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Efficiency and the scope of outsourced services: a client firm's absorptive capacity perspective of knowledge-intensive services

Pia Ellimäki, J. Alberto Aragón-Correa and
Nuria Esther Hurtado-Torres
Faculty of Economics and Business, University of Granada, Granada, Spain

Abstract

Purpose – Strategic literature has focused on how economies of scale in a firm offering outsourcing may generate incentives for clients to increase the outsourced services, but there has been limited research on how the clients' features may influence the scope of services that they hire with an outsourcing provider. This study analyzes whether a client's efficiency motivates it to increase ties with a specific provider of knowledge-intensive services in the context of business process outsourcing (BPO). We further explore whether industry conditions moderate the relationship.

Design/methodology/approach – A research framework is developed consisting of three main hypotheses. We combine industry data and proprietary and financial data from a longitudinal sample of 107 client firms of a multinational outsourcing service provider to test our hypotheses.

Findings – We find that more efficient firms hire more services from an outsourcing provider and that the munificence of the client firm's industry positively moderates this relationship. Our results suggest that efficient clients can better keep transaction costs under control when accessing, assimilating, and exploiting the knowledge embedded in an expanded set of services provided by an outsourcing supplier.

Originality/value – This study extends the absorptive capacity perspective by showing that a client's efficiency reinforces its opportunities to absorb knowledge-intensive services from a supplier when expanding the range of operations in the context of BPO.

Keywords Business process outsourcing, Efficiency, Absorptive capacity, Exploitation, Transaction cost economics

Paper type Research paper

Introduction

The traditional "make or buy" decision has given way to a more complex strategic decision in which firms have a myriad of alternatives from which to choose. Business process outsourcing (BPO) has been one of the most popular options in the past couple of decades to externally hire the development of certain service functions that might be developed internally, such as procurement, accounting, legal services, payroll, or cloud processes, among others. The market for BPO was valued at 155 billion USD in 2018 and is expected to continue growing (Gartner, 2019), and many popular firms are providers of BPO worldwide (e.g., Amazon Web Services, IBM, Accenture, and Infosys). The academic literature on BPO has mostly focused on the influence of the outsourcing service providers (e.g., Espino-

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Rodríquez and Padrón-Robaina, 2006; Hätönen and Eriksson, 2009; Lacity *et al.*, 2017), yet it has all but neglected the importance of how the firms hiring the services matter in a BPO relationship. We focus on whether a client firm's existing efficiency may influence the number of services hired from a BPO provider and how the munificence and dynamism in the client's industry matter in this relationship.

BPO relationships are highly complex and are sensitive to both subjective managers' perceptions regarding the strategic nature of the underlying service and objective organizational or market criteria (Reeves, 2007). This paper focuses on the specific objective influences of the client firm's efficiency and the industry dynamism and munificence. We recognize that other multiple factors may play a relevant role in a firm's approach regarding the scope of their outsourced services, and we will control for some of them in our analysis; however, focusing on the client firm's efficiency allows us to directly examine a good indicator of the aggregated situation of the client and pay close attention to the cost implications that are central in BPO situations.

Most of the early studies on outsourcing have highlighted that BPO allows clients to gain efficiency by accessing services that may not be available internally at a limited cost (e.g., Hätönen and Eriksson, 2009; Reeves, 2007; Verwaal *et al.*, 2009). In fact, BPO providers usually focus on services in which they may get the advantage of economies of scale (Gilley and Rasheed, 2000; Hätönen and Eriksson, 2009; Klaas *et al.*, 2005) or access to learning curves and updated technologies (Quélin and Duhamel, 2003; Verwaal *et al.*, 2009). Reeves (2007) shows that the strategic nature of the outsourced services influences a firm's decision regarding how to acquire them externally. However, extending the scope of the outsourced services with a provider also requires the consideration of a client's extra transaction costs of dealing with a more sophisticated market relationship.

The transaction cost economics (TCE) literature (Williamson, 1979, 1985) claims that a firm will begin its operations with an external provider only when doing so encompasses lower transaction costs than performing the processes in-house. The transaction costs in a BPO context of knowledge-intensive services involve not only the direct costs of organizing complex contracts but also the client's effort to integrate the sophisticated implications of absorbing knowledge-intensive services into its operations. These transaction costs increase significantly when the number of different hired services increases (Dyer, 1997), and it raises some doubts about the scope of the operations with a provider.

While outsourcing has been traditionally seen as a source of getting access to efficient operations from a provider, we propose that it is precisely the most efficient client firms that are better able to manage an increased number of services with an outsourcing provider. A firm's absorptive capacity [1] refers to its ability to acquire new external knowledge, assimilate it, and apply it to its own operations (Cohen and Levinthal, 1990; Zahra and George, 2002). Absorbing external knowledge provides a firm with the possibility of generating a competitive advantage (Wales *et al.*, 2013). Because an efficient firm can better identify, integrate, and exploit the transaction costs of dealing with an expanded range of outsourced services from a provider, we expect that managing the firm's operations efficiently and positively influences the number of different knowledge-intensive services from an external BPO provider. Additionally, the situation in the client firm's industry plays a role in this relationship.

