

Ambidextrous Effects of Relational-specific Investments in the OEM Transactions

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Abstract

This study interprets why does Original Equipment Manufacture (OEM) suppliers choose to invest in relational-specific assets dedicated for foreign brand buyers without economic safeguards. By combining the case study method and inductive causal-loop modeling approach, this study model the ambidextrous strategies adopted by interviewing five Taiwanese OEM suppliers to initiate simultaneous both explore and exploit effects on their capability and transaction value in vertical transaction structure by exerting relation-specific investments in dependency-asymmetric OEM-supplier transactions. The study results theorize that the relation-specific investments made by weak contractual party can exchange the ambidextrous effect on those specific assets with the dominant exchange partners for changing its bargaining position. The causal-loop diagrams highlight the managerial implications and strategic logics behind the unilateral asset-specific investments along the transaction dynamics.

Key word

Original Equipment Manufacture (OEM), Transaction Costs Economics, Relational-specific investments, Ambidexterity, Exploration and Exploitation.

Introduction

Transaction cost economics (TCE) has emerged as a common framework for understanding how firms deploy governance arrangements (Hennart, 1993; Williamson, 1975, 1985; Walker, 2007). The general argument of TCE is that firms align the governance features of interorganizational relationships to match known exchange hazards, particularly those associated with specialized asset investments, performance measurement difficulty, or transactional uncertainty (David and Han, 2004; Geyskens, Steenkamp, and Kumar, 2006). In response to exchange hazards, firms tend to craft complex contracts that define remedies for foreseeable contingencies or specify processes for resolving unforeseeable outcomes. When those contract are too costly to arrange and enforce, firms choose to vertically integrate (Poppo and Zenger, 2002).

In a vertical transaction relationship between an original equipment manufacturer (OEM) supplier, and a brand-name company (OEM buyer), where the buyer provides detailed technical blueprints and most of components to allow the contract OEM supplier to produce according to specification (Ernst, 2000). The OEM buyers are

characteristic of international brand-name as well as superior bargaining position. The small-medium size OEM supplier with limited resources (capital, growth capacity) commonly makes investments in tangible assets such as tools, equipment, as well as intangible assets include operating procedures, systems, and project team, that are specialized to the requirements of an OEM contract to fulfill production specification and quality stands. These kinds of small-numbers exchange condition (Williamson, 1975: 26-30) and committed investments of assets for a specific relationship force a small-medium size OEM supplier can not serve other client. When OEM buyers cancel subsequent orders and do not guarantee continued orders due to market fluctuation, many OEM suppliers do not receive any formal protections for committed relation-specific investment and assets. When this power-asymmetric transaction exists, the *ex-ante* safeguards, such as formal contract of a transaction, cannot be used to reduce transaction cost, and relational specific investments will lose at least part of value if the transactions were terminated (Kang, Mahoney, and Tan, 2009). Therefore, the puzzle we observe in business practice is why OEM suppliers continue to make relational-specific investments for their own clients, while these small-medium suppliers are lack of bargaining position and *ex-ante* reciprocal commitment can receive from the buyers is neither expected nor forthcoming.

In order to answer the above posed research question, we use both case method (Yin, 84; Eisenhardt, 1989) and the inductive system diagram method (Burchill, 1993, Burchill and Kim, 1993) for modeling the strategic ambidextrous effects behind the relation-specific investment behavior under asymmetric transaction. The combination of these two approaches leading researcher to collect and analysis case-based field data systematically (Burchill and Kim, 1997).

This study is organized as follows: we next review the phenomenon of relational-specific Investments in the OEM Transactions and prior explanations from TCE. We then develop ambidextrous reasoning for interpreting strategic logic of relational-specific investments behavior. The subsequent sections describe the results of case studies of Taiwanese OEM suppliers. Finally, we make concluding remarks with managerial implications.

