



Small firm entrepreneurial outsourcing: traditional problems, nontraditional solutions

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Abstract

Purpose – Pursuing objectives despite limited internal resources and leveraging external resources despite non-ownership are familiar hallmarks of entrepreneurial firms. Although outsourcing is the standard way for businesses to surmount these barriers, entrepreneurial firms often lack the resources to purchase outsourcing arrangements. The purpose of this paper is to shed light on how entrepreneurial firms can better procure and benefit from outsourcing arrangements.

Design/methodology/approach – The paper examines six entrepreneurial firms in a Shanghai business incubator as they undertook a variety of outsourcing arrangements. It utilizes an integrative framework based on transaction cost theory, resource dependency theory, and the resource-based view. It then cross-hatches those three theory bases with four outsourcing modes (full, partial, spinout, inter-outsourcing) and case study methodology.

Findings – The paper's findings yield three novel propositions for strategic and *ex ante* entrepreneurial firm outsourcing activities. The propositions pertain to the exchange of non-traditional resources, vendor-buyer power differentials, and linkages between internal operations and external resources.

Originality/value – Entrepreneurial firms stand to benefit in particularly vital ways from outsourcing arrangements. Yet, they are often severely constrained with respect to resources. Such strong need combined with limited means is a peculiarly valuable setting but only a paucity of research exists. The original study targets this important setting.

Keywords Business improvement, Innovation, Supplier or partner selection, Process design, Contract negotiation, Process planning, Small enterprises, Entrepreneurialism, Outsourcing

Paper type Research paper



1. Introduction

Small firms usually do not control many of the resources necessary to run, maintain, and grow their businesses. As a result, they often overcome internal inadequacies and shortfalls with *ad hoc* ingenuities rather than well-defined processes, routines, formal contracts, and bidding. In general, that is how entrepreneurial firms expand the limits of their scarce resources (Gartner and Bellamy, 2008; Dewald *et al.*, 2007).

In the entrepreneurship area in particular, the strategies associated with these activities are known as bootstrapping, which is the most common way for small firms to enable growth (Barringer and Ireland, 2006; Freear *et al.*, 1995). Even the most successful contemporary established firms had to bootstrap in their nascent stages

(Wadhwa and Ravindran, 2007; Magretta, 1998). Thus, it is a generally important part of how firms grow. However, the strategies associated with bootstrapping can result in tenuous buyer-supplier relationships. When those relationships and arrangements involve contracts, as outsourcing arrangements do, bootstrapping can be disruptive and even upsetting (Arbaugh, 2003).

Entrepreneurial ventures are famous indeed for the creative means by which they bootstrap resources creatively to achieve performance. In principle, outsourcing arrangements could provide better solutions for them to establish stable external partnerships that enhance internal operations (Quinn, 1999). As the buyers become smaller, it opens a gap in the conceptualization of how outsourcing works. In other words, established theory on outsourcing holds that suppliers enter outsourcing arrangements readily whereas outsourcing firms (i.e. buyers) have subtly defensive postures (Elango, 2008). As such, buyers usually have potential suppliers bid for outsourcing contracts. In turn, they select the supplier who best serves their needs at the lowest price. These assumptions are common and practical for larger firms. However, they are not valid for small entrepreneurial firms pursuing objectives via limited internal resources.

Small firms have far fewer resources and absorptive capacities than larger firms. Their scale of demand is small (Timmons and Spinelli, 2007). These characteristics offer few incentives to outsourcing suppliers. It is a weak market position that works against small firms when it comes to contracting with vendors. Further, the dynamism of entrepreneurial firm operations can complicate outsourcing partnerships (Arbaugh, 2003; Hamel, 1999). As such, although entrepreneurial firms can benefit from outsourcing in principle, the traditional notion of small firms using outsourcing to enhance operations is impractical. It is also under-researched because of the nontraditional solutions involved (Elango, 2008; Alvarez and Barney, 2001).

In this paper, we address the gap in the current conceptualization of entrepreneurial business outsourcing with tenets from transaction cost theory, resource dependency theory, and the resource-based view. Our research question is, "How do small entrepreneurial firms procure the outsourcing solutions large firms enjoy while lacking the traditional resources required to purchase those solutions?" The nontraditional solutions we review in this paper also entail a unique perspective on the problem: whereas most outsourcing research utilizes post-outsourcing data, our study uses pre-outsourcing data to consider why small businesses pursue specific outsourcing arrangements from a strategic perspective.

2. Literature review

Business process outsourcing enhances firm performance because it helps firms operate more efficiently through cost reduction and managerial focus on core competencies (Gulbrandsen *et al.*, 2009; McNally and Griffin, 2004). The decision to outsource a business process is different from other purchasing decisions. Gilley *et al.* (2004) argue that outsourcing goes beyond what is germane to other resource procurement activities because of its basic strategic bent. Indeed, outsourcing does tend to accompany shifts in strategic posture. For instance, it entails substitution of external purchases for internal activities. It can herald a discontinuation of internal operations with the initiation of new procurements from outside suppliers.

Theories exist to help explain these dynamics. Why do firms terminate in-house operations in favor of outside services? To engage such questions about outsourcing, transaction cost theory (TCT) is the most common theoretical foundation. Its explanation entails inter-organizational endorsement as part of the outsourcing option. It involves transactions with outsourcing providers via market mechanisms and the decision to retain operations in-house via organizational control (Gulbrandsen *et al.*, 2009; Lacity and Hirschheim, 1993). TCT helps conceptualize firm outsourcing in terms of specificity of assets, uncertainty around strategic options, and the infrequency of the arrangements (Williamson, 1975, 1981, 1985). According to TCT, in-house operations that are more commoditized than others stand to benefit from the market aspects of outsourcing arrangements (McNally and Griffin, 2004; Arnold, 2000). These processes are associated with lower asset specificity, less uncertainty, and higher frequency (Gulbrandsen *et al.*, 2009). By contrast, more specialized processes stand to benefit from hierarchical relationships and greater control of in-house operations (Aman *et al.*, 2012; Stratman, 2008; Grover and Malhotra, 2003; Stump and Heide, 1996).

Although TCT is the most common theoretic approach to outsourcing, the richness of one single approach is not sufficient for capturing all of the complex dynamics of outsourcing arrangements (McIvor, 2009). For instance, TCT does not specifically account for the power differentials germane to outsourcing transactions (Gereffi *et al.*, 2005; Granovetter, 1985; Maitland *et al.*, 1985). On these grounds, resource dependency theory (RDT) adds value with assumptions about firms seeking to enhance their power (Ulrich and Barney, 1984; Pfeffer and Salancik, 1978). Thus, firms that lack resources must seek to establish relations with powerful firms before they can obtain the resources they need. From this perspective, firms alter structures and strategies to procure resources not generated internally. Such alterations *vis-à-vis* other firms can shift the power balance in the environment (Ulrich and Barney, 1984). As such, RDT explains firm task environments in terms of resource concentration, firm munificence, and interconnectedness (Pfeffer and Salancik, 1978). RDT is useful for examining relations between a firm's decision to outsource and its own capabilities to obtain resources from the environment (Yuchtman and Seashore, 1967). The approach holds that firms should align their strategy with robust processes and outsource the weaker ones (Teng *et al.*, 1995). Thus, the power balance derives from resource accessibility, the number of potential suppliers, and costs of switching suppliers (Cheon *et al.*, 1995).

