Coolly provocative: a microfoundational framework of interorganizational cultural distance and exploratory innovation

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Abstract

Purpose – Interorganizational collaboration has been a major source of exploratory innovation. Despite much research, the authors' understanding about how partner cultural distance is harnessed for exploratory innovation is limited. The authors' conceptual framework aims to address this gap by explaining the social-psychological processes between perceived partner cultural distance and exploratory innovation.

Design/methodology/approach – Drawing on research in organizational learning and culture mixing, the authors propose a multilevel model with two parallel processes – cultural brokering and cultural defense. If managers are engaged in the former and are protected from the latter, then the partnership will produce more exploratory innovation. Cultural brokering is encouraged by prompting a learning mindset, while cultural defense is preempted by dampening social categorization across organizational boundaries.

Findings – Cultural brokering can be encouraged by building operational-level managers' (OLMs') collaborative strength through developing a learning orientation, allowing them delivery for exploration, cultivating mutual trust with partners. Cultural defense can be preempted by protecting OLMs from intergroup anxieties through providing organizational support to the OLMs, bridging social categorization faultlines and setting shared collaborative goals. Whether an alliance can unleash its potential depends on not just how cultural brokering is enabled but also how cultural defense is curtailed.

Originality/value – This paper takes a microfoundational approach and considers micro-level processes in a partnership. Furthermore, the model takes the operational managers' perspective and defines culture at the organizational level. All these differences allow us to provide a nuanced picture of how diverse partnerships can be harnessed for exploratory innovation through a few easily-implementable measures.

Keywords Innovation, Exploration, Cultural distance, Cultural defense, Interorganizational collaboration, Cultural brokering

Paper type Research paper

Introduction

Interorganizational collaborations have grown in importance for firms in their quest for innovation, especially in fast-moving industries (Ryan *et al.*, 2018; Van de Ven, 2005). Exploratory innovation, defined as the pursuit of knowledge that is yet to be known

(Levinthal and March, 1993; Rothaermel and Deeds, 2004), is particularly challenging. On one hand, collaborating with partners that are culturally distant allows firms to gain access to experiences and perspectives that are sufficiently different for more exploration (Beckman and Haunschild, 2002; Powell and Grodal, 2005); on the other hand, relationships between culturally distant partners are susceptible to dysfunctional conflicts and knowledge transfer failures (e.g. Barkema and Vermeulen, 1997; Cullen *et al.*, 1995; Kogut, 1988; Park and Ungson, 2001; Parkhe, 1991; Sarkar *et al.*, 2001). Instead of gaining new ideas, firms may be saddled with investment losses, uncompensated transfer of proprietary technologies and reputation damages. Despite years of research, alliance success rate still hovers at around 30% (Weber-Rymkovska *et al.*, 2017). Where value is created, it often falls below partner expectations (Niven, 2016). Although this could be due to a host of reasons, the difficulties of navigating across cultural distances contribute significantly. This conundrum brings the question of how organizations with vastly diverse cultures can make the best of their differences for exploratory innovation without provoking relationship challenges.

Despite the wealth of research linking interorganizational relationships and innovation (Contractor and Reuer, 2019), our understanding of how cultural differences in interorganizational collaborations can be harnessed for innovation is limited (Barringer and Harrison, 2000; Elia *et al.*, 2019; Reuer *et al.*, 2002). Instead of tackling partner cultural distance head-on, many researchers have advocated avoiding it by selecting culturally similar partners (e.g. Barringer and Harrison, 2000; Deeds and Hill, 1998; Johnson *et al.*, 1996; Sarkar *et al.*, 2001). Where the selection of culturally similar partners is implausible, it is often suggested that the partners forge common values and focus on their similarities (Das and Teng, 1998; Inkpen and Tsang, 2005). Yet, by avoiding cultural differences instead of managing it, partners limit the potential of collaborations by suppressing divergent perspectives. This is especially problematic for exploratory collaborations (Hsu and Lim, 2014; Nooteboom *et al.*, 2007).