Relational Specific Investments in the OEM Transactions

The OEM transaction arrangement is a well-known global sourcing practice, which refers to a transactional arrangement between a brand name company (OEM buyer) and the contract supplier (OEM supplier) where the buyer provides detailed technical blueprints and most of critical components to all the contract supplier to produce according to specific requirements (Ernst, 2000). The small-medium size OEM supplier, usually locate in developing countries, provide manufacturing services to foreign brand buyer and sell product under buyer's international brand name. In order to obtain the orders and sustain the cooperation, the OEM suppliers often make both tangible and intangible specific asset investment to fulfill the specific requirements of a particular buyer (Bensaou and Anderson, 1999; Kang, et al., 2009; Stump and Heide, 1996;

Zaheer and Venkatraman, 1995). These suppliers also provide flexible and quick response services by designing their operation process and manufacturing equipments according to OEM buyer’s technical specifications or component performance requirements of products.

However, in the aggressively international market competition, the international brand companies regularly ask OEM suppliers to lower manufacture costs by using price-bidding procedure in order to source from non-specific suppliers, or frequently adjust demands based on supplier’s performance in order to avoid concentrating their purchase orders with a single supplier. Thus it can be seen that not only the buyers do not offer nay guarantee on continual purchasing order due to final product market uncertainty (Subramani and Venkatraman, 2003), but the OEM suppliers rarely receive formal protections for their unilateral relational-specific investments. Therefore, the vertical structure of OEM supplier transactions further reinforces power-asymmetric bargaining relationships between buyers and suppliers (Gulatic and Sytch, 2007). In that case, even knowing their clients reveal opportunism behavior, the majority of Taiwan OEM suppliers still willingly to make relational-specific investments without credible retribution or valid safeguards (Kang, et al., 2009). Figure 1 shows the holdup hazards situation proposed by general TCE framework.

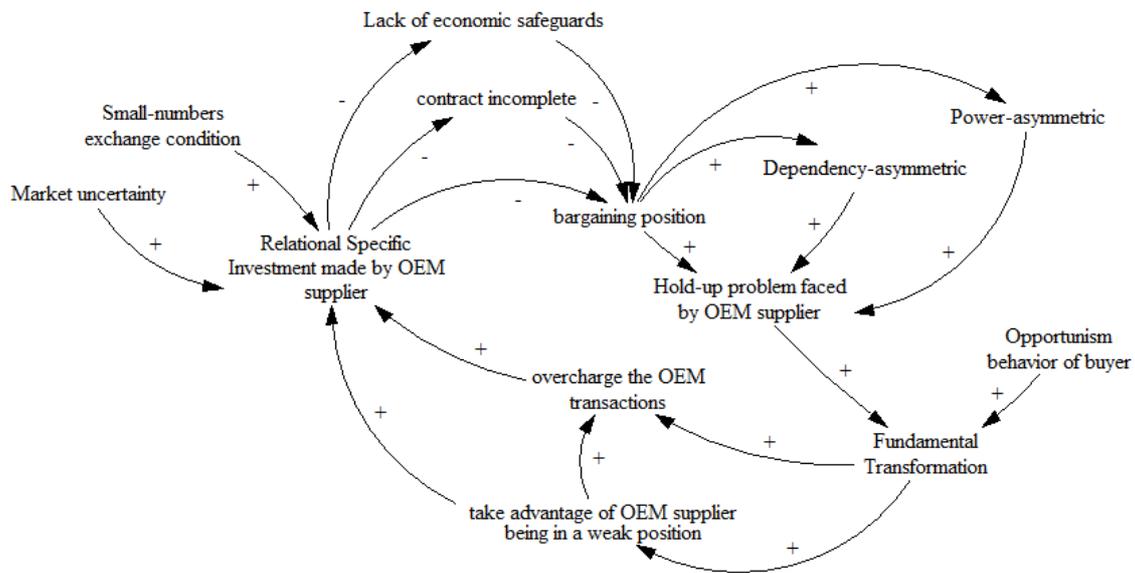


Figure 1 holdup hazards situation proposed by general TCE argument

Many have argued the OEM transactional relationship aligns the incentive to cooperate between foreign brand buyers and sub-contract suppliers. While foreign brand buyers reduce production costs and fixed capital investments through outsourcing to OEM suppliers, by providing advanced products and technical capability carry over international marketing power, the OEM suppliers offer quick services, flexible manufacture and cost-reduction advantage to obtain purchasing orders under the