Dynamism and munificence both affect the cost implications of transactions with external providers (Cheon *et al.*, 2017; Yang and Zhao, 2016). While dynamism can be defined as the volatility of the changes in an industry that heighten the uncertainty of firms' predictions (Chen *et al.*, 2017), munificence is defined as the easy and abundant access to resources available to firms in an industry (Dess and Beard, 1984). We propose that the positive relationship between clients' efficiency and the number of hired BPO services is more relevant for client firms operating in more dynamic and less munificent industry contexts due to the increased relevance of transaction costs in these environments.

Our paper extends the absorptive capacity perspective (Cohen and Levinthal, 1990) by identifying how the efficiency of a client firm may affect its opportunities to absorb the knowledge involved in services from a BPO supplier. Our results respond to recent calls to analyze governance mechanisms by studying how certain firm-level characteristics can affect a firm's choice regarding its relationship with a provider (see the literature review of Lacity *et al.*, 2017). Additionally, our findings reinforce the possibility of combining a client firm's existing strengths with the strengths of its BPO provider as supported by some empirical findings (Han *et al.*, 2008, 2013), and extend these approaches by analyzing the importance of a client firm's existing efficiency to keep transaction costs under control when increasing ties with a BPO provider. Finally, we confirm that the characteristics of the environment also play an especially interesting role in analyzing the relationship between a client firm and the reinforcement of ties with an external BPO provider. Specifically, we extend prior TCE studies on the relevance of environmental dynamism (Yang and Zhao, 2016) and munificence (Cheon *et al.*, 2017) and show how these factors may moderate the positive relationship between a client's efficiency and the scope of outsourced services with a BPO provider.

Empirically, we use a rare combination of proprietary data from a single BPO service provider regarding its operations with clients, financial information from each client, and industry data that together provide us with a unique opportunity to verify our hypotheses. Specifically, our sample includes 107 multinational firms in different industries that are clients between 2015 and 2017 of the focal BPO provider. The BPO provider, which we hereafter refer to as Alias, is a large BPO service provider operating across the globe.

This manuscript makes three theoretical contributions. First, we join the growing interest in a joint analysis of different theoretical perspectives to understand how they together can better explain the BPO situations. Second, while previous strategic literature on outsourcing has mainly focused on the providers' opportunities to supply competitive services, we extend this literature by showing that the clients' abilities to operate efficiently are relevant complementary factors to consider when increasing the scope of outsourced operations with a BPO service provider. Third, the evolving nature of business relationships in the last decade makes it particularly relevant to complement the analysis of internal features influencing a BPO relationship with a contingent perspective on the cost implications of external dimensions.

The paper proceeds as follows. We begin with a brief review of the literature on outsourcing and build on it to develop our hypotheses on how client firm efficiency and environmental factors may influence the scope of services in an outsourcing relationship. Next, we describe our sample and data, provide details of the analyzed services, our measures, and methodology, and present our results. We then conclude with a discussion of the findings, limitations, and suggestions for future research.

Theoretical background

The practice, and along with it, the concept of outsourcing, have evolved during the past decades. Kaipia and Turkulainen (2017, p. 114) have offered one of the most recent definitions by stating: "Outsourcing is a conscious decision not to carry out an activity in-house," implying that firms always have the choice to outsource or not. Thus, the central feature in BPO activities is a firm's decision about whether to outsource or maintain an in-house business process, including activities as varied as human resources, accounting, or research and development (Lacity *et al.*, 2017). The specialized providers of outsourced services offer a wide range of opportunities to their clients to contract a number of related services. The transaction cost theory (Williamson 1979, 1985) analyzes these decisions based on contractual risks and costs.

Research on the choice of governance mode has traditionally focused on the structural perspective, which emphasizes that firms can either draft detailed legal contracts when exchange hazards are present or if such contracts become too complex and costly to manage, choose to arrange transactions hierarchically within the firm (e.g., Mayer and Salomon, 2006; Williamson, 1985). As firms make more investments in specialized assets, the transaction costs increase (Schepker *et al.*, 2014). This is particularly important in a BPO context of knowledge-intensive services that requires investments in software, training, and integration because specialized investments give rise to the risk of opportunism, or "self-interest seeking with guile" (Williamson, 1985, p. 47). The more specialized an asset is, the less value it will have outside the relationship (Dyer, 1997).