We contend that the relationship between partner cultural distance and interorganizational innovation is more nuanced than how it has been studied. Taking a multilevel approach that draws on insights from research on both organizational learning and culture mixing, we propose that the ability to unlock the innovation potential provided by interorganizational cultural distance depends on two factors: (1) the strength of the cultural brokering process, i.e. the process through which managers negotiate the cultural differences between partners in order to notice, comprehend and assimilate ideas from partners and (2) the protection of managers against the cultural defense process, i.e. the process through which managers cope with the naturally occurring anxieties due to the unknown and uncertainty brought by cultural differences. In other words, cultural distance *per se* is not the problem. The key lies in the management of individual affect and cognition when cultural distance exists and the prevalent intercultural mindset is the heart of that key. If the learning mindset dominates the competitive mindset, cultural brokering is enabled and cultural defense is weakened, leading to positive outcomes for the partnership.

Our theoretical framework departs from extant research in three ways. First, unlike conventional interorganizational relationship and organization learning research, which tends to take an organizational or institutional perspective (Andreu and Ariño, 2019; Cui, 2019; Mazzucchelli *et al.*, 2019; Park and Harris, 2014), our model focuses on the microfoundational processes that take place at the individual level and examines how they influence higher level phenomena (Felin *et al.*, 2012). Collaborations are carried out by individuals whose affect and cognition may influence behaviors. Without examining how individual social psychological processes percolate through an interorganizational collaboration, we risk taking too broad a stroke in determining what needs to be done about partner cultural distance.

Second, our model includes two parallel processes that take place simultaneously. We conceptualize cultural distance as a partnership-level construct that represents the potential for innovation. It remains a potential until individuals in the cross-cultural interface react to it.

In a partnership, individuals expend energy and cognitive resources to broker cultures while overcoming anxiety triggered by cultural distance (Hobfoll, 1989, 2001; Kruglanski et al., 2012). These dual psychological processes both draw on the same pool of motivational and cognitive resources. Therefore, the path from partner cultural distance to innovation is more complex than typically portrayed. Instead of linking cultural distance and innovation in a direct relationship, we contend that the resultant innovation depends on the dynamics between the two processes.

Third, our framework focuses on organizational-level rather than national-level cultural distance, which is typical in the literature (e.g. Elia et al., 2019; Inkpen and Tsang, 2005; Johnson et al., 1996; Park and Ungson, 1997). While partners vary in terms of both organizational and national culture, focusing on the former allows the flexibility to incorporate national culture, as the culture of an organization often reflects elements of the national culture or cultures in which it is situated. For instance, commercial organizations and universities may have drastically distinct cultural elements that can influence their innovation journeys due to how innovators are motivated in the two types of organizations (Ryan et al., 2018; Slavova and Jong, 2021). Such differences may or may not be more pronounced across nations. If we consider national cultural distance, then we will miss these consequential differences; if we consider organizational cultural distance, then we can capture both these differences and the variation at the national level. More importantly, consistent with the social constructivist concepts of culture, we argue that partner cultural distance depends on the social construction of the operational-level managers (OLMs) (Lee et al., 2015). Even if organizations appear culturally different to others, they may seem culturally similar to OLMs. The OLM perspective is what matters in our model and we define cultural distance based on that.

In the following section, we review the literature on partner cultural distance and interorganizational relationship innovation, before explaining how the micro foundational approach can add to our understanding. Next, we build upon research on organization learning and culture mixing to introduce our dual-process model, which explains how innovation can be promoted or inhibited in a partnership. We conclude our paper with implications for both research and practices in interorganizational innovation management.

