

## Learning to Contract under Uncertainty in Strategic Alliances: The Co-evolution of a Firm's Absorptive Capacity

Subodh P. Kulkarni  
*Professor of Management*  
Howard University  
skulkarni@howard.edu

Nagarajan Ramamoorthy  
*Director*  
Indian Institute of Management – Amritsar  
drnags@yahoo.com

*Abstract:* Firms have often used strategic alliances as a strategy to cope with increased uncertainty. This paper argues that a firm needs to *learn* to leverage its *absorptive capacity* to exploit and explore the *contracting knowledge* in strategic alliances so as to enhance efficiency, scope, and flexibility. It *conceptually* examines how a firm's contractual absorptive capacity *co-evolves* with its knowledge environment under *uncertainty* as part of learning. By integrating transaction cost economics and absorptive capacity literatures, this paper offers a rich picture of the co-evolutionary processes underlying contractual absorptive capacity in strategic alliances under uncertainty. It also incorporates a more refined (and underexplored) conceptualization of asset specificity and uncertainty, two key constructs in transaction cost economics, into the co-evolutionary framework of absorptive capacity in strategic alliances. It illustrates some of the concepts with examples from the hospitality industry, where the impact of uncertainty is clearly evident – particularly in view of the COVID-19 pandemic.

*Keywords:* Strategic alliances, absorptive capacity, transaction cost economics, co-evolution

Strategic alliances have been touted as a strategy for a firm to adapt to environmental uncertainty because of the increased efficiency, scope, and flexibility in comparison with internalization (Volberda, 1996), where *strategic alliances* refer to any

inter-organizational cooperative arrangement that involves resource sharing, exchange, and co-development (Gulati, 1998). Furthermore, a comprehensive review of research on strategic alliances shows that organizational learning is key to a firm's adaptation and survival (Binder, 2019); and the *knowledge of contracting* in forming and implementing strategic alliances is critical to organizational learning in an uncertain environment (e.g., Mayer and Argyres, 2004).

*Mere* contracting knowledge acquisition in alliance formation and implementation, however, does not guarantee successful learning unless a firm has the necessary *absorptive capacity*. The notion of *absorptive capacity* is central to organizational learning – i.e., a firm that is engaged in a strategic alliance needs to learn to recognize the value of new external and internal knowledge, assimilate the knowledge, and apply it to commercial ends (Cohen and Levinthal, 1990: 128) in order to adapt. This involves a firm learning to *explore new* knowledge, while simultaneously *exploiting current* knowledge (March, 1991). The majority of literature on absorptive capacity focuses on a firm's ability to leverage its knowledge of research and development, and technology (e.g., Song *et al.*, 2018) much to the neglect of *contracting knowledge*. This is surprising, given the preeminence of contracting knowledge in the formation and implementation of a strategic alliance, especially in the transaction cost economics tradition (e.g., Hennart, 1988; Williamson, 1985). For example, appropriate formulation and implementation of a contract can result in major transaction cost savings and successful adaptation (e.g., Williamson, 1991a). Despite the importance of contractual knowledge in strategic alliances for adaptation, the conceptual foundations underlying *how* a firm can explore and exploit its *absorptive capacity* pertaining to *contracting knowledge* of alliances under uncertainty have remained remarkably murky.

This paper conceptually investigates the research question: “How does a firm's *contractual absorptive capacity* (to evaluate, assimilate, and apply current and new contracting knowledge in strategic alliances) *co-evolve* with its knowledge environment under uncertainty?” This question has significant implications for a firm's adaptation in an uncertain environment because it sheds light on the *process* of exploring and exploiting the contractual absorptive capacity so as to enhance efficiency, scope, and flexibility in a strategic alliance (e.g., Albers *et al.*, 2016; Volberda, 1996). To address the research question, this paper invokes Van den Bosch *et al.*'s (1999) widely-adopted framework for the co-evolution of a firm's absorptive capacity and its knowledge environment because organizational evolution and adaptation cannot be comprehended independently from the simultaneous evolution of the environment (McKelvey, 1997).

Examining the aforementioned research question helps address at least two voids in the transaction cost economics (TCE) and absorptive capacity/organizational learning literature. First, some scholars (e.g., Argyres and Mayer, 2007) have asserted that the integration of TCE and organizational learning perspectives have significant implications for rent creation because it highlights superior ways in which an organization learns about various contract designs and generates transaction efficiency. This paper not only integrates TCE (e.g., Hennart, 1988; Kogut, 1988; Williamson, 1985) and organizational learning (e.g., Inkpen and Tsang, 2007; Kogut, 1988) – two dominant theories of strategic alliance formation *but also* examines the underlying *dynamics* by investigating the *co-evolution* of a firm's absorptive capacity with its knowledge environment. It particularly focuses on a firm's *absorptive capacity* to leverage

its *contracting knowledge* in strategic alliances. Currently, little research exists on how this capacity co-evolves in an uncertain environment. This paper represents an effort to provide a rich understanding of this phenomenon.