In order to avoid partner opportunistic behavior, firms often draft legal contracts (Lumineau and Quélin, 2012). With asset specificity, contracts serve to mitigate partner opportunistic behavior, minimize dependence on the service provider, and ensure flexibility to adapt to changes in the environment (Barthélemy and Quélin, 2006). These contracts are complex because of the "presence of conflict between intermediate self-interest and interest in contractual solidarity" (Macneil, 1980, p. 43). Furthermore, increasing the complexity of the contracts with extra provisions and services also comes with reinforced transaction costs, and firms compare the transaction costs of performing an activity in-house with hiring it from an external provider to choose the less costly option (Hätönen and Eriksson, 2009). More recently, some research has begun to consider that those costs may be different depending not only on the specificities of the contract but also on the internal capabilities of the firms involved (Foss, 2003). In this context, different client firms may have different opportunities for reducing the transaction costs in a BPO context.

More recently, the literature on firms' absorptive capacity has paid specific attention to how integrating external knowledge embedded in suppliers' services is a relevant dimension of interorganizational relationships and alliances (e.g., Andersén and Kask, 2012; Fredrich *et al.*, 2019). The absorptive capacity literature has emphasized the importance of an organization's features that help in capturing, interpreting, and exploiting external knowledge (Jansen *et al.*, 2005; Todorova and Durisin, 2007). Organizational features, such as the level of cross-functional interfaces, the level of participation in decision making, job rotation, socialization capabilities, and slack resources, can enhance absorptive capacity (Bourgeois, 1981; Jansen *et al.*, 2005; Danneels, 2008).

Some debate remains regarding the qualities of the clients in a BPO context. On the one hand, Argyres (1996) found that, at times, firms selected outsourcing instead of internal development of services when providers possessed superior capabilities compared to the firm's – even if the underlying costs were high. Similarly, Mayer and Salomon (2006) concluded that firms with weak technological capabilities in certain activities were more likely to outsource such activities. On the other hand, more recent studies have begun to highlight that those firms with strong internal qualities are better able to manage their relationships with external providers and may even reinforce their internal strengths by acquiring more services from providers (e.g., Han *et al.*, 2013; Han *et al.*, 2008). Because outsourcing relationships are often considered risky and complex (Kaipia and Turkulainen, 2017), and therefore call for sophisticated contractual governance (Barthélemy and Quélin, 2006), firms need extra provisions and clauses that determine what to do in case of disagreements or unforeseen events (Schepker *et al.*, 2014). In these contexts, a client's efficiency is necessary to better absorb and integrate the external knowledge that is embedded in the services provided by a BPO supplier.

In our empirical analysis, we consider four categories of knowledge-intensive services provided by a single BPO provider (see Table 1). All the provided services are knowledge intensive, requiring specialized technological and process expertise. Although we have to preserve the anonymity of the BPO supplier, we provide below a general description of the services in its portfolio.

First, "product" services refer to the development and implementation of specialized software to support various inter-related business processes in a client firm. In order to absorb this service, clients must make investments to hire the proper hardware and software, train its personnel to access the BPO provider's tools, and connect and maintain updated services and internal operations. Second, "application management" services comprise enhancements, support, and maintenance to ensure that the business process applications are reliable and highly available. The client's personnel need timely training as these applications are updated frequently to enhance security and to comply with the latest regulations. Third, "advisory" services refer to consulting provided by senior experts to optimize clients' business processes and technologies. Clients may face difficulty in properly integrating the new knowledge into their existing operations if they do not fully understand the advice received and how to apply it. Last, "process-specific" services allow clients to transfer the totality or a part of their service delivery of a specific business process to the BPO provider to manage. Doing so requires coordination between the client's and provider's teams to ensure that specialist process knowledge is shared and integrated with the service. The four previously described services, while clearly different from each other, share certain features of complexity and knowledge-intensity.

Hypotheses

Efficiency and the scope of services with a BPO service provider

While there seems to be a consensus that basic outsourcing activity can help reduce costs for virtually any organization, when the scope of knowledge-intensive services with a single provider increases, so does the complexity of the relationship and the doubts about its cost implications. This is especially true when considering the contractual sophistication of outsourcing relationships between large firms.

A greater scope of services with an outsourcing provider increases costs related to negotiating and enforcing different contracts and administering and monitoring the relationship (Tseng and Chen, 2013). We propose that this added complexity of hiring more services from a BPO provider brings about increased risks and costs that can be successfully undertaken only by those firms that are already efficient. Firms with efficiency constraints struggle to manage the increased complexity of the relationship with a BPO service provider, whereas more efficient firms may be able to not only bear the cost but also reap the benefits of a greater scope of services with their provider. The experience with efficiently managing their resources provides client firms with better opportunities to manage extra contingencies with an external provider in the three central steps of absorbing external knowledge: acquisition, assimilation, and exploitation (Cohen and Levithal, 1990).

