customer-facing or a hidden back-room operation does not significantly influence a decision to outsource. This is consistent with what we have seen in a marketplace where firms increasingly outsource their downstream activities, such as call centers and sales and marketing, to external providers who are more capable in doing the work.

What is also interesting is that neither cluster is dominant in the sense that it overwhelms the sample. 58 percent of the managers fall into the innovation-driven outsourcing segment and 42 percent of the managers thought cost and value-driven outsourcing is more relevant.

¹ We note that the Wald statistic shown in the table assesses the statistical significance of a set of parameter estimates for a given variable and the Wald (=) value tests the equality of each set of parameters across classes.

TABLE 4

Impact of Individual- and Firm-level Characteristics on Cluster Posterior Probabilities

	Class1	s.e.	Class2	s.e.	Wald
<i>Covariates</i>					
Report Levels to CEO					
0 (I am a CEO)	0.623	(0.60)	-0.623	(0.60)	(1.39)
1 level	0.055	(0.42)	-0.055	(0.42)	
2 levels	-0.321	(0.45)	0.321	(0.45)	
3 levels	-0.180	(0.40)	0.180	(0.40)	
4 levels or more	-0.177	(0.36)	0.177	(0.36)	
Industry Experience					
1-5 years	0.362	(1.11)	-0.362	(1.11)	(4.13)
6-10 years	-1.229	(0.68)	1.229 †	(0.68)	
11-15 years	-0.661	(0.49)	0.661	(0.49)	
16-20 years	-0.727	(0.5)	0.727	(0.50)	
21-25 years	2.987	(1.73)	-2.987 †	(1.73)	
More than 25 years	-0.733	(0.58)	0.733	(0.58)	
Outsourcing Decision-Making Experience					
0 year	-0.435	(32.09)	0.435	(32.09)	(3.59)
1-5 years	0.175	(10.70)	-0.175	(10.7)	
6-10 years	0.816	(10.71)	-0.816	(10.71)	
More than 10 years	-0.555	(10.70)	0.555	(10.7)	
Industry					
Utilities/Construction	0.734	(1.20)	-0.734	(1.20)	(8.08)
Transportation	1.033	(1.49)	-1.033	(1.49)	
Pharmaceuticals/Biotechnology	-0.930	(5.61)	0.930	(5.61)	
Business Services	1.404	(1.05)	-1.404	(1.05)	
Health Care/Education/Social Services	1.149	(1.26)	-1.149	(1.26)	
Retail/Wholesale Financial Services	0.440	(1.04)	-0.440	(1.04)	
Mining/Natural Resource Extraction	-0.812	(5.57)	0.812	(5.57)	
Manufacturing	0.376	(1.15)	-0.376	(1.15)	
Retail/Wholesale Trade	-1.158	(5.61)	1.158	(5.61)	
Information Technology	1.729 †	(1.05)	-1.729 †	(1.05)	
Government/NGO	-5.790	(4.49)	5.790	(4.49)	
Others	1.826 †	(1.08)	-1.826 †	(1.08)	
Headquarter Location					
Africa	0.318	(6.12)	-0.318	(6.12)	(4.83)
Asia	0.417	(1.35)	-0.417	(1.35)	
Australia/New Zealand	-0.458	(1.41)	0.458	(1.41)	
Europe	-0.092	(1.28)	0.092	(1.28)	
North America	0.665	(1.26)	-0.665	(1.26)	
South America	-0.851	(1.47)	0.851	(1.47)	

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Apart from describing clusters in terms of outsourcing factors, we also examined clusters to determine whether one or the other model is more representative of specific types of firms, industries or managers. This allows us to address the common belief that there are differences in outsourcing preferences across industries and countries and to also separate “observable” heterogeneity (that which can be seen to be related to an observable covariate) and “unobservable” heterogeneity (that which exists in the data but cannot be related to anything observable). In the analysis, we included both individual-level and firm-level characteristics as covariates. The estimation is similar to regressing the covariates against the estimated posterior probability that a respondent (in this case a firm/individual) fits cluster 1 or cluster 2 (although this is estimated simultaneously with the model).

There are a few interesting results that appear in the analysis. First, Table 4 suggests that there are no significant individual and firm differences between the clusters. This implies that the individual-level and firm-level covariates, in the aggregate, have minor (or no) effect on the importance of the outsourcing factors of the individuals in both clusters. In other words, most of the heterogeneity is unobserved. Second, within each covariate there are a few interesting differences. For example, firms in the information and technology industry are more likely to be innovation driven rather than cost and value focus. However, overall there are few discernable meaningful observable patterns that would have more than trivial predictive validity.

DISCUSSION

Our research examined managerial preferences with respect to potential cost and innovation benefits and contractual efficiency in relation to outsourcing decision-making. Even though there has been an extensive research as to the benefits and risks associated with outsourcing, to our knowledge, empirical research on outsourcing decision-making that incorporates the consideration of innovation benefits is limited. Our research method enables us to investigate how managers across industries and countries prioritize relevant outsourcing factors in their decision-making more parsimoniously. In addition, the efficiency of the DCM approach provides a clearer picture of the differential value of cost, innovation and contractual factors in outsourcing decisions. These factors are not obviously seen in real-market transactions and hence difficult to examine using a revealed preference approach.

Our results show that while cost savings serves as a fundamental driving force in outsourcing decisions, the potential for innovation benefits is not overlooked. Firms also expect to leverage their supplier's strong commitment to innovate and gain access to external capabilities and resources that are complementary to their in-house operations through their outsourcing engagements. This is reflected in industry practice where many firms attempt to develop a long-term partnership with their outsourcing suppliers, rather than simply engaging in a one-off transaction. Value appropriation was also highly valued. This implies that firms do not simply expect beneficial gains from outsourcing but they are strongly cognizant on the realization of these potential benefits.

The latent class cluster analysis identifies two groups of outsourcing decision-makers and points out similarities and differences in their preferences with respect to outsourcing factors. The results show that the first group of managers has strong concerns about their supplier's commitment to innovate and the additional value created from complementary capabilities. The second group of managers is more cost-orientated decision makers, strongly favoring cost saving, a supplier's complementarity of capabilities, and the efficiency of the contract in capturing value. Finally, our results reveal that there are no significant variations in outsourcing preferences across managers and firms. The outsourcing preference models we investigated seem to be consistent across different types of managers with different experiences and from different industries and countries.

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