Second, the paper incorporates a more refined (and underexplored) conceptualization of asset specificity and uncertainty, two key constructs in TCE, into the co-evolutionary framework of absorptive capacity in strategic alliance formation. Traditionally, asset specificity is defined in terms of an asset's value to a particular *user* – in comparison with an alternative user. This paper *also* examines how the specificity of an asset in a particular *usage* (e.g., Ghemawat and del Sol, 1998; Kulkarni and Ramamoorthy, 2005) – in comparison with its alternative usage – is related to the co-evolution of absorptive capacity. Furthermore, TCE emphasizes behavioral uncertainty that stems from the opportunistic behavior of parties. However, this paper also investigates the impact of *primary uncertainty* (e.g., Sutcliffe and Zaheer, 1998) that arises from exogenous events (such as the COVID-19 pandemic) on the absorptive capacity co-evolution.

The conceptual framework in this paper is illustrated with several examples from the hospitality industry because it is one of the industries that are most impacted by primary uncertainty, as particularly evident in the COVID-19 pandemic. The examples are included for clarity, consistency, and the facility of reading, and not as evidence for the propositions. The rest of the paper is organized as follows. First, it briefly discusses examples of strategic alliance formation in the hospitality industry. Second, it discusses the rudiments of TCE and co-evolution of absorptive capacity. Next, it discusses the framework for examining the impact of primary uncertainty on the co-evolution of a firm's contractual absorptive capacity in strategic alliance formation. Finally, it discusses the implications for research and practice.

## LITERATURE REVIEW

### Strategic Alliances in the Hospitality Industry

Strategic alliances have been widely used in the hospitality industry (e.g., Chathoth and Olsen, 2003; Kruesi *et al.*, 2017). Strategic alliances include equity/joint ventures, as well as non-equity arrangements. The non-equity alliances may involve licensing, franchising, and management contracts, where a “hotel is partly owned by a developer and by a management contract company, to be managed by that contractor, who is a franchisee of a hotel brand” (Jones, 1999: 433). The non-equity alliances may also include collaborative arrangements, such as supplier-supplier (e.g., a supplier of hotel products collaborating with a supplier of electronic point-of-sale systems), supplier-provider (e.g., a hotel collaborating with a telecommunication company), marketing, and technology (Chathoth and Olsen, 2003). Indeed, there are numerous ways in which strategic alliances are forged in the hospitality industry, such as partnering with travel agencies (e.g., Ku *et al.*, 2011) and local businesses (e.g., transportation providers, food vendors, restaurants, shopping boutiques, tour organizers), partnering with artists for art exhibition, partnering with entertainment companies in hosting events, and partnering with businesses in neighboring towns for extended time getaways, etc.

### Transaction Cost Economics

Transaction cost economics (TCE) states that the costs associated with the *opportunistic* behavior of the transacting parties – i.e., the “transaction costs” – significantly influence whether or not a transaction is carried out internally (within a firm’s boundaries), or outsourced (to another party through a market-type exchange), or organized through a collaborative “hybrid” arrangement (e.g., a strategic alliance) with another party (Williamson, 1985). The transaction costs include the costs of writing, negotiating, and safeguarding a transaction, as well as the bonding costs to secure commitments, costs of haggling and setting up governance structures, and maladaptation costs if the transaction deviates from the specified terms (Williamson, 1985: 20-21). Transacting parties face contractual problems because they need to economize on their *bounded rationality* – i.e., being “intendedly rational but only limitedly so” (Simon, 1961: xxiv) – in order to organize a transaction, while safeguarding against opportunism (Williamson, 1985: 32). Transaction costs are further compounded by *imperfect information* (e.g., inability to write complete contingent contracts) and *information asymmetry* between the parties that contribute to the difficulty in achieving information parity or *information impactedness* (Williamson, 1985).

Two of the most important contract formulation and implementation parameters that influence transaction costs are asset specificity and uncertainty. *Asset specificity* is traditionally defined as “the degree to which an asset (physical and human) cannot be redeployed to alternative uses and by alternative users without sacrifice of productive value” (Williamson, 1991b: 281). Uncertainty – specifically “*behavioral uncertainty*” refers to the difficulty in predicting the actions of the other party because of opportunistic behavior (Sutcliffe and Zaheer, 1998). Under bounded rationality and information impactedness conditions, a transaction involving highly specific assets and high levels of behavioral uncertainty can create high levels of bilateral dependence and transaction costs. Therefore, a contract is likely to be organized within a firm’s boundaries so as to economize on the transaction costs. On the other hand, low levels of asset specificity and behavioral uncertainty are consistent with a market type transaction because there is very little bilateral dependence, information asymmetry, and information impactedness between the parties; and the transaction costs in markets are lower than those within a firm’s boundaries. Intermediate levels of asset specificity and behavioral uncertainty are associated with a “hybrid” type of transaction, such as strategic alliance (e.g., Hennart, 1988; Williamson, 1991b) because it involves moderate levels of bilateral dependence, information asymmetry, and information impactedness between the parties and transaction costs.

### Absorptive Capacity, Organizational Learning, and Strategic Alliances

Organizational learning is one of the principal goals/outcomes for strategic alliance formation (e.g., Kotabe *et al.*, 2003). *Organizational learning* is “a process by which a firm acquires information, knowledge, understanding, know-how, techniques, and practices that lead to changes in routines” (Phan and Peridis, 2000: 201). Absorptive capacity is at the heart of organizational learning. Cohen and Levinthal (1990) argue that absorptive capacity is critical for a firm’s successful exploitation of its internally developed innovation capabilities, as well as for absorbing new external knowledge (also see Mowery *et al.*, 1996; Zahra and George, 2002).