Acquisition refers to a firm's capability to identify and evaluate externally generated knowledge that is critical to its operations (Cohen and Levinthal, 1989; Lane *et al.*, 2006; Zahra and George, 2002). In this context, organizing an efficient and accurate way to identify, understand, and evaluate the multiple knowledge-intensive services from a BPO supplier

Table 1.
Description of the services analyzed in this study

Service	Description	Knowledge-intensive nature
Product services	Development and implementation of specialized software	Technological expertise, research, and development
Application management services	Technology enhancements, support, and maintenance	Technological expertise
Advisory services	Consulting services to optimize clients' business processes and technologies	Specialist consultancy, technological expertise
Process-specific services	Business process services to take over a part or all of a client's business process	Specialist process knowledge, specialized IT systems

may be central to the effectiveness of the BPO process. An efficient organization provides the background for limiting the costs of handling the acquisition of extra outsourced services, identifying the appropriate alternative, and evaluating it versus the internal development or provision from other suppliers.

Assimilation refers to a firm's routines that allow it to interpret and understand the new knowledge obtained from external sources (Szulanski, 1996; Zahra and George, 2002) and combine the existing and newly acquired knowledge (Lane *et al.*, 2006; Todorova and Durisin, 2007). Assimilating multiple external BPO services from a supplier increases the difficulties in the process because each of them may have different characteristics, aims, and requirements; efficient firms can make it with their existing cognitive structures while limiting the extra costs in the process because they usually operate trying to avoid the mistakes in the implementation of new routines.

Finally, exploitation allows firms to refine, extend, and leverage existing practices or create new ones by incorporating acquired and transformed new external knowledge into their daily operations (Van de Bosch *et al.*, 1999; Zahra and George, 2002). A firm's efficiency for quick but systematic changes in current products, services, or processes to integrate those from a BPO provider may reinforce the effectiveness of the firm's investments in this process (Wales *et al.*, 2013). In general, Jansen *et al.* (2005) highlight that the pre-existence in the firm of coordination capabilities – that are usually central in efficient organizations – plays a relevant role in the opportunities for acquiring, assimilating, and exploiting new external knowledge from a provider.

To conclude, when outsourcing activities are knowledge intensive, the client firm can access a supplier's services that consolidate their knowledge base (Mukherjee *et al.*, 2019); however, it adds complexity and transaction costs in the processes of acquiring, assimilating, and exploiting multiple services. For these reasons, we expect that more efficient client firms can better develop those processes with limited costs and, as a consequence, will exhibit a greater scope of services with the provider in comparison to less efficient client firms. Our hypothesis is:

> *H1.* The efficiency of clients has a positive effect on the scope of services they have with a BPO service provider, in that more efficient client firms contract more services with the provider.

The moderating roles of environmental dynamism and munificence

Dynamism in the client firm's industry might present itself in the form of fluctuations in the volume, type, and requirements of the client. In the context of outsourcing relationships, Tseng and Chen (2013) argued that environmental dynamism leads to high uncertainty and complexity. The uncertainty in interfirm relationships has been shown to affect the transaction costs between a supplier and a client in outsourcing operations (Reeve, 2007), including interfirm betrayal (Leonidou *et al.*, 2017), exploitative collaboration (Li and Wang, 2019), forms of governance (Abdi and Aulakh, 2017), postoutsourcing firm performance (Choi *et al.*, 2018), and the level of integration between outsourcing partners (Yang and Zhao, 2016). Regarding complexity, dynamism makes *ex ante* detailed legal planning for contingencies all but impossible (Luo, 2007), thus creating the potential for opportunism and increasing the costs of designing and enforcing contracts (Williamson, 1979, 1985).

In a study on logistics outsourcing relationships, Yang and Zhao (2016) found that when demand changes quickly and unexpectedly, firms tend to increase their integration with their service provider. Similarly, Choi *et al.* (2018, p. 353) showed how firms operating in more volatile environments might benefit from outsourcing. However, dynamism comparatively increases the benefits of efficient client firms because they can deal more efficiently with the reactions to uncertainty and complexity in a dynamic environment. From a different perspective, in comparative terms, less efficient clients will have extra difficulties in increasing the scope of BPO services with a provider in a more dynamic environment.

In general, we propose that environmental dynamism generates different incentives for efficient firms to increase the scope of their relationship with a BPO service provider. On the one hand, as outsourcing enables firms to more quickly adapt to changes in the environment (Gilley and Rasheed, 2000), efficient firms in a dynamic environment reinforce their ties with a BPO service provider to better ensure that they can adjust to dynamic changes in industry demand. In contrast, limited environmental dynamism reduces an efficient client's incentive to make relationships more complex by increasing the number of ties with its BPO service provider. On the other hand, a less efficient client may prefer to reduce or even cancel its ties with a BPO service provider because they have additional cost disadvantages from managing this relationship in a dynamic environment.