Theoretical background

Interorganizational cultural distance and exploratory innovation

An interorganizational collaboration is a voluntary arrangement between organizations to exchange resources for the development of products, services, or technologies (Gulati, 1998). Its purpose may be for many reasons, such as market growth, cost reduction and innovation. Among different types of innovations are two broad categories – explorative or exploitative (Cui et al., 2018; Koza and Lewin, 1999; March, 1991). We focus on collaborations formed for exploratory innovation in this paper. Exploratory innovation emphasizes the "Research" in the "Research and Development" process, with an aim to synthesize knowledge to discover new opportunities and solutions that stem from new technologies, new production or organizing processes, or brand-new markets that may bring value to consumers upon further development (Fagerberg, 2005; Janssen et al., 2004; Koza and Lewin, 1999; Rothaermel and Deeds, 2004). Although the outcome of an exploratory partnership tends to be uncertain and temporally distant, it is critical to an organization's sustainability (Mazzucchelli et al., 2019; Rosenkopf and Almeida, 2003). Exploratory innovation depends on the noticing, understanding and recombining of novel knowledge. It is often tacit in nature and is difficult to articulate (Ryan et al., 2018). As it consists of non routinized searches and experimentation that often lead to unpredictable alternatives and results, exploratory innovation tends to require high interdependence between collaborating partners (Cui et al., 2018; Rothaermel and Deeds, 2004). While collaboration difficulties do come from issues

associated with opportunistic behaviors, which have been widely studied (Hennart, 1993), considerable challenges, including dealing with cultural distance, often exist even when partners have the best of intentions.

Current understanding about the linkages between partner cultural distance and interorganizational exploratory innovation seems to have left us in a Catch-22 situation: innovation tends to occur in partnerships with big cultural distance, which may appear to be too challenging for innovation. In an exploratory partnership, the complementarity of knowledge and resources between partners is indicative of the potential for innovation. The more diverse partner cultures are, the more likely that the collaboration would bring together resources, learning paths, routines, perspectives and knowledge pieces that are new to partners, stimulating and fostering innovation (Mazzucchelli *et al.*, 2019; Sarala and Vaara, 2010). However, much research has also focused on the negative impact of partner cultural distance. Culturally distant partners bring into the collaboration vastly different social norms, language and communication patterns, values, attitudes, beliefs, interpretative routines and schemes – differences that make the acquiring and leveraging of knowledge across organizational boundaries extremely challenging (Stahl *et al.*, 2010). Conflicts and misunderstandings are also more likely when partners have diverse cultures, obstructing the flow of information and learning and causing the partnership's demise (Contractor and Reuer, 2019). Such negative impacts are particularly pronounced in exploratory partnerships because of the high interdependence of the work. The coordination and negotiation costs may become too high for these partnerships to be viable (Bell and Zaheer, 2007). Recent research has begun to untangle the mixed evidence presented hitherto. Elia and colleagues (2019) found that among partnerships formed to explore new technologies, the benefits of cultural distance often outweighed the added coordination and negotiation cost. Nevertheless, the processes between partner cultural distance and innovation are more nuanced than the picture painted and a microfoundational approach is warranted.

Toward a microfoundational approach

Theories and research pertaining to interorganizational innovation and organizational learning mostly center on the examination of innovation as explained by organizational- or interorganizational-level properties (Albers *et al.*, 2016; Chandler and Hwang, 2015; Farlan *et al.*, 2019; Park and Harris, 2014). Insufficient attention has been paid to the underlying micro-level processes that take place among individuals involved in the daily operation of the collaboration, which directly influences collaboration success (Chandler and Hwang, 2015; Cui, 2019). In fact, Andreu and Ariño (2019) observes that even studies discussing coordination and learning in alliances tend not to focus directly on the micro-level processes. Instead, interpersonal theories are often applied to explain organizational or interorganizational dynamics (Phelps *et al.*, 2012). Such theoretical isomorphism across levels of analysis is problematic in the study of interorganizational innovation.

First, much of the theorizing about interorganizational innovation ultimately hinges on the interactions among managers, such as knowledge exchanges and conflict management – micro-level processes that are often conflated with interorganizational-level constructs such as cultural distance and are seldom studied directly. However, these are independent concepts that may not correlate perfectly. It is unrealistic to assume that all managers are uniform when their actions and decisions are often idiosyncratic in nature (Felin *et al.*, 2012). Abell *et al.* (2008) argue that by glossing over the role of individuals, we open the door for alternative explanations. Hence, it is crucial to comprehend directly the intermediate micro-level processes that occur when managers encounter distant partner cultures.