umbrella of well-known global brand names (Dedrick and Kraemer, 1998, Ernst, 1998; Hobdy, 1995). The OEM contracts can also provide suppliers opportunities to upgrade their manufacture capability and product quality through closely action with foreign brand buyers (Heide and John, 1990). Thus, OEM contracts are passively treated as the channel for gaining technology upgrading and purchasing orders.

Yet, Kang et al. (2008) further empirical test that both spillover effects of knowledge and reputation lead OEM suppliers rely on unilateral relational-specific investments to gain orders from clients. Thus, the active strategic logic need to be consider on the issue of how a weak contractual party can initiate a transaction with a dominant exchange partner, and then over time fundamentally transform their relationship to relational governance by combining TCE theory and other theoretical lenses to interpret the behaviors of firms (Mahoney and McGahan, 2007).

Strategic Ambidexterity of Relational Specific Investments

Despite increasing interest in supply chain management as one of current trends to gain competitive advantage, recently some articles started to highlight the dark-side of OEM contract manufacture relationships (Anderson and Jap, 2005; Arruñda and Vázquez, 2006) and outsourcing dynamics in organizational processes (McCray and Clark, Jr., 1999; Mollona and Sposito, 2007). Several researches indicate the OEM contracts offer OEM suppliers opportunities to acquire scarce resources (Pfeffer and Salancik, 1978), like earn the priority to engage in latest product development project, and/or able to access new technology road-map information (Ernst, 2000). In the other hand, Previous findings also state OEM contracts enable OEM suppliers to penetrate the client's subsequent orders following absorb knowledge and upgrade technological capabilities through closely co-work with international brand company (Arruñda and Vázquez, 2006; Heide and John, 1988, 1990). Furthermore, increasingly reputation with upgrading technological capabilities also provide these suppliers more easily to access better partners and potential clients (Ahuja, 2000). Thus it can be seen that the OEM suppliers adapt the power-asymmetric transactions by walking on the both line: exploit their capability by learning from clients as well as deepen the cooperation with customer, while explore their product scope at the same time by extending customer scope. Learning through partners (Hamel, 1991) and knowledge evolution depend on organizational exploration and exploitation (He and Wong, 2004).

March (1991) assume that in an environment of limited resources, firms face a trade-off in allocating resources either to exploration or exploitation activities. He states "the essence of exploitation is the refinement and extension of existing competence," whereas "the essence of exploration is experimentation with new alternatives." Both exploratory and exploitative activities can produce a continuous stream of innovations, while encompassing the notion that organizational ambidexterity describes the "ability of a firm to simultaneously explore and exploit" (O'Reilly and Tushman, 2004; O'Reilly and Tushman, 2007: 2).

Furthermore, March (1991) proposes that exploration and exploitation are two

fundamentally different learning activities between which firms divide their attention and resources. Whereas exploitation refers to activities such as “refinement, efficiency, selection, and implementation,” exploration is associated with activities such as “search, variation, experimentation, and discovery”. Although exploitation and exploration may therefore require fundamentally different organizational structures, strategies, and contexts (Birkinshaw and Gibson, 2004; O’Reilly and Tushman, 2004), scholars highlight the need to balance between align organization to exploit existing competencies and exploring new ones (Levinthal and March, 1993; Raisch, Birkinshaw, Probst and Tushman, 2009). Building upon earlier work by Duncan (1976), who stated that organizations implement dual structures to manage trade-offs emerging from a simultaneous focus on alignment and adaptation, Tushman and O’Reilly (1996) were first suggest the structural mechanism to enable organizational ambidexterity leads to superior performance.