Therefore, we expect that the relationship between a firm's efficiency and the scope of services with its BPO provider is stronger where there is more fluctuation in the volume, types, or requirements that the dynamism in the industry demands. Meanwhile, less dynamic environments offer fewer incentives to efficient firms to increase the scope of their relationship with the BPO service provider. Our hypothesis is thus:

H2. The positive relationship between clients' efficiency and the scope of services with a BPO service provider is stronger in more dynamic industries.

Industry munificence affects the growth and survival of firms operating within the environment (Randolph and Dess, 1984). While munificent industry contexts indicate more opportunities for internal resource creation (Chen *et al.*, 2017), less munificent industry contexts mean that competition is fiercer and firms spend most of their energy trying to stay alive (Castrogiovanni, 1991; Chen *et al.*, 2017). The availability (or not) of abundant opportunities may influence the relationship between an efficient client and the scope of the services hired from a BPO service provider.

In less munificent industries, firms have more difficulty in accessing peripherical, internal resource creation, and external service providers. Cheon *et al.* (2017, p. 35) argued that firms adopt strategies to "secure access to critical resources, to stabilize relations with the environment, and to enable survival." We, therefore, expect that the influence of a client firm's efficiency on the scope of services may be contingent on munificent industry contexts.

We propose that firms in more munificent industries tend to exhibit weaker relationships between their efficiency and the scope of services they hire from a BPO service provider because multiple opportunities are easily and comfortably available, and the risks of exploration are limited. However, the limited opportunities in less munificent industries for developing internal resources or accessing new providers can drive firms to form stronger relationships with their existing BPO service provider, hiring an increased number of services. Our hypothesis is:

H3. The positive relationship between clients' efficiency and the scope of services with a BPO service provider is stronger in less munificent industries.

Research method

Sample and data

We had access to the internal data of a large BPO service provider firm, Alias, on 129 outsourcing clients. These client firms are large multinationals from across the globe that operate in a variety of sectors. In the initial phase of the study, we conducted unstructured interviews with 10 managers and two senior executives of Alias on the topic of client relationship management to better understand the characteristics and common motivations of those clients that contract more services with the firm.

In the second quantitative phase, Alias provided us with access to the contract documents of each client and its internal invoicing and accounting databases. To ensure the reliability of data, we conducted a comparative analysis of the contractual information against the internal databases. We reviewed individual contracts to identify the services that were included in the scope of the relationship, along with established prices and contrasted this information with data from invoicing and accounting databases. These sources provided us with information to construct our variables on the scope of services and gross margins for each client.

Thomson Reuters Eikon, a widely recognized database consisting of both financial and nonfinancial data, was used to collect firm-level data on revenue, efficiency, and industry classification and industry-level data on revenues. From the list of 129 outsourcing clients initially considered, 107 had data available on the desired attributes in Thomson Reuters Eikon. As we were given access to the accounting and operational data of Alias for the years from 2015 to 2017, we limited our study to this three-year period. Consequently, we tested our hypotheses on a panel data set of 107 client firms between 2015 and 2017. This sample is interesting and typical in the outsourcing literature as it allows us to hold constant the characteristics of the provider.

The final sample of 107 outsourcing clients included firms from a wide range of industries, including industrials (15% of the sample clients), consumer discretionary (15%), financial firms (14%), health care (13%), and information technology (10%). Most of the firms were very large: 55.1% had annual revenues of over 10 billion USD. Most of the firms were from North America (37.4%) and Europe (56.1%), but the sample also included firms from Latin America (2.8%) and Asia (3.7%).

Measures

Scope of services. We aimed to explain the scope of services for which a client contracts with the focal BPO service provider. Building on prior research (Chatain, 2010), we measured the scope of services as the number of areas in which Alias provides services to a client. As Alias has four main service offerings, the values ranged from 1 to 4. Based on Alias' accounting data, we added up all services for which it had received revenue from a specific client in a year. As revenue recognition does not always follow real timings, we cross-checked with client contracts to confirm when the provision of services began in each case.

Client's efficiency. Although multiple operations are related to a firm's internal efficiency, management literature has often used various measures of return on sales to get a general operationalization of efficiency (e.g., Lo *et al.*, 2012; Pons *et al.*, 2013). For instance, Pons *et al.* (2013) use return on sales as a proxy for business efficiency, and Lo *et al.* (2012) deploy the same measure for cost efficiency. In the same line, we opted for the ratio of earnings before interest, taxes, depreciation, and amortization (EBITDA) to total annual revenue to measure firm-level efficiency. Our ratio is a measure of return on sales that looks at the operational return (Li and Lu, 2020) instead of the bottom line (i.e., net profit). The higher the ratio, the better a firm is able to manage its costs in the process of transforming revenues into earnings. Comparing with other alternatives to measure the efficiency with return on sales, we chose this measure as it eliminates the effects of various noncash expenses (Becker-Blease *et al.*, 2010; Franceschelli *et al.*, 2019; Liu *et al.*, 2002), and it is a good proxy for the amount of cash a company is able to generate (Franceschelli *et al.*, 2019). For all these reasons, the EBITDA ratio is widely used not only in academic publications but also by investors and other corporate finance professionals as a key dimension when evaluating firm performance and efficiency (Pearl and Rosenbaum, 2013). We calculated our variable using data from Thomson Reuters Eikon. To further mitigate concerns with industry variations in efficiency, we used a separate variable to control for the industry sector.