In a study of Turkish accommodation establishments, Kale *et al.* (2019) found that absorptive capacity influences the ability to dynamically review or rediscover the company and its strategy with changes in the business, and firm performance. Absorptive capacity is also found to have a positive impact on knowledge transfer in hospitality franchise networks and international expansion (e.g., Brookes and Altinay, 2017).

*Absorptive capacity* is often described as a construct with multiple dimensions: *efficiency*, *scope*, and *flexibility* (Van den Bosch *et al.*, 1999: 552). *Efficiency* refers to “how firms identify, assimilate, and exploit knowledge from a cost perspective.” *Scope* of knowledge absorption refers to “the breadth of component knowledge a firm draws upon.” *Flexibility* of knowledge absorption refers to “the extent to which a firm can access additional, and reconfigure existing component knowledge.”

### **Co-evolution of Absorptive Capacity with External Knowledge Environment**

The early scholars (e.g., Cohen and Levinthal, 1990) considered the level of *prior* related knowledge as the determinant of absorptive capacity. However, Van den Bosch *et al.* (1999) proposed a framework – that has since been widely adopted, where a firm’s combinative capabilities mediate the link between prior related knowledge and absorptive capacity. The *combinative capabilities* “synthesize and amplify current and acquired knowledge” (Van den Bosch *et al.*, 1999: 556) and they refer to the different ways of *combining* knowledge in a firm. Some examples of combinative capabilities include routines and formalized written instructions to combine explicit knowledge; capabilities to influence relationships (e.g., liaison roles and participative decision-making); and capabilities to infuse shared beliefs and values. These capabilities impact knowledge absorption by specifying broad, tacitly understood rules under unspecified contingencies.

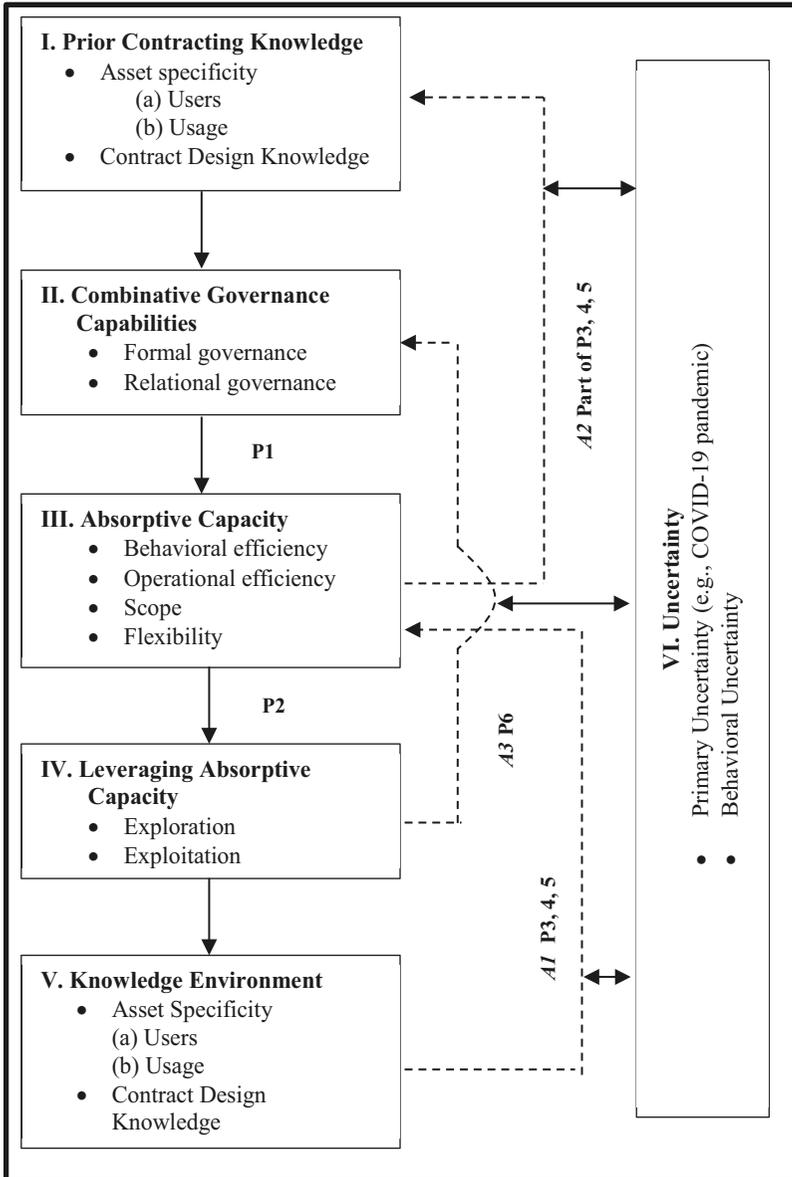
Furthermore, a firm’s absorptive capacity co-evolves with its “knowledge environment.” Van den Bosch *et al.* (1999) argue that the feedback loops running (backward) from prior knowledge → combinative capabilities → absorptive capacity → organizational learning → new knowledge are mediated by the environment and how the firm adapts to it (Lane *et al.*, 2002). Firms use different ways of integrating knowledge in stable, as opposed to uncertain environments.