The concept organizational ambidexterity, defined as an individual’s ability to use both hands with equal ease, has been applied in organizational adaptive behavior (March, 1991), and gained attention in research on organization (Raisch et al., 2009).The original concept of ambidexterity, Earlier research had often claimed that organizational practices may impossible to achieve both efficient exploitation and effective exploration simultaneously (Hannan and Freeman, 1977). March (1991) conversely argues that organizations need to be aligned to both exploitation and exploration. The exploration involves “a pursuit of new knowledge,” whereas exploitation involves “the use and development of things already known” (Levinthal and March, 1995: 105). They observed that: “the basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time to devote enough energy to exploration to ensure its future viability”. As March(1991) stated in his landmark article that the concept of ambidextrous organization contributed to a general shift in organizational research from trade-off to paradoxical thinking (Eisenhardt, 2000; Lewin, 2000).

Recently, researchers have elaborated the ides of strategic ambidexterity by considering the implications not only fro intra- but also fro inter-organizational learning (Larsson, R., Bengtsson, Henriksson, and Sparks, 1998; Lavie and Rosenkopf, 2006; Rothaermel and Alexandre, 2007). These studies have recognized that collaboration with partners facilitates learning by accessing new knowledge residing outside a firm’s bounmdaries and by collaboratively leveraging existing knowledge with partners (Lavie and Rosenkopf, 2006). The relational-specific investments made by OEM supplier may become voluntary arrangements and noteworthy vehicle for exploration and exploitation (Lavie and Rosenkopf, 2006) involving exchange, sharing, or joint development or provision of technologies, product or services (Gulati, 1998).

Modeling by combining case studies and inductive casual-loop diagram

Previous findings of relevant studies are lack of whole-view attention to systematically interpret the strategic logic behind seemingly idiosyncratic relational-

specific investments made by a weak contractual party for its dominant client. We use both case research method (Eisenhardt, 1989) and inductive casual-loop diagram approach (Burchill and Fine, 1993, 1994) for discovering the behavioral logics behind the strategic move of firms' relational-specific investment decision.

Building theory from case studies, a popular research strategy in management field, is that involves using one or more cases to create theoretical constructs, propositions and/or midrange theory from case-based, empirical evidence (Eisenhardt, 1989). Central to building theory from case studies is replication logic; or rather multiple cases serve as replications, contrasts, and extensions to the emerging theory (Yin, 1994). In contrast to deductive theory testing completing the recursive cycle by using data to test theory, inductive theory building from cases producing new theory from data (Eisenhardt and Graebner, 2007). In order to use cases as the basis from which to develop theory inductively, central logic to building theory from case studies is replication logic (Eisenhardt, 1989), which emphasis on developing constructs, measures, and testable theoretical propositions make inductive case research consistent with the emphasis on testable theory (Eisenhardt and Graebner, 2007).

This study follows the case study approach proposed by Eisenhard (1989), which suggest eight steps: (1) getting start by defining research question and possible construct, (2) selecting cases based on theoretical sampling, (3) crafting instruments and protocols by combining multiple data collection methods and multiple investigations, (4) entering field for data collection and analysis, (5) within-case analysis as well as cross-case pattern search using divergent techniques, (6) shaping hypotheses by iterative tabulate evidence for construct , conduct logic across cases, and search theoretical relationships behind evidence, (7) sharpen generalizability and improve construct definition by literature comparison, (8) theoretical saturation when managerial improvement become small. Multiple-case studies typically provide a stronger base for theory building (Yin ,1994) and enable comparisons that clarify whether an emergent finding is simply idiosyncratic to a single case or consistently replicated by several cases (Eisenhardt and Graebner, 2007). Therefore, this study will conduct five case studies for investigating proposed research question. Table 1 describes the background of companies cases studied.