Environmental dynamism and munificence. We measured environmental dynamism and munificence following the method described by Dess and Beard (1984), which has been widely used in prior studies (see, e.g. Chen *et al.*, 2017; Hartmann and Vachon, 2018; Seth and Lee, 2017). We measured the variables at the subindustry level, obtaining aggregate total sales for years 2013–2017 for each subindustry from the Thomson Reuters Eikon database. For each year and subindustry in our sample, we regressed the subindustry sales over the years (the sum of the year in question and two preceding years). We then computed environmental dynamism by dividing the standard error from the regression output by the three-year average sales to obtain a measure of the volatility of sales in the industry. For environmental munificence, we divided the regression coefficient by the three-year average sales, thus obtaining a measure of the sales growth in the industry. We repeated this procedure for all subindustries and years in our sample, resulting in a total of 192 values for each variable (64 subindustries, 3 years).

Control variables. We considered various characteristics that have been previously shown to affect outsourcing relationship management (see the meta-analysis of Lacity *et al.*, 2011). In line with Verwaal *et al.* (2009), we included *client firm size,* which was proxied by the natural logarithm of the client's yearly revenues. To control for the *contract margin* of the outsourcing transactions, we computed the annual gross margin generated by the outsourcing provider for each client and year. This ratio was calculated by first deducting client-related direct costs from client-related sales revenue to arrive at the client-specific gross profit and then dividing the gross profit by the client-related sales revenue. We cross-checked the revenue numbers with contractual information. We opted for the use of gross margin as it allows for comparison between deals of different sizes. Based on the interviews we held with managers and senior executives of Alias, we suspected that clients would have a rough estimate of how their price is competitively compared to other clients of Alias and the prices of other BPO providers. We, therefore, expected the contract margin to affect the decision to contract more services with the provider. *Relationship length* was measured as the number of years the firm had been a client of Alias (e.g., Jain *et al.*, 2014). Poppo *et al.* (2008, p. 1201) suggested that long-standing, embedded ties lead to routines and that the exchange parties are "less likely to search for new partners and capabilities over time." We thus expected a longer relationship duration to have a positive effect on the scope of services. We also controlled for the effect that the *client firm industry* might have on the number of services for which a client contracts with the BPO service provider. Our sample included client firms from a wide range of industries, but we categorized them into five broader sectors based on the Global Industry Classification Standard: energy and utilities (codes 10 and 55), materials and industrials (15, 20), consumer discretionary and staples (25, 30), health care (35), and other sectors (40, 45, 50, 60). We then proceeded to create dummy variables for the sectors, resulting in a total of four industry dummy variables.

Analysis

We used a balanced panel data set with data for 107 firms over a period of three years. Following prior research (e.g., Mawdsley and Somaya, 2018), we ran the Hausman test (Hausman, 1978) to determine the appropriate regression model. As a result, a random-effects model was chosen to control for time-invariant unobserved factors. We used robust standard errors in our models to mitigate heteroscedasticity problems. We checked for but found no concerns relating to multicollinearity – the highest variance inflation factor (VIF) in our models was 1.36, well below the suggested threshold (Hair *et al.*, 1995).

Results

Table 2 below displays the descriptive statistics and correlations of our main variables. In order to test our hypotheses, we developed four models. The output of our regression models is summarized in Table 3. In the first model, we ran a random-effects generalized least squares regression of all control variables against the dependent variable, scope of services. This model was significant ($R^2 = 0.170$). Client firm size was found to positively affect the scope of services in a BPO relationship in that larger firms hired more services from the focal

		1	2	3	4	5	6	7
1	Scope of services	1						
2	Client efficiency	0.143**	1					
3	Client size	0.181*	0.134**	1				
4	Contract margin	−0.028	−0.011	0.068	1			
5	Relationship length					1		
6	Environmental dynamism	0.102	−0.136*	0.116*	−0.030	0.196**	1	
7	Environmental munificence	−0.287***	0.109*	−0.168**	−0.022	−0.044	−0.251***	1
	Mean	1.444	0.209	16.060	0.251	6.097	0.026	0.020
	SD	0.730	0.200	1.903	0.166	2.744	0.026	0.080

Note(s): $^{\dagger}p < 0.10$. $^{*}p < 0.05$. $^{**}p < 0.01$. $^{***}p < 0.001$