A third theoretic foundation, the resource-based view (RBV), complements the TCT and RDT by focusing on the accumulation of firm resources (Wernerfelt, 1984; Penrose, 1959). It holds that resources provide sustained competitive advantage when they are valuable to the firm, rare among current and potential competitors, imperfectly imitable, and nonsubstitutable in light of competing firm resources (Arnold, 2000; Barney, 1991). Addressing constraints through outsourcing is a way to maintain current resources and augments strategic affordances (Cheon *et al.*, 1995; Grant, 1991). In this sense, the RBV reveals that firm competitive advantage comes from possessing difficult-to-replicate resources such as a good reputation, loyal customers, and competent employees (Lovallo and Mendonca, 2007). Core competencies that offer competitive advantage are central to firm performance and those with marginal influence do not underlie sustainable competitive advantage, which makes them suitable for outsourcing (McIvor, 2009; Arnold, 2000). In this way, the RBV pertains to

strategic firm activities relative to competitors and, in particular, when such activities should be put to internal versus external arrangement (McIvor, 2009).

2.1 *Outsourcing modes*

Outsourcing involves ceasing an internal business process and establishing a contracting arrangement with an external firm for full or partial execution of that process. It is a vital step in firm growth because it bears directly upon the operations of a firm's business. Outsourcing mode selection is rife with incidental complexities, such as power differentials and negotiations (Gereffi *et al.*, 2005). For example, in the case of handset production in the mobile telephone industry, Ericsson fully outsources all of its production, whereas Nokia only outsources 15-20 percent and Motorola outsources 30-40 percent of theirs (Alvarez and Stenbacka, 2007; The Economist, 2002). Most current outsourcing research focuses on full and partial outsourcing (e.g. Choi and Davidson, 2004; Sharpe, 1997; Hirschhorn and Gilmore, 1992; Quinn, 1992). Beyond full and partial outsourcing, at least two more outsourcing modes have emerged in the domain of business studies and strategic and operations management practices. Taken together, the four modes provide reasonably comprehensive coverage of the full range of outsourcing arrangements undertaken by today's firms.

One mode is inter-outsourcing, which entails a firm and external supplier in a symbiotic relation that yields firm-specific benefits for both partners (Jiang *et al.*, 2008). The mutual benefit of inter-outsourcing offers specialized process improvements and value to both sides. For example, once Motorola outsourced its logistics operations in China to United Parcel Service and MAERSK, those two firms outsourced their own telecommunication processes in China in turn to Motorola (Jiang, 2002). In the airline industry, many airlines have jointly created inter-outsourcing alliances for ground handling and maintenance operations, lounge access, operational facilities and staff, and other services (Song *et al.*, 2007).

The last outsourcing mode is spinout outsourcing, which occurs when a department or unit of a firm becomes a separate, distinct entity but maintains previous in-house operations from an external position (Tubke *et al.*, 2004; EGA, 1999). Spinout outsourcing offers the benefit of familiarity between outsourcing partners, but also offers greater autonomy for the outsourcing provider to develop its own distinct business processes. For example, ABB spun out a plastics production division, which soon became an independent entity and served as the principal outsourcing supplier of plastics products for ABB (Brandes *et al.*, 1997). Through spinout outsourcing, IBM created "put options" to handle surge needs via spun-out factories that have base-load commitments to IBM (Quinn and Hilmer, 1995).

2.2 *Entrepreneurial firm growth*

Another important consideration in understanding small firm outsourcing behavior is the strategic context of the decision. Understanding the leaders' objectives helps explain why one outsourcing approach was favored over the others. To inform this discussion we briefly review firm growth theory and integrate the theoretic approaches reviewed above.

Firm growth is an important aspect of small business operations and entrepreneurship activity (Murphy, 2012; Shane and Venkataraman, 2000; Venkataraman, 1997). The resources for enabling firm growth include employees,

financial capital, and social and relational capital with customers and suppliers (Sinha *et al.*, 2011; De Clercq *et al.*, 2006). Because of the scarcity of such resources controlled by small businesses (Kuratko, 2009; Gartner and Bellamy, 2008; Timmons and Spinelli, 2007), alertness to external opportunities, flat structures, multi-stage resource commitments, and the episodic use of resources are particularly important for small businesses (Sadler-Smith *et al.*, 2003; Covin and Slevin, 1988). These actions can come in the three forms of enabling resources, realizing operations, and managing relationships (Lechner and Leyronas, 2009).

The first action entails the enabling of resources. Small businesses must identify, pursue, and exploit necessary resources in order to grow (Lichtenstein and Brush, 2001). The capability to enable resources in different configurations enhances firm fitness (Sirmon *et al.*, 2007), maintains effective operations (Lechner and Leyronas, 2009; Wiklund, 1998), and promotes control (Sadler-Smith *et al.*, 2003). The RBV clarifies these activities by conceptualizing firm relations with the environment in terms of a resource's value, rareness, inimitability and nonsubstitutability. A TCT approach holds that firms protect themselves from threats of external change by making their resources specific and unable to be redeployed by other firms (Dewald *et al.*, 2007). To the same end, the RDT perspective emphasizes the alignment of firm's internal resources and external environment to serve markets better (Salimath *et al.*, 2008).

The second action involves realizing operations. Firm growth requires identifying appropriate operational focus in a changing environment (Comanys and McMullen, 2007). From the TCT perspective, minimizing transaction costs is the most important operational focus (Hudson and McArthur, 1994). From the RDT perspective, however, a firm should pursue scarce and valued resources, even though the transaction costs may be high (Covin *et al.*, 2006). Managing the complexity of internal and external changes can undermine the retention of a consistent strategic firm orientation (Comanys and McMullen, 2007; Hudson and McArthur, 1994). In this way, focusing on transaction costs or pursuit of valuable resources can impede operational focus and steer a firm away from its original mission and values (Covin *et al.*, 2006). Therefore, the RBV holds that a firm's operational focus should always remain with its core competencies, which are derived from its difficult-to-replicate resources (Takeishi, 2001).

The third and final action entails managing relationships. From the RDT perspective, growth-oriented small firms should rely heavily on partnerships due to the lack of necessary resources (Sorenson *et al.*, 2008; Eisenhardt and Schoonhoven, 1996). Small firms benefit from such relations when core competencies and resources are accessible in the network (Lounsbury and Glynn, 2001). From the TCT perspective, these partnerships have a tension because of the need to preclude opportunistic behavior (Williamson, 1985). Moreover, bargaining power in these partnerships is a function of what each partner might lose upon exit from the partnership, which introduces certain costs. Therefore, small firms must select the right governance mechanism (i.e. hierarchy vs market) to control these costs (Everaert *et al.*, 2007). The RBV holds that firms can ameliorate such costs via internalizing resources for core competency (Hitt *et al.*, 2007). However, the costs of internalizing processes should balance with the uncertainty of approaching a potential outsourcing arrangement (Everaert *et al.*, 2007; Arbaugh, 2003).