In this research, the inductive system diagram method is developed for building theoretical reasoning of why do firms choose to make relational-specific investment without ex-ante reciprocal commitment from intensively-gathered field case-based data. Following firm case studies used to develop variables which have significant explanatory power and are intimately tied to the field data. These cause and effect relationships among these variables are then shown using causal-loop diagramming techniques from the field of system dynamics (Forrester, 1961; Sterman, 2000; Morecroft, 2007).

The development of inductive casual-loop diagrams starts with developing, through verifiable process, the central variables using grounded theory methods (Strauss, 1987), and then mapping the explicit inference drawn from the data analysis through

causal loop diagrams (Burchill and Fine, 1994, 1997). The causal-loop diagramming techniques suggests five steps to depict an inductive casual-loop diagram, including: (1) identify core variables and their symptoms through opening coding and axial coding (Strauss, 1987: 64; Miles and Huberman, 1994), (2) identify relevant variables appear to drive or be driven by selected core variables through selective coding, (3) describe the interactions between those variables interact, and diagrammed as causal-loop diagrams, (4) investigate casual-loop consistency by theoretical sampling or coding to ensure the theory grounded in the available facts and field data, (5) articulate the underlying structure and theory by integrating causal-loop diagrams into an inductive system diagram for validating the data and investigations are consistent with logic flow and abstraction levels (Burchill and Fine, 1994: 25).

Table 1 Description of Taiwanese OEM supplier case studied

Company	MM*	WTS*	KS*	HG*	LF*
Major Product	Infant playing pans, car seats and strollers	Notebook computer	Power supply for personal computer & telecom products	Animation films and series	Men's footwear
Major buyers	Global channel brand, & distribution brand	Global channel brand, distributor brand, & local channel brand,	Dell, IBM, HP, Cisco	Warner Brothers, Walter Disney, Nickelodeon	Hush Puppies, Clarks
Average share of total sales (%)	99	60, 15, 10, 10	30, 20, 10, 10	25~30, 25~30, 10	60, 40
Years of business relationship	20	7, 3, 3, 2	8, 6, 3, 2	20, 10, 10	20, 5
Production Location	Taiwan & China	China	China	Taiwan & China	China
Type of relational-specific investment	Tooling machine, Information System, Individual team	Tooling machine, BIOS design	Safety spec, JIT system, warehouses	Animation producing software and toolkits	Tooling machine, dedicated design room
Position of informant	President and CEO	CEO	Marketing vice president	CEO	Consultant
Length of interviews (hours)	2	2	4	3	3

* Disguised

March (1991) appeared clear in his theorization that, even though both exploration and exploitation are essential for adaptation, these two are fundamentally incompatible, because mindsets and organizational routines needed for each action while both types of actions are iteratively self-reinforcing, and compete for scarce organizational resources (Gupta, Smith and Shalley, 2006). Thus, two of ambidextrous effects of relational-specific investments made by OEM supplier need to be illustrated respectively.

Exploitation Effect of Relational-Specific Investments made by OEM supplier

Most studies treat the OEM relationships as simply business transaction. However, as mentioned, through orders from international brand company, the OEM contracts provide a channel for OEM supplier in developing countries to upgrade manufacture technology and knowledge. In order to access the opportunity to engage in further product development project host by international brand buyers as well as to get subsequent purchasing orders, OEM supplier choose to make specific-asset investments for clients showing signal of commitment to protect technological know-how and reducing anxiety that current supplier may become tomorrow competitor (Arruñda and Vázquez, 2006). Whenever an OEM supplier makes such unilateral investments increases its reliance on its client, and thus will enter into a subordinate bargaining position that might be exploited by the client. According TCE, the OEM supplier with limited resource perceives holdup hazards (Williamson, 1985) in the dependence-asymmetric situation (Gulati and Sytch, 2007).