Table 2. Descriptive statistics and correlations

	Model 1		Model 2		Model 3		Model 4	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Client efficiency			0.623**	0.184	0.603	0.240	0.709***	0.182
Client size	0.050†	0.028	0.040	0.029	0.044	0.033	0.037	0.034
Contract margin	0.020	0.089	0.045	0.088	0.042	0.089	0.038	0.087
Relationship length	−0.057*	0.019	−0.055*	0.019	−0.062*	0.025	−0.049*	0.021
Industry effects	Included		Included		Included		Included	
Environmental dynamism					−0.572	2.049		
Environmental munificence							0.510	0.650
Client efficiency x environmental dynamism					2.286	8.647		
Client efficiency x environmental munificence							−7.905**	2.720
Constant	1.975***	0.535	2.032***	0.558	2.027**	0.610	2.008**	0.612
R^2	0.170		0.188		0.200		0.233	

Note(s): $^{\dagger}p < 0.10$. $^{*}p < 0.05$. $^{**}p < 0.01$. $^{***}p < 0.001$

Table 3. Regression results (n = 107)

BPO service provider. The effect of the relationship length on the scope of services was negative and significant in our sample. We also included industry effects in the model, given that our sample clients operate in different sectors. The energy and utilities sector dummy had a significant, positive coefficient, indicating that firms in that industry hired more services from the focal BPO service provider. The remaining four sectors did not display significant effects.

Model 2 added our independent variable (clients' efficiency) to the regression. This model was significant, and the increase in R^2 (from 0.170 to 0.188) was also significant. In line with our expectations, the efficiency of the client firm had a positive, significant ($p < 0.01$) effect on the scope of services in the BPO relationship. Firms that were more efficient contracted a higher number of services with the focal BPO provider, thus providing empirical support for Hypothesis 1.

In Model 3, we tested for the moderating effect of environmental dynamism on the relationship between the client's efficiency and the scope of services in the BPO relationship. The interaction coefficient was positive but not significant, so no conclusions could be drawn about the effect of environmental dynamism on our main relationship. We could not confirm

Hypothesis 2. Finally, in Model 4, we tested environmental munificence as a moderator. The interaction coefficient was negative and significant ($b = -7.905$, $p = 0.004$), indicating that environmental munificence would moderate the relationship between clients' efficiency and the number of services for which they contract with the focal BPO provider. The interaction graph, displayed in Figure 1, confirmed this interpretation and provided evidence supporting Hypothesis 3: at lower levels of environmental munificence (one SD below mean), the effect of a client firm's efficiency on the scope of services it hires from the BPO service provider was stronger than in more munificent environments (one SD above mean). This result suggests that firms operating in less munificent environments look to complement their internal efficiencies with a stronger relationship with a BPO service provider more than do those in munificent environments.

Discussion

Despite a growing interest in and the importance of BPO, little research has been conducted on the implications of the client firm's features in the context of outsourcing. Early outsourcing literature has traditionally suggested that clients of an outsourcing service provider would look to substitute the provider's strengths for their own internal weaknesses. We have complemented this approach by showing how a client's efficiency positively influences the extension of the scope of services it hires from a BPO service provider. Our approach used TCE and absorptive capacity perspectives to better understand the importance of a client firm's efficiency in the context of a BPO relationship.

TCE highlights the importance of considering the added complexity and related costs generated by an increased scope of services with a BPO provider. Since firms are expected to choose the governance method that minimizes transaction costs (Williamson, 1985), a client of a focal BPO provider could be expected to increase the number of services with the provider only when the client firm can properly cope with the added costs of simultaneously managing the absorption of multiple different knowledge-intensive services. We use the absorptive capacity perspective to extend this perspective by highlighting the relevance of the external knowledge embedded in the provider's services in an interorganizational relationship (e.g., Anderséen and Kask, 2012; Fredrich *et al.*, 2019) and how certain client firm features can help in identifying, interpreting, and exploiting such knowledge (Jansen *et al.*, 2005; Todorova and Durisin, 2007). Since more efficient firms are better at managing the transaction costs of capturing, interpreting, and integrating knowledge from outsourced services, we argue that managing the firm's operations efficiently positively influences the number of different knowledge-intensive services it contracts with an external BPO provider.

In this manuscript, we articulated a novel theoretical link in the context of BPO between a client firm's efficiency and its industry contexts, which we employed to explain the scope of

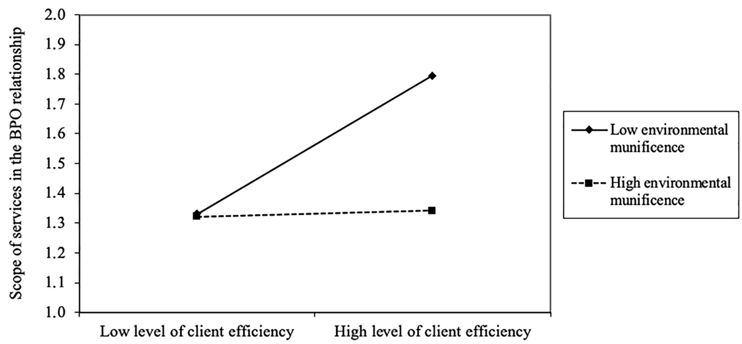

Figure 1.
Interaction graph of the client's efficiency and industry munificence on the scope of services in the BPO relationship

services in a BPO relationship. We found evidence that more efficient client firms hired a higher number of services from the focal BPO provider. Also, we found that the munificence of the client firm's industry weakened the effect of the client's efficiency on the scope of services it had with the focal BPO provider. However, we did not find evidence of environmental dynamism influencing the relationship between the sampled clients' efficiency and the scope of services for which they contract with the BPO service provider.