### **CO-EVOLUTION OF CONTRACTUAL ABSORPTIVE CAPACITY**

As an example of uncertainty in the hospitality industry, consider the enormous changes brought about by the COVID-19 pandemic. The pandemic-related uncertainty in the hotel segment of the hospitality industry is reflected, for instance, in the one-year-change (December 2019-December 2020) for some of the key performance ratios: the occupancy was at 35.8%, down 45.8%; Average Daily Rate at \$102.83, down 21.6%; and Revenue per Available Room at \$36.84, down 57.5% (Cummings and Keegan, 2020). Indeed, many hospitality firms have recently forged strategic alliances (e.g., Kim and Tang, 2020) in order to cope with the uncertainty created by drastic fluctuations in the economic environment.

This paper invokes TCE and builds upon Van den Bosch *et al.*’s (1999) framework to examine the impact of primary uncertainty on a firm’s co-evolutionary contractual absorptive capacity in strategic alliances. Figure I describes this conceptual framework.

**Figure I**  
**The Co-evolution of Contractual Absorptive Capacity in Strategic Alliances under Uncertainty**



This figure is adapted from Van den Bosch *et al.* (1999: 560)

**P1-6** are propositions; **A1-3** are dotted arrows (feedback loops) of primary interest in this paper

The paper first describes the static relationships (solid arrows) of *primary interest* among different parts of the framework so as to lay the foundation for *initial* absorptive capacity formation and its exploration/exploitation. Next, it describes various *co-evolutionary* processes (dotted feedback arrows) that reshape the absorptive capacity – under significant primary uncertainty.

### **Absorptive Capacity (Box III)**

This paper conceptualizes absorptive capacity as a firm's ability to recognize, evaluate, assimilate, and apply new "knowledge of contracting" (e.g., Argyres and Mayer, 2007) so as to eventually improve its strategic alliance performance. In other words, a firm is "learning to contract," (e.g., Mayer and Argyres, 2004) while staying engaged in the process of forming and implementing strategic alliances.

The paper invokes Van den Bosch *et al.*'s (1999) extensively-adopted typology of absorptive capacity dimensions – i.e., *efficiency*, *flexibility*, and *scope* (defined earlier) with a critical refinement. Although TCE focuses on *behavioral efficiency*, this paper also considers *operational efficiency*, following some authors (e.g., Riordan and Williamson, 1985; Williamson, 1981). *Behavioral efficiency* involves economizing on transaction costs that arise from the behavioral uncertainty of opportunistic transacting parties, whereas *operational efficiency* refers to economizing on the operating and bureaucratic costs that usually assume importance under exogenous uncertainty. TCE's preoccupation with behavioral efficiency is consistent with the assumption that the influence of exogenous uncertainty – that stems from economic, social, and technological events in the environment – is assumed constant at "moderate" levels (Walker and Weber, 1984: 374-375). However, "high" levels of exogenous uncertainty merit attention for operating and bureaucratic cost savings (in addition to any behavioral efficiencies) in the interest of adaptation.

### **Prior Contracting Knowledge (Box I)**

As stated earlier, the effect of prior contracting knowledge (Box I) on absorptive capacity is mediated by combinative governance capabilities (Van den Bosch *et al.*, 1999). Box I will be revisited in connection with the creation of *new* contracting knowledge (Box V) and its feedback effects (arrows *A1-2*) on absorptive capacity and prior knowledge in subsequent time periods.

***Prior knowledge of asset specificity.*** This paper conceptualizes that a firm's prior knowledge of its asset specificity sets the "initial stage" for its absorptive capacity formation. Because of the bilateral dependence and hold-up potential in such situations, coupled with bounded rationality and information impactedness potential, a firm needs to tap into its prior knowledge of safeguarding the transaction by devising elaborate governance mechanisms if the transaction drifts out of alignment. Therefore, a firm's prior knowledge of asset specificity dictates whether a transaction is internalized or outsourced.

Many scholars have asserted that "moderate" levels of asset specificity usually correlate with a "hybrid" (between "market" and "hierarchy") type of transaction, such as a strategic alliance (e.g., Hennart, 1988; Williamson, 1991b). According to Williamson (1991b), this is because strategic alliances display distinct characteristics (which, in turn, are a function of asset specificity), such as adaptability, contract law, administrative control, and incentive characteristics that fall somewhere between those exhibited by

markets on the one hand, and firms, on the other. For example, hierarchical (as opposed to hybrid and market) contracts can be more incomplete – under bounded rationality and information impactedness conditions – when there is bilateral dependence (in the presence of specialized assets), thereby exhibiting greater adaptability should a transaction drift out of alignment creating conflict. This type of conflict resolution requires forbearance in hierarchies; classical contract law for market transactions; and a semi-legalistic contract law regime for hybrids. Furthermore, high powered incentives, such as price-based contracting schemes are suitable for market transactions (where the assets are not specialized); and lower powered incentives are appropriate in hybrids and hierarchies. Finally, hierarchies require the greatest degree of administrative control, compared to hybrids and markets.