Second, research in alliance management and organizational learning has often been framed from the perspective of senior-level managers making decisions on behalf of their organizations. Such a perspective is suitable for the discussion of the motivations and

structures of a collaboration *ex ante*. However, the more interdependent partners are, the harder it is for senior managers to anticipate all contingencies and the more daily learning, information processing and mutual adjustments are left to the OLMs (Andreu and Ariño, 2019; Dyer *et al.*, 2001). In addition, managers at different levels may have different understandings and interpretations of a strategy, which may affect their decision processes (Cui, 2019). For instance, OLMs may share information while interacting with their counterparts during a collaboration without realizing that it may pose strategic risks for their organization. Hence, OLMs play an influential role in deciding the trajectory and outcome of collaborations (Albers *et al.*, 2016; Hawkins and Rezazade, 2012; Levina and Vaast, 2005). Although individual OLMs may play relatively small roles in the collaboration, collectively their affect and cognition have the potential to accumulate and influence alliance outcomes. Thus, the comprehension of the social-psychological underpinnings of OLMs' behaviors may be even more crucial than those of the senior managers.

Thus, we take a microfoundational approach in our framework to explain a collective phenomenon through a multilevel, temporal lens (Felin *et al.*, 2012). The characteristics of individual OLMs, processes that they create, the macro context in which they are situated and the interactions of these factors are all considered in explaining experiences at the organizational or interorganizational level (Felin *et al.*, 2012; Mazzucchelli *et al.*, 2019; Park and Harris, 2014). These collective phenomena include macro-level constructs frequently used by strategy researchers to represent knowledge and firm-specific capabilities, such as routines, knowledge pieces and coordination schemes (e.g. Dosi *et al.*, 2000). The microfoundational approach allows us to consider OLMs as individuals with a spectrum of affective, cognitive and behaviors rather than as uniform "parts of a machine" (Cui, 2019). It allows us to illustrate how variations of individual OLMs' behaviors explain outcome differences at more macro levels through bottom-up, emergent processes (Chandler and Hwang, 2015; Felin *et al.*, 2012).

Indeed, while individual feelings, thoughts and behaviors may appear to be fleeting, they often evolve into phenomena that are persistent and self-perpetuating. In a social system such as an interorganizational partnership, individual feelings, thoughts and activities may conform to the opinions and values of others, leading to their rationalization, legitimation and institutionalization into routines, norms and structures of the social system (Chandler and Hwang, 2015; Powell and DiMaggio, 1991). These routines, norms and structures tend to persist over time. Many researchers have acknowledged, albeit indirectly, the institutionalization of fleeting feelings, thoughts and behaviors into routines, norms and structures that are more enduring than intended by any of the individuals involved (Doz, 1996; Koza and Lewin, 1999; Simonin, 2004).

A multi-level dual-process framework

Organization learning across cultures

To build a microfoundational framework for partner cultural distance and innovation, we draw on research in organization learning, particularly the concept of exploration (March, 1991). Although this line of research tends to have the same issue of theoretical isomorphism across levels of analysis as alliance research (Farlan *et al.*, 2019), the formulation of some of the key concepts is highly compatible with a multi-level framework. In fact, organization learning research considers individuals as sensemaking agents who socially construct routines, schemes and processes in a larger context (Chandler and Hwang, 2015). Recent research found that learning at the organizational level depends on the actions and perceptions of individuals (Farlan *et al.*, 2019; Park and Harris, 2014; Ryan *et al.*, 2018). Here, we consider individual OLMs active agents who shape organization learning processes by making sense of and ascribing meanings to their situations, interpreting information they encounter and enacting behaviors accordingly.

Exploration is generally defined as the pursuit of knowledge and things that are yet to be known (Levinthal and March, 1993; Rothaermel and Deeds, 2004). It begins with a wish to discover something new; through basic research, risk-taking, or what March (1991) would call "experimentation with new alternatives," new capabilities are built for uncertain and temporally distant outcomes. A small proportion of these outcomes can be developed further to create immense value for organizations (Cohen and Levinthal, 1990). Due to the uncertainty and ambiguity surrounding the exploration process, individuals involved in it will need to engage in an immense amount of learning, through which their interpretations of the problems and opportunities may shift (Park and Harris, 2014). For this paper, exploratory innovation could then be defined as the positive outcomes of exploration – the development of new capabilities that have potential to be further developed for value creation.