2.3 Entrepreneurial firms and outsourcing

The existing literature provides some separated insightful hints about entrepreneurial outsourcing decisions and processes, but it does not offer a complete framework to study the relationship between growth and outsourcing decisions. Thus, understanding of entrepreneurial outsourcing is low and studies are often contradictory. For example, Sen and Haq (2011) find that small firms tend to outsource core organizational competencies, whereas Yu and Lindsay (2011) find outsourcing to have negative effects on core competencies. Moreover, Solakivi *et al.* (2011) observe no change in logistics performance due when small firms outsource. Nadkarni and Herrmann (2010) identify that entrepreneurial firm outsourcing decision-making relates to founder personality, but Memili *et al.* (2011) and Kamyabi and Sevi (2011) show that entrepreneurial complexity is the critical force behind outsourcing decisions. Whereas Gilley *et al.* (2004) find perceived environmental dynamism and managerial risk aversion to influence a small firm's outsourcing decision, Jiang *et al.* (2008) show that power differences between outsourcing suppliers and potential buyers play an important role.

The confusion about how and why entrepreneurial firms enter outsourcing arrangements calls for an integrative framework. Because smaller firms find it challenging to generate resources internally, outsourcing seems to be a practical solution. It is an option that enables firms to leverage external resources without owning them (Arbaugh, 2003). Yet, as we explained, they cannot afford to purchase the arrangements.

Table I presents an integrative framework based on the theoretic foundations reviewed above combined with the enabling, realizing, and managing forms of firm growth action. This table provides a foundation for our empirical study.

3. Method

Given the absence of small firm outsourcing theory, our empirical study benefited from the employment of case study methodology (Hitt *et al.*, 1998; Birkinshaw, 1997; Eisenhardt, 1989). Yin (2008) also illustrates that the case study approach is optimal for developing how or why explanations, when there is low control, and when a topic is new. In the case of our research, we also had to deal with the fact that entrepreneurial ventures are patently unique from one another. As such, they are often impossible to compare using identical standards. All of these considerations apply to our study and

| Implementing small firm's growth through outsourcing | Outsourcing decision making from different theoretical perspectives | | |
|---|---|---|--|
| | TCT | RDT | RBV |
| Enabling (identify resources and environment fitness) | Asset specificity, uncertainty and infrequency | Concentration, munificence and interconnectedness | Value, rareness, inimitability and nonsubstitutability |
| Realizing (identify operational focus) | Minimize transaction costs | Access scarce and valued resources from the environment | Maintain difficult-to-replicate resources |
| Managing (identify supplier's role) | Hierarchy vs market | Dependence vs independence | Core competency vs non-core competency |

Table I.
Integrative theoretic framework

justify our case approach. The case approach allows greater consideration of the diversity of empirical aspects that define unique firms, while leaving it possible to make comparisons across them based on theoretic bases. Our method was highly collaborative. We examined each firm closely as a team in order to develop a series of theoretically-derived ways to explain variance across firms.

3.1 Sample

Our target firms consisted of small business ventures, which we accessed via three business incubators in Shanghai, China. Since the venture capital market is very underdeveloped in China (White *et al.*, 2005), the lack of access to venture capital forced our target firms to rely on endogenous operational development (instead of financing) to achieve growth. This business environment provides an very convenient context to explore the intersection of operations management and firm growth strategy. It also helped mitigate subtle exogenous performance effects that can derive from financial capitalization, a pivotal variable that is difficult to operationalize in strategic growth research (Chen, 2009; De Clercq *et al.*, 2006).

For our empirical sample, we sought to identify one case for each outsourcing mode (i.e. full, partial, inter-outsourcing, and spinout). After interviewing three incubator directors with considerable experience, we used four criteria to select our target firms: an incubator exit date at least three years prior, expansion into new geographic areas, a current size (i.e. number of employees) at least five times larger than at incubator exit, and original founder engagement. The first three criteria measure survival and growth, and the last one ensures direct knowledge of the firm's approach to outsourcing. Finally, six target firms passed our selection criteria and reflected clearly the four major outsourcing strategies. Table II summarizes our sample.

3.2 Procedure

Interviews were conducted by members of the research team fluent in Mandarin Chinese and English in coordination with a local consulting firm. We conducted a total of 21 interview sessions from 2010 until early 2011. All the sessions were audio taped and transcribed to facilitate full and accurate translation between languages. All interviews lasted between 60 and 120 minutes and involved three types of informants. The first informant type had a broad view of the firm, typically a CEO/founder or president. The second informant type had responsibility for contacting external suppliers and overseeing outsourcing relationships, such as a COO or VP. The third informant type consisted of individuals from supplier firms, usually an account manager of the outsourcing project.

We also collected publicly available secondary material and promotional information prior to the interviews to enhance external valid measurement. Once each case was complete, we also gave informants an opportunity to provide feedback to promote internally valid measurement. The multiple sources of evidence helped triangulate the information to ensure greater accuracy of the study data overall. Data collection stopped once we reached theoretical saturation and additional data would not provide new information to promote our engagement of the research question (Eisenhardt, 1989). Table III provides additional information about the interviews and procedure.

Our research team coded the interview notes and transcripts. We undertook an iterative process of comparing, coding and analyzing the data. We then compared the

| | Outsourcing firms | | Suppliers | | Outsourced business | Outsourcing mode |
|----------------|--------------------|------|-----------------|------------|---------------------|---------------------|
| | Industry | Size | Industry | Size | | |
| A ₁ | New materials | 185 | Manufacturing | 1300, 950 | Production | Full outsourcing |
| A ₂ | Medicine equipment | 77 | Logistics | 407 | Reverse logistics | Full outsourcing |
| B | Lab testing | 65 | Education | 40, 21, 28 | Lab testing | Partial outsourcing |
| C ₁ | Software | 120 | Consulting | 82 | Market research | Inter-outsourcing |
| C ₂ | Packaging | 259 | Logistics | 216 | Logistics | Inter-outsourcing |
| D | Digital imaging | 36 | Digital imaging | 5, 5, 4 | Projects | Spinout outsourcing |

Table II.
Outsourcing firms and
suppliers

Table III.
Interviewee data and data
collection information

| | Interviewees | | Incubator archives * | Other data sources Media coverage ** | | Firm's documents *** | Raters |
|----------------|---------------------|-------------------|----------------------|---|---|----------------------|--------|
| | Sample firm | Supplier | | | | | |
| A ₁ | CEO, VP operations | COO | × | × | × | Authors | |
| A ₂ | COO, VP marketing | VP operations | × | | | Authors | |
| B | CEO, VP | Lab directors (2) | × | × | × | Authors | |
| C ₁ | CEO, CTO | Account manager | | | × | Authors | |
| C ₂ | COO, Chief Engineer | COO | × | × | × | Authors | |
| D | CEO | Owners (3) | × | | × | Authors | |

Notes: * Case firm original proposals annual reports at the incubators they graduated from; ** Newspapers, magazines, or industrial reports; *** Case firm websites, commercial brochures, and annual reports

coded data for each rater and each case. Differences in coding were resolved before combining scores and entering them into a single dataset. This process promoted clarification, aided in construct definition, and enhanced the rigor of the data analysis. Finally, we clarified with interviewees directly if data were still unclear. When there were disparate views about the coding and interpretation of the data, discussion was held until a consensus was achieved.