Research in the hospitality industry shows the link between hybrid governance forms and asset specificity. For example, Akbar and Tracogna (2018) have characterized sharing platforms, such as Airbnb as a “hybrid” form of governance, based upon several factors (e.g., the contract form, scope of exchange, identity of parties, communication means, etc.). The sharing platforms usually involve moderately specialized assets. However, the authors propose that *higher* levels of investments in specialized assets (e.g., provision of specific rooms or services) can lead to the platform owner adopting greater integration mechanisms.

***Prior knowledge of contract design.*** Researchers have examined how the knowledge of contract design is critical to organizational learning in strategic alliances (e.g., Argyres and Mayer, 2007; Mayer and Argyres, 2004). The knowledge of contract design involves task/legal and relational aspects (e.g., Gibbons and Henderson, 2012). For example, Lumineau and Malhotra (2011) argued that a firm’s knowledge of *which* contract design to use is a significant part of the contracting process. The focal firm in their study accomplished this by having several lawyers prepare multiple contract designs. The contracting process also entailed a thorough knowledge of the contract’s legal and protective functions, as well as how to align expectations with the firm’s partner. This required an understanding of the way of allocating resources between contract drafting and operational tasks, in particular by devoting more financial resources to contract making. Contract design also implicitly entails relational knowledge – i.e., knowledge of payoff to cooperation for each party, each party’s ability and incentive to defect, and the actions and payoffs that constitute punishment (Gibbons and Henderson, 2012).

### **Combinative Governance Capabilities (Box II)**

Kogut and Zander (1992) used the term “combinative capabilities” to refer to the integration or *combination* of a firm’s *stock of knowledge*, *internal learning* (through accidents or deliberate experiments), and *external learning* (e.g., through strategic alliances). External learning as part of the co-evolutionary process in strategic alliances will be discussed later in this paper. Numerous scholars have differentiated between “know-what,” i.e., a firm’s stock or content of knowledge and “know-how,” – i.e., internal learning or “the accumulated practical skill or expertise that allows one to do something smoothly and efficiently” (Garud, 1997). However, this paper *combines* the firm’s stock of knowledge and internal learning processes to examine their impact on a firm’s absorptive capacity.

In particular, this paper examines a firm’s governance capabilities as an example of its combinative capabilities because the governance capabilities are particularly

significant in TCE. Hoetker and Mellewigt (2009) have separated the term “governance” from “governance capabilities.” *Governance* is a higher-level concept that refers to the institutional framework (e.g., “strategic alliance”). *Governance capabilities* are the mechanisms or operative practices “underlying concrete management and control activities, which describe in detail how the required behavior of the partner will become ... influenced ... in which ways the desirable or predetermined gains are to be fulfilled” (Hoetker and Mellewigt, 2009: 1027). This paper states that “governance” (strategic alliance) as a higher-level concept is supported by “governance capabilities” as mechanisms that contribute to a firm’s absorptive capacity so that the firm can solve the problems of safeguarding, cooperation, and coordination.

Hoetker and Mellewigt (2009) identify two types of governance capabilities – *formal* and *relational* that are usually associated with non-specific and firm-specific assets respectively (Williamson, 1985). Some examples of *formal governance capabilities* include business plans, balance sheets, performance indices, profit and loss accounts, internal prices, economic efficiency calculations, reports, and service level agreements. The relational governance capabilities are generally directed toward building open communication, cooperation, trust, and social identification between alliance partners. Some examples of relational governance capabilities include steering committees, teams, task forces, project groups, expert committees, cooperation managers, face-to-face meetings, mechanisms for shared decision-making (e.g., joint goal setting, problem solving, and partner development activities), and direct managerial contact through trips, meetings, and managerial transfer. Here, relational governance capabilities refer to the actual *means* for decision-making and dispute resolution for building trust.

The formal governance capabilities are primarily geared toward monitoring and controlling the opportunism in contracting by incorporating various safeguards. Therefore, they are likely to be positively related to *behavioral efficiency*. They are also likely to be positively related to *operational efficiency* because they can reduce the costs associated with slack and bureaucratic waste (Williamson, 1991a). However, formal governance capabilities are rather rigid in terms of dealing with any contingencies if the contract drifts out of alignment. Therefore, they are likely to limit the *flexibility* and *scope* of absorptive capacity.

Although relational capabilities also eventually help mitigate opportunism and transaction costs, they are not as efficient as formal capabilities because they are inherently time consuming. However, these capabilities positively influence the flexibility and scope of absorptive capacity because they are adaptable to new contingencies.

Proposition 1: The formal governance capabilities are positively associated with (a) behavioral and (b) operational efficiency dimensions of absorptive capacity; and the relational capabilities are positively associated with (c) flexibility and (d) scope dimensions of absorptive capacity.

### **Exploration and Exploitation (Box IV)**

March (1991) discusses the difference between exploration of new possibilities and exploitation of old certainties in the context of organizational learning. *Exploration* is captured by “terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation,” whereas *exploitation* captures “such things as refinement, choice, production, efficiency, selection, implementation, execution”

(March, 1991: 71). Exploration and exploitation as knowledge absorption mechanisms have been addressed in the hospitality industry research. For example, competitive pressure leads hotels to pursue service *innovation* (exploration) as opposed to service *improvement* (exploitation) (Tang, 2014).