Transaction costs theory suggests firms not to make unilateral relational-specific investments unless sufficient economic safeguards have been secured in transaction arrangements. Many studies have argued that TCE may overstates the desirability of either integration or explicit contractual safeguards in exchange setting commonly labeled as hazardous (Hill, 1990). Dyer (1997) and his colleague states that in many industries managers engage in complex, collaborative market exchanges that involve rather high levels of asset specificity and that are characterized by other known hazards (Dyer and Hatch, 2006; Dyer and Singh, 1998). In our observation from case studies, the relational-specific investments made by OEM supplier can initiate an economic hostage effect (Williamson, 1983) to trigger a reciprocal investment and mutual commitment made by international brand buyers, such as subsequent purchasing orders or next-generation product roadmap releasing. The mutual commitment offered by clients provides OEM supplier another safeguard to secure their specific-asset investments. Such reciprocal investment and mutual commitment perceived by OEM supplier through intensively joint actions (Kim, 1999), personal contacts, and closely interactions that bring interpersonal trust (Zaheer, McEvily, and Perrone, 1998) and inter-firm goal congruence (Jap and Anderson, 2003).

With making more relational-specific investments, an OEM supplier has opportunities to deepen bilateral timely information sharing and to bond each other in multiple product development projects. Thus, the more dedicated assets that OEM supplier invests, the more likely client-specific knowledge will and inter-organizational

routine be accumulated (von Hippel, 1994; Nelson and Winter, 1982), which can accelerate exchange efficiency (Madhok, 2000) and enhance transaction value perceived by international brand company (Zajac and Olsen, 1993).

By making relational-specific investment for serving client, bilateral intensively joint actions reshape transactional structure into mutual hostage situation, which will provide the international brand companies willing to release subsequent product development roadmap and follow-up orders. These expected favorable payoff not only mitigate exchange hazards perceived by both transaction parties (Poppo and Zenger, 2002), but the OEM supplier can also upgrade its technological knowledge, advance internal product development capability as well as improve manufacture quality through exploiting the transaction relationship with current client. Figure 2 represents the exploitation effect of relational-specific investments.