3.3 Analysis

The purpose of our within-case analysis was to trace the key determinants by systematically aggregating the information and identifying the key factors that describe each case, including firm objectives and resources, supplier responsibilities, and the initial outsourcing arrangement. We created a succinct description of each firm's motives, contracts, and relationships to reflect how the firm sought to leverage outsourcing to enable, realize, and manage growth. These descriptions included information about the product/service to be outsourced. Table IV summarizes them. In what follows, we describe these data in greater detail based on outsourcing mode and use pseudonyms when referring to the firms.

3.3.1 Full outsourcing.

3.3.1.1 Firm A₁. Based on an environmental protection innovation in the glass melting process, Firm A₁ was established in 2000 to provide optical fiber glass substrates for telecommunications networks. Firm A₁'s product was more expensive than competing products made by a traditional method that eschews environmental protection guidelines for glass melting processes. In the past, cheap products by Firm A₁'s competitors dominated the market. However, in recent years telecommunication companies had begun to consider the environmental consequences of production and leverage green products as a competitive strategy. Those firms consistently purchased Firm A₁'s glass substrates in small quantities and used a proportion of them in their own products, which allowed them to advertise their products as being made with environmentally friendly materials. Accordingly, Firm A₁'s product had wide recognition, but it did not garner much market share.

In 2006, Firm A₁'s R&D team developed new ceramic substrate and filter products for automobile emission control systems. As China's automobile market is growing and emission requirements are emerging, Firm A₁ recognized a growth opportunity in the provision of ceramic substrates to the automobile emission control sector. Indeed, several firms also identified this opportunity and began to enter the market. Firm A₁ sought to move fast to extend its ceramic substrate production and build market share. However, establishing new capacity was a slow process. It was estimated that it would take two years to acquire the necessary resources, land, capital, workers, and governmental approval. Firm A₁, as a small entrepreneurial firm, could not raise the capital to fund its expansion project.

As its existing glass substrate production facility could be retooled to support ceramic substrate production, Firm A₁ decided to outsource its glass substrate production and focus in-house capacity on ceramic substrate production. In order to approach former competitors as outsourcing suppliers, Firm A₁ offered to share its patented glass melting process. In addition, to manage cash flow, Firm A₁ offered to share glass substrate revenues with vendors instead of buying an outsourcing arrangement. By 2007, two suppliers had signed on and took over Firm A₁'s glass

Table IV.
Descriptive summary of
case data

| Firm | Released internal resources | Pursued external resources | Motivation for outsourcing | Relationship with supplier | Relationship management |
|----------------|--|--|--|--------------------------------------|----------------------------------|
| A ₁ | Capacity of glass substrate production | Capacity of glass substrate production | Rapid growth is not compatible with cost and time pressure | Give out patent to attract suppliers | Share patent and revenue |
| A ₂ | Local reverse logistics team | Regional logistics services | Fast growth is incompatible with lack of expertise | Little leverage over the supplier | Fixed-price service fees |
| B | Partial remote areas' testing | Lab testing assistance in remote areas | Lack of human and operations capacity | Strong leverage over supplier | Service fees per order |
| C ₁ | Marketing research team | Marketing research expertise | To pursue the expertise that C ₁ does not have | Based on goodwill or trust | Fixed-price service fees |
| C ₂ | Logistics department | Regional logistics services | Fast growth incompatible with lack of expertise | Based on complementary needs | Flat-rate service fees per order |
| D | Skills and abilities | Skills and abilities | To sustain domain expertise | Close by providing seed money | Service fees per project |

substrate production. The arrangement allowed Firm A₁'s management team to concentrate capacity on its growing automobile emission control business.

One of the suppliers said:

He had been looking forward to acquiring Firm A₁'s expertise in glass melting. We tried many ways, such as acquisition, merger and co-investment, but it was very difficult to seal the deal due to the disagreement about the potential value of environmentally friendly glass substrate production. The final solution [outsourcing and sharing revenue] is creative for both sides.

Firm A₂. According to traditional Chinese medicine (TCM), vital flows of life energy circulate through the human body in channels known as meridians. TCM therapeutic techniques (e.g. acupuncture) target various points along these meridians. Firm A₂ produces an infrared thermography device that targets and applies heat to these meridian structures and affects the energy pathways to yield a therapeutic effect. In its initial growth stage, Firm A₂ concentrated on sales in its local area through retail outlets. To attract additional customers and allay quality concerns, Firm A₂ also offered an unconditional money-back guarantee for the product. The unconditional money-back policy became an integral component of the firm's growth strategy.

Firm A₂ originally established a reverse logistics department to visit customer homes and pick up returned units. This service was deemed necessary because the products weigh over 20 kilograms (44 lbs.) and customers were reluctant to transport them back to the retail store. Once sales expanded beyond its original geographic area, customers would order the devices either on-line or by postal mail. Firm A₂ then delivered the units directly to customers using the postal service. However, new issues around handling the reverse logistics began to emerge with the greater distance, and unsatisfied customers were reluctant to assume responsibility for transporting units to a post office.

Product returns outside the firm's home area were difficult to predict in terms of location, time and quantity. It was also difficult to transport all the returned units to Firm A₂ in single shipments, which required each unit be handled multiple times. Thus, Firm A₂ sought to outsource its reverse logistics to a professional logistics company with national-level operations. Firm A₂ offered to sell its reverse logistics department to this supplier at a very low price. In return, the supplier established consolidation hubs to collect returned units and transport them back to Firm A₂ in bulk shipments.

The supplier initially would not accept Firm A₂'s outsourcing offer because the business operations were small and unpredictable. Thus, to guarantee a profit margin, the vendor charged a fixed-price service fee no matter how many units were shipped. Moreover, to reach the needed economy of scale, the supplier agreed to store Firm A₂'s returned units in its warehouses until a sufficient volume was reached for shipment; but in Firm A₂'s local area, returned units continued to be handled as per the original operation.

3.3.2 *Partial outsourcing.*

3.3.2.1 Firm B. Western brands and original equipment manufacturers (OEMs) increasingly seek external verification that their sourcing and manufacturing processes in developing countries are environmentally sound and in compliance with international standards. In response to this increasing demand, Firm B was established in 2006 as an independent certification and testing company. It began with 120

employees with services for detecting the level of lead, mercury, chromium-VI, cadmium and other trace chemicals using state-of-the-art equipment. Many international purchasers currently use Firm B to test, analyze and validate Chinese supplies performance and certify compliance with environmental standards.