Our study makes several contributions to the existing literature on outsourcing relationships. First, we extend the strategic literature on outsourcing by paying attention to the underexamined influence of the client firms (versus the widely examined influence of the BPO provider's reputation and capacity). Our emphasis on the relationships between a single BPO provider and its clients allowed us to fully focus on client characteristics, thus minimizing some limitations inherent in traditional studies, which have most often relied on publicly available data or survey-based methods. Our access to the provider firm's internal data allowed us to construct an objective and quantitative measure of the scope of services for a controlled provider. By combining internal relationship-level data from the provider with market data of the clients, we were able to enrich our understanding of BPO and confirm the importance of the client firm's efficiency on the decision regarding the scope of the externally hired services. Even when extending the scope of hired services with a provider may generate synergies and limit the extra transaction costs due to the existence of a previous relationship, our results suggest that the indirect costs of absorbing knowledge-intensive services are substantial enough for only the most efficient client firms to be able to manage.

Second, by exploring how firms' internal strengths may affect the scope of services with a BPO provider, we make a theoretical bridge between the TCE and absorptive capacity literature. Our results suggest that efficient client firms can better acquire, assimilate, and exploit the external knowledge embedded in BPO services. In other words, even highly competitive BPO providers of knowledge-intensive services might find that a client firm encounters difficulties in managing the costs of increased complexity in the process of absorbing the external knowledge embedded in the provided services.

Third, responding to the call for further research on environmental factors in the study of business process outsourcing (Lacity *et al.*, 2017), we analyzed the effect that environmental dynamism and munificence may have on the scope of services for which firms contract with a BPO service provider. We expected both these environmental factors to play a moderating role in our models and found that efficient client firms increased their scope of services with the focal BPO provider when operating in less munificent industry contexts. This finding is in line with prior research showing that firms in less munificent environments are propelled to secure access to crucial resources (Cheon *et al.*, 2017) and thus reinforce their ties with the provider. However, the moderating effect of environmental dynamism was not significant and did not allow us to draw conclusions.

The difficulty to find a statistically significant moderating effect of dynamism might require a more fine-grained analysis of this influence in the future. While some authors have viewed uncertainty emerging from dynamism as a driver of interfirm relationship strength (e.g., Yang and Zhao, 2016), others have argued it has a negative effect on interfirm relationships through increased complexity (e.g., Luo, 2007; Tseng and Chen, 2013) and opportunism (e.g., Williamson, 1985). It might be useful to analyze whether environmental dynamism generates more effects on clients' difficulties to predict the future or on their difficulties to manage relationships and how they matter. In any case, our findings highlight the importance of including environmental factors in the study of outsourcing relationships.

Despite the contributions of our study, it has some limitations. First, the nature of our sample raises concerns about the external validity of our findings. Our study was limited to analyzing data from clients of a single BPO service provider. Therefore, generalizing the observed results on the scope of services may be problematic. However, focusing on the relationships of a single BPO provider allowed us to offer insights that would not be available from more macro-level studies. Second, this study focused on the scope of services that a client had with a single provider, ignoring any other contractual arrangements the client might have had with other providers for similar or distinct services. We recognize the interest of future studies extending our research to considering all outsourcing contracts of a client firm. Unfortunately, we did not have access to the internal data of the client firms to allow for analyzing such data. We were, therefore, limited to studying the dyadic relationships of client firms with one specific provider.

Our study also opens the door to further research on how other characteristics of the environment may influence the scope of services in BPO relationships. Considering that a substantial portion of outsourcing relationships span country boundaries, which adds difficulty to the coordination and control of outsourced activities, future studies could analyze how geographic, institutional, and cultural differences between partners may strengthen or weaken the effect of a client firm's internal characteristics on the scope of services in the BPO relationship. Because of the growing importance of multiple forms of partnering with other firms to absorb valuable knowledge, we expect that our findings will help to better understand the importance of not only looking for competitive external partners but also of identifying the scope of the relationship by building on internal strengths and considering the importance of environmental factors.

Note

1. We are grateful to one of the anonymous reviewers for bringing the idea of using this theoretical perspective to our attention.

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Corresponding author
Pia Ellimäki can be contacted at: piae@correo.ugr.es