The *efficiency* (behavioral and operational) dimension of knowledge absorption is associated with the exploitation of a firm's knowledge because exploitation primarily involves refinement and extension of *existing* competencies and paradigms (Van den Bosch *et al.*, 1999). On the other hand, the *scope* dimension is associated with the breadth or the *new boundaries* of knowledge that a firm draws upon. Similarly, flexibility of knowledge absorption refers to the extent to which a firm can access *new*, and *reconfigure* existing knowledge.

Proposition 2: Exploitation is positively associated with (a) behavioral and (b) operational efficiency; and exploration is positively associated with (c) flexibility and (d) scope dimensions of absorptive capacity.

### **Co-evolution of Absorptive Capacity with Knowledge Environment (Box V; Arrows 1, 2)**

Sutcliffe and Zaheer (1998) have differentiated behavioral uncertainty from primary uncertainty (Box VI). *Behavioral uncertainty* arises from the unpredictable opportunistic actions of the exchange parties. *Primary uncertainty* (similar to *exogenous uncertainty*, mentioned earlier in this paper) as “a lack of knowledge about states of nature, such as the uncertainty regarding natural events” (Sutcliffe and Zaheer, 1998: 3). Primary uncertainty usually arises from changes in the exogenous sources, such as natural events, as well as social, economic, political, and technological changes. It reflects the lack of knowledge about various states of nature.

Traditionally the TCE literature has emphasized behavioral uncertainty and different ways (e.g., governance forms) to mitigate the behavioral uncertainty and the attendant transaction costs (Sutcliffe and Zaheer, 1998). Strategic alliances typically involve moderate levels of behavioral uncertainty because they represent cooperative relationships between exchange partners – while competing for the joint gains and pursuing their own interests.

Arguably, the COVID-19 pandemic has brought about extreme changes in *primary uncertainty* substantially more than behavioral uncertainty. Recently, Baker *et al.* (2020) used three indicators – stock market volatility, newspaper-based economic uncertainty, and subjective uncertainty in business expectation surveys – to capture the enormous increase in primary uncertainty. The authors' findings reveal that the COVID-19 pandemic has created a significant uncertainty shock – larger than the one associated with the financial crisis of 2008-09 and more similar in magnitude to the rise in uncertainty during the Great Depression of 1929-1933. On the other hand, Rao and Greve (2018: 20), in a recent study of business cooperatives during the Spanish Flu (perhaps the most widely studied contagious disease until the onset of COVID-19 because of its impact), have argued that “disasters attributed to an act of nature evoke a sense of shared fate which fosters cooperation.” This indicates diminished behavioral uncertainty. Therefore, the impact of primary uncertainty in the pandemic should *substantially* exceed the influence of behavioral uncertainty in the short run.

***Co-evolution of asset specificity knowledge and absorptive capacity.*** Changes in asset specificity under significant primary uncertainty pose a challenge for the firm. The

deepening of asset specificity, coupled with bounded rationality and information impactedness, makes internalization of assets an attractive option from the behavioral efficiency perspective. If the contract were organized outside the firm's boundaries, transaction costs would increase substantially because of intense bargaining and negotiation between opportunistic parties, when confronted with rising primary uncertainty and unanticipated contract contingencies. Although some authors (e.g., Williamson, 1981, 1985) have argued that increased asset specificity would also contribute to operational efficiency in internalization because of the accompanying economies of scale, the sharp increase in bureaucratic costs would offset any such gains and in fact, increase the overall operational inefficiency. Furthermore, increased asset specificity would also contribute to a lack of scope and flexibility in terms of whether an asset can be deployed by an alternative user or in alternative use.

Proposition 3: Under *increased* primary uncertainty, *increased* asset specificity is associated with *increased* (a) behavioral efficiency and *decreased* (b) operational efficiency; and it is associated with *decreased* levels of (c) flexibility and (d) scope dimensions of absorptive capacity.

Traditionally, asset specificity is defined as the lack of ease (efficiency) with which assets (human and physical) can be redeployed (Williamson, 1985). This assumes that an asset loses value when it is redeployed to alternative users *or* alternative uses. However, this definition masks the crucial difference between *firm-specificity* that entails strategic commitment and *usage-specificity* that involves flexibility (Kulkarni and Ramamoorthy, 2005). An asset is *firm-specific* if it loses value when used by another user. On the other hand, an asset is *usage-specific* if it loses value when a firm uses it differently or deploys it in another activity. The distinction between firm-specificity and usage-specificity of assets is particularly important in view of increased primary uncertainty. The dilemma for a firm facing significant primary uncertainty is as follows: A commitment to investment in firm-specific assets and internalization increases inflexibility and operational inefficiency although it reduces transaction costs, thereby increasing behavioral efficiency. On the other hand, outsourcing firm-specific assets increases flexibility and operational efficiency although it also increases transaction costs and behavioral inefficiency.