Firm B recognized an operational problem because many products undergoing final assembly in Shanghai derive from components and material from suppliers in distant areas. To test those components and materials, Firm B originally sent staff and equipment to supplier locations. In many cases, the portable versions of the equipment could not finish the full tests. In those cases, Firm B had to bring samples back to the corporate lab in Shanghai. Thus, to offer timely national testing and certification, Firm B decided to establish remote laboratories but projected that company-owned laboratories would be expensive and underutilized. Therefore, Firm B sought to partially outsource lab functions to save overhead and costs. They eventually secured outsourcing contracts with four university-based laboratories. Firm B sent experienced staff to direct and monitor projects at each site to ensure quality and standardization.

The director of one laboratory said:

Now it becomes more and more difficult for junior faculty to get financial support from the National Science Foundation of China. Some of them do not have necessary capital to purchase specialized equipment to carry out their research. Firm B's testing business really helps our laboratory. Moreover, its revenues let us upgrade some equipment and hire assistants in return for our support of Firm B more complicated or difficult tests.

3.3.3 *Inter-outsourcing.*

3.3.3.1 Firm C₁. A major university designed a software program to manage sales of public housing in metropolitan Shanghai. Later, the success of this service created an opportunity for Firm C₁ to further develop the software to meet the increasing demand for commercial housing management. In 2004, a customer asked Firm C₁ to develop similar software for his automobile spare parts business. That initial request led Firm C₁ to extend its software functionality to automobile parts trading. Relying upon customers and relationships, Firm C₁ gradually entered two new cities and grew from eight employees in 2003 to 25 employees in 2005.

New software applications are usually accepted by a market only after a few years of trial and promotion. Applications that fail in a market can be costly to a firm. Firm C₁ already had a small market research team to seek new market opportunities, but lacked a sufficient budget and had poor networking. Consequently, the team did not provide effective support to Firm C₁'s growth. Therefore, in 2005, Firm C₁ hired a national market research company to help explore potential markets, but it quickly became disappointed with the vendor's services. According to the contract, the vendor provided Firm C₁ with local market analysis and a promotion plan for each locale, which marked completion of the job. However, in this industry, customers scan products and services continuously and frequently change purchasing decisions. To compete, Firm C₁ needed a better arrangement offering continuous market analysis so it could offer timely promotions. However, such an arrangement would require extensive allocation of responsibilities and risks between buyer and vendor. Stipulating all possible contingencies was difficult. Moreover, Firm C₁ could not afford the exposure of an open-ended service contract and did not have the power to shift any risk to the vendor.

At the same time, the vendor had problems stemming from its IT system provider. Because of a lack of internal IT expertise, the vendor firm had bought its current software three years ago. Yet, due its business expanding and new client requirements emerging, the software required constant updating. Thus, the vendor had to increase its IT budget frequently based on its IT system provider's requirement, totally losing the control of IT budget.

In 2005, Firm C₁ and the vendor decided to develop an inter-outsourcing relationship. Firm C₁ outsourced its continuous market research to the vendor under a fixed-price outsourcing contract. Similarly, the vendor outsourced its continuous IT system management to Firm C₁ with a fixed price. As inter-outsourcing is a reciprocal, the mutually beneficial process made the vendor its customer's customer and the customer its vendor's vendor. In this way, Firm C₁ approached a unique outsourcing solution and, by 2008, expanded into 40 new cities.

An executive at the vendor reported:

Firm C₁ and my firm do not charge each other for unpredictable services. We both pay fixed fees and avoid unpredictable expense. When my firm needs support, I call Firm C₁ directly. The arrangement with Firm C₁ is on-going project rather than an episodic one. The continuous market research improves our service quality to them.

Firm C₂. This firm launched in metropolitan incubator alongside many exporters of high-end glassware, chinaware, furniture, handicrafts, and packaged snacks for western consumers. The distributors of these products began requiring exporters to utilize environmentally-friendly packaging. Firm C₂ recognized this trend as an opportunity to use an organic polyester material derived from lactic acid as packaging. Although its cost is high, the material is adaptable to a wide variety of applications and has an environmental footprint superior to the traditional options of polyethylene, polypropylene, and polystyrene. Based on this organic material, Firm C₂ obtained some initial business from the local exporters. Working with these clients over time, through some initial failed runs, Firm C₂ gained experience packaging brittle and fragile products.

In the early days, Firm C₂ delivered materials to the factories of the exporters with a few employees, a couple trucks, and a small warehouse. However, as they expanded their business regionally, internal logistics began to fail. Thus, Firm C₂ needed alternatives for servicing more distally located accounts. Firm C₂ opted against expanding in-house logistics capacity due to a lack of expertise and the required investment in non-core assets. A regional logistics firm approached Firm C₂ and made it known that they were experiencing high costs and inefficiencies when transporting fragile and irregularly shaped products. For example, specialized equipment such as an A-shaped frames minimized damage to plate glass but limited the capacity of the truck used for transport. The lack of space increased expenses. Moreover, for irregularly shaped items, the standard boxes filled with scrap paper, fibers, or bubble wrap frequently failed to fix the item, which resulted in higher damage rates. These materials were generally not reused, which also made customers critical of the logistic firm's environmental impact.

After drawn out negotiations, the two firms approached an inter-outsourcing agreement. Firm C₂ agreed to provide packaging services for the logistics firm's fragile and oddly shaped items by mirroring the exact geometric shape of odd shaped items with "earth friendly" materials. As a result, volume, damage rates, and environmental impact were optimized. The regional logistics company agreed to service Firm C₂'s

remote clients at a flat rate, which helped avoid less-than-truckload penalties and potential expediting fees. The COO of the logistics firm reported:

The conventional wisdom is that the logistics industry is physical, low tech, and dirty. In fact, our customers demand special handling services that are challenging. We need advanced packing to satisfy the requirements. Under the inter-outsourcing agreement, Firm C₂'s engineering department is like one of our own departments. When we need special package designs, they help us reduce damage during transportation.

3.3.4 Spinout outsourcing. Established in 2002, Firm D targets an intersection of art and technology. It provides digital animation services for websites, movies, games, presentations, product demonstrations, 2D/3D modeling, logos, and advertisements. Because the digital animation industry is a capital-intensive space, firms must invest heavily in high-end software, hardware, data center infrastructure, and animators. The best firms employ animators who apply cutting-edge technical expertise with high artistic skill. Yet, such a combination of competencies is rare. Firm D's CEO reported:

While the animation industry has often been listed in the technology sector, I believe this business is 70 percent art and 30 percent technology. This is probably why big companies failed to make a mark but entrepreneurial ventures, driven by the passion of art-loving entrepreneurs, win some notable deals [...]. The business is not about scale but about domain expertise.

Cross-disciplinary human capital is important in the animation industry. Even though an animator must master a specialty, a range of skills is important because the market shifts are particularly volatile. Firm D's CEO reported:

There are feasts and famines. Sometimes an order lasts for a year or more. Other times, many short and high-paying jobs come your way. Other times, nothing. It is important to monitor your resources responsibly and continuously.