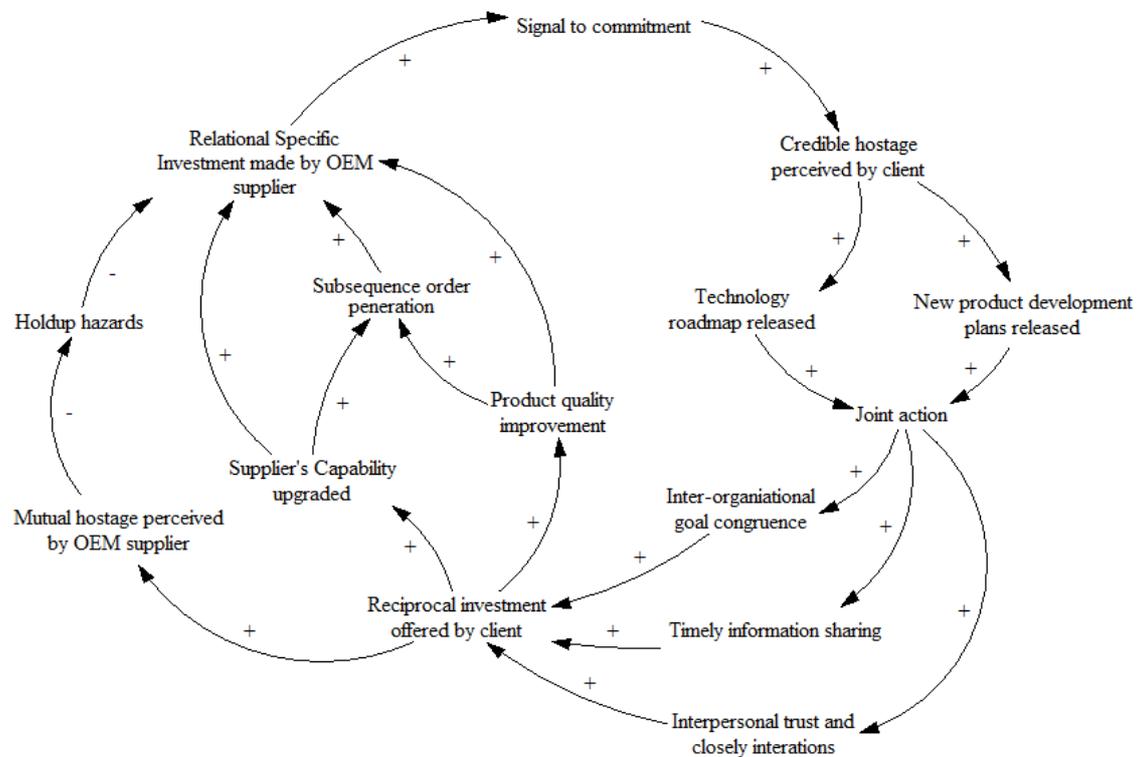


Figure 2 Exploitation effect of relational-specific investments

Exploration Effect of Relational-Specific Investments made by OEM supplier

The OEM transactions between an OEM supplier and its client enable the supplier to develop dynamic capabilities (Eisenhardt and Martin, 2000; O'Reilly and Tushman, 2007) to combine the requirements of product quality and needs of services from other buyers over time. Those strategic resources of timely information and superior technological knowledge acquired from the customers can be leveraged in dealing with their parties. The OEM supplier can apply its newly build know-how not only to various stages of supply chain activities with current client, but also to a broader customer scope

(Uzzi and Gillespie, 2002). It can be recovered the economic losses by complementing from transacting with other customers.

The company informants stated that as long as they engage in up-to-date product development project of international brand customer, after relational-specific investment was made, OEM supplier can proactive deploy its resource include capacity and human resources to prepare needed components, equipments, and processes according to the released technology/product roadmap prior customer make request. In anticipation of customers' product development strategy, OEM supplier can expand its produce and services following prospected customers' needs for securing subsequent orders.

The informants interviewed in our case study also stated that after winning an OEM contract from one international brand company, it will be easier to approach other buyers. In order to build cooperation relationship with new customer, the OEM supplier design dual cross-function team to align different requirements from customers based on established core process and resources. The technological knowledge flows through the ambidextrous organization design (O'Reilly and Tushman, 2004: 78) enable OEM supplier accelerate operation efficiency and effects of economics of scope (Bercovitz and Mitchell, 2007) on invested relational-specific assets.

Dedicated investments on relational-specific assets also reduce the search costs (Milgram and Roberts, 1992: 76-77) as well as mitigate the transaction costs for international brand buyers to look for potential contract manufacturers. Being endorsed by a major OEM client resolves the transactional uncertainty and contractual hazards perceived by other buyers concerning the OEM supplier's qualifications and credibility for handling OEM contract orders. Newly requirements and order spec proposed by other buyers also induce supplier either leverage established strategic advantage or need to update its own capability in order to fulfill requests.

Thus, besides the effect to exploit existing competencies in order to leverage known competences, the more relational-specific assets invested by OEM supplier, the more opportunities that an OEM supplier can explore a broader customer scope by leveraging established capabilities. That is the knowledge of how to improve product quality acquired from one OEM buyer can be redeployed to improve product quality for other clients (Kogut and Zangder, 1992; Nobeoka, Dyer and Madhok, 2002).

Implications and Conclusions

This study proposes an ambidextrous theorization on the phenomenon of the relational-specific investments, without economic safeguards, made by OEM supplier for serving international brand name buyers. We propose that supplier make such asset-specific investments when these investments posses strategic ambidexterity of both exploration and exploitation effects. The exploitation effects of relational-specific investments made by OEM supplier lead them to exchange the opportunities of capabilities upgrade and reciprocal commitment offered by clients, with that can switch a dependency-asymmetric situation into mutual hostage transaction structure. The exploration effect of asset-specific investments offered by weak contractual party can

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