Therefore, a firm ideally needs to identify the assets that are *both*, firm-specific and usage-flexible to avoid such a tradeoff (Kulkarni and Ramamoorthy, 2005) under significant primary uncertainty. This paper argues that an organization, under significant primary uncertainty, continually reassesses its knowledge regarding whether its assets are firm-specific *and* usage-flexible so as to find out if they are *co-specialized* with the alliance partner's assets. That is, a firm's assets may be specific to a strategic alliance *collectively* with the transaction partner's assets (e.g., Santoro and McGill, 2005). Furthermore, *site specificity* and *temporal specificity* of assets can contribute to changes in co-specialization particularly when primary uncertainty rises considerably. In other words, a firm's non-specific (*and* usage-flexible) physical and human assets become co-specialized with the alliance partner's assets in the presence of site and temporal specificity. Site specificity arises when assets are located in a cheek-by-jowl relation to each other (Williamson, 1985). Temporal specificity refers to the loss of asset value when a task is not performed in a timely manner (Masten *et al.*, 1991).

Both, site and temporal specificity (along with other types of asset specificity) have

been known to influence contracting decisions in the hospitality industry (e.g., Lamminmaki, 2005).

For example, some hospitality firms have partnered with consumer products goods companies to allay customer fears about safety and hygiene. Hilton recently partnered with RB (maker of cleaning products, such as Lysol and Dettol) to create the “Hilton Clean Stay” program in order to assure the customers that their rooms have received deep cleaning. Both, hotel rooms and cleaning products, *by themselves*, are not firm-specific (although usage-flexible). However, together they create a *co-specialized* asset in the partnership because of their timeliness. Another example is where hotels have leveraged their kitchen facilities and partnered with up-and-coming chefs looking to expand out of their food trucks attracting new customers to a hotel’s food and beverage offerings.

Hotels can also partner with local car washing services, regional and national gas stations, and roadside “hospitality” services to *collectively* provide a unique (*specialized*) brand experience to a road traveler as part of the road trip (Stevens, 2020). Another example of site and temporal specificity is when 20 New York City hotels *partnered* with the city to convert hotel rooms into additional hospital space to create 39,000 additional beds (Pazmino, 2020). Many hotel workers (presumably non-specific) – in consultation with hospital staff – will help convert floors into hospital wings, build nursing stations, and outfit rooms to house patients who are in need of medical care. To convert a hotel into a makeshift COVID-19 camp, the Army Corps recommends adding the following to rooms (García-Hodges, 2020): “a bedside table or a cabinet that can hold a ventilator ... an IV stand, a puncture-proof box for needles and gloves, a receptacle for infectious waste and a hand sanitizer station.” It also recommends several labor-intensive changes, including removing carpet to cut down on contamination and adding electrical outlets and emergency backup power.

Furthermore, the strategic alliances here not only enhanced a firm’s ability to *exploit* the existing (firm-specific *and* usage-flexible) assets but they *also* allowed the firm to *explore* innovative ways of forming new alliances in a turbulent environment characterized by high primary uncertainty. Firms that are superior learners can change relatively easily between exploitation and exploration (Swift, 2016).

Proposition 4: Under *increased* primary uncertainty, *increased* firm-specificity *and* usage-flexibility of assets are associated with *increased* (a) behavioral efficiency, (b) operational efficiency, (c) flexibility, and (d) scope dimensions of absorptive capacity.

***Co-evolution of contract design knowledge and absorptive capacity.*** The task/legal and relational aspects of contract design knowledge (e.g., Gibbons and Henderson, 2012) continue to evolve under primary uncertainty. For example, Lumineau *et al.* (2011) have studied in depth how a firm can learn about the contracting nuances and changes in a strategic alliance over a period of time. The authors stated that the firm (named “Mediacorp”) had only a broad idea about the alliance scope in the beginning. Because of looming uncertainty, many successive contractual drafts were needed to clarify the precise nature of the activities to be implemented. The company lawyers eventually “developed the description of agreement duration, confidentiality, sanctions, and conflict resolution techniques, referring to standard alliance contract structure and industry templates” (Lumineau *et al.*, 2011: 26). Because of uncertainty, the managers

learned only *later* that a common contracting practice (external knowledge) was to set the royalties at 30% and not 35%, as was proposed originally – even though the company managers had access to external knowledge, such as templates of intellectual property contracts, general contract structure, and writing. Similarly, relational knowledge pertaining to a contract also evolves under primary uncertainty. For example, developing relational knowledge over time may involve refining the shared understanding between strategic alliance partners about unexpected payoffs under uncertainty and credibly communicating the information to each other without triggering the perception that they are renegeing on the contract (Gibbons and Henderson, 2012).

Argyres and Mayer (2007) studied the contracting process in three firms, and asserted that the contracting process needs to be aligned not only with the transaction attributes (e.g., asset specificity, behavioral uncertainty) but also the types of employees participating in the contracting process. For example, the operations experts (e.g., engineers) and managers usually have in-depth knowledge of roles/responsibilities, decision/control rights, and communication channels. On the other hand, lawyers usually have sound knowledge of allocation and decision rights, and dispute resolution processes. Although this paper does not examine the impact of different types of employees on the contracting process, the aforementioned statements illustrate the strengths and challenges of developing specialized knowledge regarding various contracting aspects over time. It is argued that under significant primary uncertainty, any *deepening* of specialized contracting knowledge (e.g., relying on, say, legal dispute resolution aspects, to the relative neglect of *other* contracting aspects, such as relational knowledge) may lead to increased behavioral and operational efficiency because of increased *focus*. On the other hand, when a firm pools and leverages the knowledge of *multiple* contracting aspects under primary uncertainty, it should increase the scope and flexibility of the firm's absorptive capacity.