In 2006, Firm D introduced a new policy to increase responsiveness to its market environment. For animators with high technical rankings, Firm D would provide start-up funds to help them establish their own studios. In return, those animators would serve as Firm D's outsourcing vendors. According to Firm D's CEO:

Running your own studio is a great way to test your talents and sharpen your technical skills. The better you understand the range of different roles in the studio environment, the more your value improves in digital animation industry.

Five animation initially left Firm D and established their own businesses. Two years later, four spun-out operations exist and one animator has returned to Firm D.

The four spinouts operate independently. Firm D does not carry their operating costs. However, the four studios maintain strong ties with Firm D due to the previous relationships and Firm D's investment of start-up capital. One of the spinouts reported, "Nothing is more motivational to passion and enthusiasm than running a studio, and such passion and enthusiasm cannot be created as an employee." Firm D's CEO reported, "The quality of their work is better, as they have become more generally skillful and responsible for running their own businesses."

3.4 Cross-case comparisons

Outsourcing is not a simple purchasing transaction but a complicated process involving the substitution of external purchases for internal activities (Gilley *et al.*,

2004). Thus, a pre-outsourcing small firm, like the ones in our study, must manage multiple outsourcing-related resources, including the external ones and the internal ones it has possessed or will release. In this section, we report how our cross-case analysis compared the outsourcing strategies of the six cases.

The firms in our study adopted four modes of outsourcing to pursue external resources, supplant internal deficiencies, and manage environmental dynamics. Table IV reveals some commonalities. For Firms A₁ and A₂, they sought outsourcing to handle scale challenges. They outsourced with significant costs in exchange for higher performance based on their core competencies. For Firm B, to handle fast growth, it took its power advantage over its vendors (i.e. Firm B can bring extra cash flows to those universities' labs) to remedy its lack of facilities in remote areas. Firms C₁ and C₂ intentionally coupled their businesses with their suppliers to reduce risk and build mutual reliance, even though coupled businesses were not related. Firm D opted for an outsourcing arrangement for reasons other than cost savings. Instead, it sought to secure expertise for its future growth.

All case firms were compelled to outsource because they could not manage growth internally. They focused on opportunities to grow and outsourced supporting or even core businesses. They intended to mitigate potential operational disruptions using risk management mechanisms such as revenue sharing, fixed-pricing, mutual benefits, and investments in suppliers. Such mechanisms promote stable buyer-supplier relationships, which are difficult to obtain under bootstrapping.

Whereas these considerations address why the cases approached outsourcing, the next step of our cross-case analysis is to examine how these small firms leveraged outsourcing for growth. We use the three categories of entrepreneurial action noted earlier (enabling, realizing, and managing). These categories allowed us to assess aspects of resources, operations, and relationships with suppliers emphasized in existing research on outsourcing. Based on the integrated key theoretical constructs (see Table I), we evaluated these dimensions for each case in light of the three forms of firm growth action. Figure 1 juxtaposes all six cases to identify critical patterns in these firms.

3.4.1 Enabling growth with resources. From the TCT perspective, the internal resources of the firms in our sample were consistent in several respects. First, asset specificity was high, as all the firms invested heavily in internal resources to support unique business activities. Second, uncertainty was high, as all the firms faced unpredictable markets, and technological or economic trends. Third, infrequency was high. TCT explains Firms A₁ and A₂'s external resources selections well. Namely, to lower its internal resource asset specificity, Firm A₁ shared a patent with its supplier. Firm A₂ did not ask any special services from its supplier, thus the asset specificity of Firm A₂'s external resource was already low. By sharing revenues with suppliers rather than buying outsourced products, Firm A₁ had relatively guaranteed incomes from its outsourced glass substrate production. Similarly, by entering a fixed-price service contract, Firm A₂ reduced uncertainty in its outsourcing arrangement.

Although TCT offers reasons for small firm resource selections in full outsourcing settings, it does not explain why firms select external resources with high asset specificity and uncertainty under other outsourcing modes. For these decisions, RDT helps explain small firm outsourcing, especially under inter-outsourcing and spinout outsourcing agreements. From the RDT perspective, Firms C₁, C₂, and D possessed similar internal resources of low concentration. For instance, none of Firm C₁'s market

| | TCT | | | | | | RDT | | | | | | RBV | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | Asset specificity | | Uncertainty | | Infrequency | | Concentration | | Munificence | | Interconnect- edness | | Value | | Rareness | | Imperfect imitability | | Non- substitutability | | | |
| | High | Low | | |
| Enabling (Environmental fitness analysis) | A ₁ A ₂ B C ₁ C ₂ D | |
| | Internal resource | External resource | | | | | | | | | | | | | | | | | | | | |
| Realizing (Operational focus analysis) | Minimize transaction costs | | | | | | Access scarce and valued resources from the environment | | | | | | Maintain difficult-to-replicate resources | | | | | | | | | |
| | Definitely | | Somewhat | | Definitely | | Somewhat | | Definitely | | Somewhat | | Definitely | | Somewhat | | Definitely | | Somewhat | | Definitely | |
| Managing (Supplier's role analysis) | Hierarchy vs market | | | | | | Dependence vs independence | | | | | | Core competency vs non-core competency | | | | | | | | | |
| | Strong control | | Loose control | | Depend on supplier | | Not depend on supplier | | Supplier is critical to core competency | | Supplier is not critical to core competency | | Supplier is critical to core competency | | Supplier is not critical to core competency | | Supplier is critical to core competency | | Supplier is not critical to core competency | | Supplier is critical to core competency | |
| | BD | | A ₁ A ₂ C ₁ C ₂ | | C ₁ C ₂ D | | A ₁ A ₂ B ₁ | | C ₁ C ₂ D | | A ₁ A ₂ B ₁ | | C ₁ C ₂ D | | A ₁ A ₂ B | | C ₁ C ₂ D | | A ₁ A ₂ B | | C ₁ C ₂ D | |

Figure 1.
Results of cross-case comparisons

research team, Firm C₂'s logistics department, or Firm D's animators had much power. Additionally, munificence was high because similar resources were not scarce in the environment. Finally, interconnectedness was low in that the internal resources of Firms C₁, C₂ and D were isolated from the environment. When those resources did not fuel Firms C₁, C₂, and D's development, those firms began to pursue external resources. For example, C₁ looked for expertise on continuous market analysis, Firm C₂ needed flexible, timely, and cost-efficient long distance logistics service, and Firm D sought cross-disciplinary human capital. Those external resources were all scarce and valued, as their concentration was high, munificence was low, and interconnectedness was high.

Neither TCT nor RDT explain small entrepreneurial firm resource selections under the partial outsourcing mode. For this mode, the RBV helps reveal not only the reason for partial outsourcing as well as the difference between partial outsourcing and spinout outsourcing. From the RBV perspective, while Firms B and D's internal resources were generating high values, Firm B's internal resource (i.e. Firm B's internationally recognized authority on certification) was rare and inimitable, but Firm D's was not. In contrast, while Firms B and D's external resources could generate high values, Firm D's external resource (i.e. cross-disciplinary skill) was also rare and inimitable but Firm B's external resource (i.e. Firm B's testing supplier) was not. In other words, Firm B's power was higher than its low-value suppliers' power, so that it could use traditional partial outsourcing; but Firm D's high value suppliers possessed relatively high power, so that Firm D used spinout outsourcing in order to maintain its control on those powerful suppliers.

3.4.2 Realizing growth via operational foci. According to TCT, substitution of in-house operations for external services cannot be realized if transaction costs are too high. In our sample, Firms A₂, C₁ and C₂'s in-house reverse logistics, marketing research activity, and logistics were replaceable by vendors' operations because asset specificity was low. To outsource its glass melting process, which was sheltered by an environmental protection patent (i.e. the asset specificity is high), Firm A₁ had to share the patent with its outsourcing vendors to lower the asset specificity. The asset specificity of Firm B's in-house operations, lab testing, was high. Thus, Firm B retained those resources and did not fully outsource them. Of course, TCT does not fully explain why Firm D outsourced its internal operation with the high transaction costs associated with investments in departed animators' studios. However, the RBV and RDT can provide some insights into this outsourcing arrangement.

From the RBV perspective, a firm with inimitable resources has a competitive advantage. As noted, in the animation industry, general animation competence tends to be more valuable to a firm than specialized skill. Running a business independently is one way to build such competence. Thus, by encouraging and helping its animators to run businesses in the context of a spinout outsourcing arrangement, Firm D simultaneously created and obtained access to the difficult-to-replicate resources. In light of the RBV, Firms A₁, A₂, C₁ and C₂'s internal resources were releasable but Firm B's internal resources were not. These findings are outside the boundaries of TCT.

The RDT's tenet that firms pursue scarce and valued resources from its environment also helps explain Firm D's outsourcing arrangement. Before being spun out, the animators and their expertise were somewhat common in the broader environment. Yet, after being spun out, they gained rare skills and increased their

value, which Firm D leveraged via the spinout outsourcing arrangement. Whereas RDT explains why Firms A₂ and B's internal resources were maintained in-house and Firms C₁ and C₂'s internal resources were released, it cannot explain why Firm A₁'s scarce internal resource should be outsourced. However, the RBV sheds light on this event in the previous discussion.

3.4.3 Managing growth via supplier relations. According to the RBV, TCT, and RDT, if a resource incurs high transaction cost, relates to the firm's core competency, and is heavily depended upon by the firm, then the firm must control this resource tightly in house or in alliance. For other resources, the firm can get them from the open market.

Firm A₁'s glass substrates production had low transaction cost (after Firm A₁ shared its patent with vendors). Since Firm A₁ depended on its ceramic substrates business heavily, the glass substrates production was no longer the core competency. For Firm A₂, the reverse logistics was never its core competency and had low transaction cost to get it from external services. Thus, Firms A₁ and A₂ applied the full outsourcing strategy, i.e. governing their transactions by the market.

In the other four cases, the firms could not adequately secure their needed resources by a pure market mechanism due to high transaction costs (e.g. Firm D's investment in spin-outs), heavy dependence (e.g. Firms C₁, and C₂'s external marketing research and long distance logistics, Firm D's animator expertise), and the concern of maintaining core competency (e.g. B's authority of certification, D's innovation). The four firms enhanced the level of control over their external resources through different operational safeguards. For example, Firm B's partial outsourcing reduced the risk of depending on a single channel and/or becoming the vendor's hostage. Firms C₁ and C₂'s inter-outsourcing agreement reduced the vendor's opportunism by forcing both parties to following the Golden Rule (i.e. do to others what you would like to be done to you). Finally, Firm D's spinout outsourcing introduced the hierarchical power (through start-up funds support) and relationship building to govern its suppliers.

4. Results

Our analyses yield multiple propositions with potential for future research on the area of small firm outsourcing. We report and summarize these propositions here, before concluding with a summary of the contribution of our study:

- P1.* Due to lack of attractive outsourcing business value and weak market positions, small firms enter outsourcing arrangements via the exchange of non-traditional resources and offensive, not defensive, strategic postures.

Firms must have internal resources in order to procure external resources (Eisenhardt and Schoonhoven, 1996). Since small firms usually do not have redundant non-core resources, they may have to use core resources in ways that are offensive and not defensive to barter with vendors in order to promote collaboration. Whereas controlling core competencies protects firms from opportunism by other firms, it can drive defensive and protective postures that limit the procurement of external resources. An aggressive negotiating posture is germane to using non-traditional resources to entice potential vendors into outsourcing agreements via non-traditional modes.

Our study results reflect *P1*. For example, in the case of Firm A₁, the non-traditional asset was the glass substrate process patent. Whereas the vendors might not have been interested in a normal outsourcing contract with Firm A₁, they were willing to enter into a patent-sharing agreement. Once Firms C₁ and C₂ identified their vendors with particular needs they could satisfy with their own strengths, they entered inter-outsourcing agreements that were attractive to the vendors. Finally, Firm D acted aggressively to invest and support the spun-out animators as they established independent operations. Otherwise, the animators may have remained in-house with limited skill levels or departed to work for competitors. The spinout arrangement allowed the animators to develop expertise independently but still maintain a relationship with Firm D. In each case, the small firm assumed an offensive negotiating posture and sought novel ways for the vendor to enter the outsourcing arrangement. This proposition points to new ways for small firms to engage in outsourcing not reflected in the existing outsourcing literature:

P2. Outsourcing mode selection is determined by the structure of power between a small firm and its outsourcing vendor.

The mainstream view of outsourcing involves large companies and potential outsourcing vendors that are always ready because the buyer's outsourcing business is profitable to them. Indeed, it is a widely known aspect of outsourcing arrangements. However, small firms outsource business processes that are relatively small and perhaps not attractive to vendors. Large firm outsourcing mode selection is different from that of small firms, which have unconventional market offerings and smaller operations.

Our results illustrate overall how the power relationship between vendors and buyers is vital to outsourcing mode, as *P2* holds. The small firms in our sample were concerned with different outsourcing modes based in part on power patterns. If a small firm's power was higher than a potential vendor, then the firm sought partial outsourcing or spinout outsourcing. When power was relatively equal on both sides, it sought inter-outsourcing. When power was lower than that of a vendor, a small firm tended to seek full outsourcing.

Firm B and D had suppliers that were small and relatively weak. Therefore, Firms B and D's outsourced businesses were attractive to their suppliers. As our study illustrates, partial or spinout sourcing thus enabled the small firms to exploit supplier expertise while controlling external resources tightly. Firms C₁ and C₂ wanted higher service-levels from vendors, but they could not control vendor performance due to the low attractiveness of their outsourced businesses. By exchanging resources based on relative strengths and weaknesses, Firms C₁ and C₂ changed an asymmetric power pattern to a balanced one. An inter-outsourcing arrangement helped them receive high quality services despite an ostensibly low level of power over the arrangement. Firms A₁ and A₂ could not offer exchangeable services to their powerful suppliers. Thus, to approach needed external resources, they had to outsource internal operations as a whole rather than a fraction, and even provided additional benefits (i.e. Firm A₁ gave a patent; Firm A₂ sold an internal logistic department at a low price and suffered a higher fixed-price for outsourcing) in order to attract suppliers.