Proposition 5: Under *increased* primary uncertainty, *increased* levels of specialized contracting knowledge is associated with *increased* (a) behavioral efficiency and (b) operational efficiency; and it is associated with *decreased* (c) flexibility and (d) scope dimensions of absorptive capacity.

### **Co-evolution of Combinative Governance Capabilities (Arrow 3)**

Under significant primary uncertainty, significant changes in exploration and exploitation activities may result in the firm deliberately changing the organizational determinants of absorptive capacity – such as making changes in its combinative governance capabilities. Here, “new” means either to the firm, to the industry, or to the knowledge environment (Van den Bosch *et al.*, 1999: 559).

Increased primary uncertainty should be accompanied by greater emphasis on exploration and relational capabilities rather than exploitation and formal capabilities, given bounded rationality and information impactedness, because the contractual provisions in such circumstances are likely to be more incomplete than those in a stable environment. For example, Lumineau and Quélin (2012: 35-36) have stated that an increased emphasis on relational governance capabilities means that a firm renews or signs another contract with the alliance partner and shares more information in order to develop a trusting atmosphere. Ness (2009) outlined the evolution in strategic alliances from formal to relational practices over time. For example, a firm may

emphasize the “price” (along with other economic incentives) in the initial stages of the alliance and the distribution of money may be a contentious issue. Joint work groups may include elements of dispute resolution. However, as the strategic alliance evolves, the exploitation of formal governance mechanisms is increasingly substituted with the exploration of relational practices (e.g., norms contributing to joint problem solving).

Proposition 6: Under *increased* primary uncertainty, *increased* levels of exploration (as opposed to exploitation) are associated with *increased* levels of relational governance (as opposed to formal governance) capabilities.

### CONTRIBUTION TO RESEARCH

Firms have often used strategic alliances as a strategy to cope with increased uncertainty. However, a firm needs the requisite *absorptive capacity* to exploit and explore its *contracting knowledge* in strategic alliances. This paper conceptually examines how a firm’s *contractual absorptive capacity* – an important, albeit understudied construct – co-evolves with its knowledge environment under uncertainty. It illustrates some of the concepts with examples in the hospitality industry that is particularly impacted by primary uncertainty created by the COVID-19 pandemic. By integrating TCE and organizational learning (e.g., Argyres and Mayer, 2007), and examining the co-evolution of a firm’s contractual absorptive capacity with the knowledge environment, this paper offers a deeper understanding of the phenomenon.

### IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

#### Implications for Future Research

The absorptive capacity of a firm engaged in a strategic alliance is often subject to a paradox under increased uncertainty, as evident in the literature on strategic commitment and flexibility (e.g., Schreyögg and Kliesch-Eberl, 2007). A commitment to firm-specific assets under uncertainty is usually viewed as an enhancement in behavioral efficiency but a sacrifice in flexibility. This paper incorporates a more refined (and underexplored) conceptualization of asset specificity – user/usage (e.g., Ghemawat and del Sol, 1998) and uncertainty – primary/behavioral (e.g., Sutcliffe and Zaheer, 1998), two key TCE constructs. This conceptualization is fundamental to understanding how a firm with user-specific *and* usage-flexible assets can *balance* the *otherwise-conflicting* demands among various dimensions of absorptive capacity under increased primary (compared to behavioral) uncertainty. Future researchers may investigate how the various dimensions of absorptive capacity in a strategic alliance with firm-specific *and* usage-flexible assets can generate a *sustainable competitive advantage* (e.g., Preble *et al.*, 2000) when the primary uncertainty *diminishes*.

The above line of inquiry is relevant for research on routines and path dependencies – i.e., the evolution of a process as a function of its own history (e.g., Sydow *et al.*, 2009), dynamic capabilities (e.g., Mowery *et al.*, 1996), and punctuated equilibrium and adaptation (e.g., Gupta *et al.*, 2006). For example, researchers may examine how the development of contractual absorptive capacity (involving firm-specific *and* usage-flexible assets) in strategic alliances as a dynamic capability *during* the uncertainty-driven punctuated equilibrium may *eventually* lead to successful adaptation, path dependencies, and possibly a sustainable competitive advantage. On the other hand, path

dependencies are sometimes accompanied by organizational inertia (Sydow *et al.*, 2009). It would be interesting to study how a firm's co-evolutionary absorptive capacity process overcomes inertia and sustains the competitive advantage when the primary (e.g., pandemic-related) uncertainty diminishes and the environment assumes greater stability.

### Implications for Practice

Although strategic alliances have been used widely, this paper cautions managers that the uncertainty created by the COVID-19 pandemic has served as a bold reminder to be attentive to the *processes* by which they can *continually* develop the *capacity* to assimilate their knowledge of *contracting* in order to enhance efficiency, scope, and flexibility for successful adaptation. Some of these processes include incorporating changes in asset specificity, knowledge of contract design, and governance capabilities under uncertainty. Furthermore, managers also need to be alert to the possibility that some of the innovative, path-dependent routines created during knowledge assimilation during the pandemic can become the "new normal," and perhaps be a source of sustainable competitive advantage.

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