Our results show clear and specific linkages with our original research question (i.e. how do small firms procure effective outsourcing solutions) in terms of the four

outsourcing modes (i.e. full, partial, inter, and spinout). Here we briefly summarize the findings as they compose *P2*. In terms of full outsourcing, the revenue sharing solution gave Firm A_1 better cash flow and lowered risk and reduced uncertainty. It also provided entrée into a larger market with an essential swapping of some technology for greater market exposure. Firm A_2 procured similar benefits via fixed price fees and consolidation of returns in the warehouse. For each entrepreneurial firm, there was risk around technology or the incurring of fees in the pursuit of growth. The suppliers, in turn, benefited from support of their own operations. Partial outsourcing linkages depended on complementarity with suppliers. In the case of Firm B, the testing and certification services (in exchange for R&D equipment) expanded its service capacity with minimal risk. For inter-outsourcing, the IT provider and Firm C_1 had overlapping capabilities and were subtle competitors. The arrangement was thus an antagonistic form of cooperation. Given the high cost of market research, the entrepreneurial Firm C_1 benefited from fee sharing with the vendor at low risk and high return. Firm C_2 enjoyed a similar arrangement in the context of a flat fee exchange of packaging expertise and logistics services. Both of those cases show a distinct extension of TCE via unique resource exchanges. However, spinout outsourcing showed the most unique linkage with our research question. It turns out to be a driver of innovation and tool for risk management in our study, which are both important to entrepreneurial firms. Firm D created a supplier/knowledge supply chain through the cultivation of innovative suppliers. The result is a growth of intellectual capital that is important to entrepreneurial fields, where adaptivity and innovation are as important as firm size. The foregoing results and linkages pertain to *P2* and the nontraditional nature of the outsourcing modes undertaken by entrepreneurial firms. Our study also generated a third proposition concerning internal operational and external service aspects:

- P3.* For small firms, outsourcing goes beyond switching internal operations for external services to involve purposeful leveraging of unique internal operations to pursue unique external services.

Small firms must make their internal operations valuable to potential outsourcing vendors. In line with this notion, the small firms in our study, which varied in their levels and types of internal operations, all of them leveraged resources in hand or operations set to be outsourced as they pursued external alternatives.

In the case of Firm A_1 , the glass substrate process had potential for long-term value, but it provided a relatively low current value compared to the ceramic substrate production process. However, by leveraging this internal operation (i.e. sharing the patent with potential outsourcing suppliers), Firm A_1 could outsource this process so that concentrate on the ceramic substrate production. Firm A_2 's internal reverse logistics was too small to attract external suppliers. Therefore, Firm A_2 had to dramatically lower the sale price of its internal logistics facility to seal the outsourcing deal. While Firms C_1 and C_2 also had low-value internal operations to potential suppliers, they took the advantage of their strengths from other internal operations over their suppliers' weaknesses to contract those low-value operations via the inter-outsourcing mode. Firm B had relatively high-value internal operations based on its unique set of expertise. Such valuable operations could also bring extra cash flows to those university labs. By allowing suppliers to participate partially in its internal operations, Firm B easily accessed to external services. Finally, in the case of Firm D, it

is difficult to upgrade the value of internal resources (i.e. animator's expertise) via internal operations. Investing in new ventures that derived from previous internal operations enabled Firm D to create new, high, and accessible external value through the mode of spinout outsourcing.

5. Conclusion

Outsourcing is a promising area of research with respect to small business growth. In addition to traditional bootstrapping techniques, the full, partial, spinout and inter-outsourcing modes offer small firms potentially alternative options to access needed resources. Studies in this area are valuable because an increasing number of small entrepreneurial ventures are seeking to utilize outsourcing as a growth strategy (Elango, 2008). Our study responds to this need by illustrating how small firms have approached outsourcing with the objective of firm growth. We formulated an integrative framework based on the overlap and limits of distinct theoretic traditions. This approach allowed us to study outsourcing in a new context, where small firms focus on leveraging their limited internal resources to draw in collaboration and partnership with external resources not possessed internally.

Our principal research question was "how can small entrepreneurial firms procure much needed outsourcing solutions that large firms enjoy without having the traditional resources required to buy those solutions?" In undertaking the research to help answer this question, our study generated three contributions to the outsourcing literature and some practical implications. First, our undertaking illustrates how small firms can enter outsourcing arrangements and benefit from the increased reliability and stability of their suppliers compared to the frequently tenuous supply relationships and questionable service quality available via bootstrapping. By leveraging the highly specific nature of their own resources, small firms can enter various outsourcing modes in novel ways that go beyond traditional large firm-oriented outsourcing decisions. These options include revenue sharing, the deployment specific firm assets in an alliance, mutual reciprocity of business processes, and investment partnerships.

Second, our study reveals some of the explicit differences between the four principal modes of outsourcing (full, partial, inter-outsourcing, spinoff). The differences between these modes follow directly from a small firm's strategic position. In the context of small entrepreneurial ventures, where strategic positions and alliances vary widely, these distinctions are important. Our study thus clarifies some of the linkages between small firm bargaining power and appropriate outsourcing mode.

Our study offers an integration of three theoretic traditions (i.e. TCT, RDT, and RBV) that are relevant to outsourcing as a strategy for firm growth. The integration of these theoretic perspectives creates a broader conceptual foundation. This broader approach reveals new underpinnings of outsourcing success in small business settings. Our study thus provides a coherent foundation to future studies of small firm performance in the context of outsourcing.

Finally, our study offers some important practical implications for entrepreneurial firms. Smaller ventures have less absorptive capacity and fewer slack resources than larger firms. The buffer that a dense administrative organizational layer provides against environmental shocks is not part of a small firm's constitution. Whereas larger firms achieve adaptive functioning through traditional outsourcing contracts or simply

weathering environmental shifts, small firms utilize adaptability and responsiveness. The most practical implication of our study is new insight into how small firms can go beyond adaptability and pursue the outsourcing benefits that large firms enjoy. Whereas small firms do not normally have the resources to transact formal contracts, they are often particularly endowed with unique and inimitable resources that distinguish them. Based on this study, we suggest that small firms consider those resources in light of the four outsourcing modes delineated in this paper as a more strategic approach to outsourcing solutions that promise to enhance their operations and growth.

This research has some limitations that warrant a mildly cautioned interpretation of the results. First, while the case research method may reveal the insights of outsourcing decision making for the particular firms we studied, such results might be limited to those specific firms. Our study is designed along these lines to serve as a foundation for subsequent studies based that use a larger sample of quantitative data to assess hypothesized relations. With such an approach to investigating small firm entrepreneurial outsourcing, the limits of outsourcing theory can be appropriately developed in accordance with the burgeoning entrepreneurial sector that it has traditionally not admitted readily into its purview. Moreover, a stronger focus on international diversity in sampled firms would also add robustness to such research.

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