As mentioned above, the exploration process involves work that is highly interdependent. It is enabled only when complex knowledge is articulated and transferred among individuals. Given that exploration is about discovering something yet to be known and experimenting with different combinations of knowledge pieces, the coordination scheme cannot be broken up easily into neat subroutines without knowledge pieces losing their fidelity (West, 2002). Great attention to coordination among OLMs would be required to exchange different types of knowledge pieces (Andreu and Ariño, 2019). It may take repeated meetings, discussions and feedback sessions, during which individual OLMs' assumptions will be questioned and their ability to articulate their ideas will be tested (Farlan et al., 2019; Poppo et al., 2019). The OLMs' willingness and ability to work with their counterparts in a collaboration, including the transmission of new information and knowledge, mutual adjustments, joint problem solving, setting up routines and coordination schemes, are thus key to the success of the exploration.

An OLM's perceptions and interpretations of situations and knowledge units are underpinned by his/her organizational culture and he/she makes decisions and takes actions accordingly. This is especially likely during the initial phase of the collaboration. Culture refers to a set of implicit assumptions about the environment that organizational members share and take for granted (Schein, 1996). It guides how organizational members perceive information they receive, feel and think about situations and behave. It provides a meaning system for both formal and informal decisions and practices such as operational priorities and interpersonal interactions (Adair and Brett, 2005). Nevertheless, organizational members tend not to be aware of their own culture until they encounter a different one.

Cultural distance as innovation potential

Cultural distance in an interorganizational collaboration represents the *potential* it carries for exploratory innovation. Organizations often try to gain access to a diverse pool of knowledge and perspectives by collaborating with others that have vastly different resources, capabilities and cultures in general (Beckman and Haunschild, 2002; Fagerberg, 2005; Powell and Grodal, 2005; Wen et al., n.d). While conceptually separate, technical, market and other resource differences are ultimately embedded in and constrained by the differences in historical and cultural fabrics of the partner firms (Lee et al., 2017; Van de Ven, 2005). Similarly, due to the technical and market differences, OLMs from different organizations also tend to have diverse ways through which they make sense of their environments, different processes through which they make decisions and different thought and behavioral patterns they expect of others – all aspects of organizational cultures (Barkema and Vermeulen, 1997). For example, biotechnology companies and pharmaceutical firms tend to have different but complementary capabilities (drug discoveries and drug commercialization respectively). These differences are reflected in their different organizational cultures, which are reflected in the behaviors of their organizational members (e.g. risk-taking or bottom line conscious). Therefore, even though exploratory innovation comes from the recombination of

ideas from different technical domains, differences in habitualized actions, interactions and beliefs of OLMs are also meaningful.

The wider the cultural distance between partners, the more aware OLMs are of the differences between partners, facilitating exploratory innovation at three levels. First, by encouraging OLMs to consider their ideas in a foreign context, a distal partner culture increases the possibility of these ideas being noticed in a previously untapped context. Research has shown that individuals immersed in a foreign culture are conditioned to reflect on their own assumptions about the world (Adam *et al.*, 2018). OLMs encountering a distal culture may reflect on their assumptions about what they know and see new possibilities in its potential application elsewhere. Second, the awareness of a culturally distant partner necessitates the articulation of ideas to people who are unfamiliar to one's ideas and who will not take assumptions behind these ideas for granted. This pushes OLMs to revisit their ideas and reconsider the validity of their assumptions, thus starting off a process of idea refining. As ideas from one partner being presented to another with a distal culture, they are likely to be scrutinized and challenged by OLMs who are unaware of and have little respect for the history of these ideas. This idea refinement process helps OLMs discover how to articulate their own knowledge and comprehend foreign knowledge at the same time. Third, if the OLMs are prodded to explore questions such as why partner firms do things differently and how to bridge the differences, then they are more likely to entertain the interrelations of foreign and familiar knowledge and perspectives, facilitating the assimilation of knowledge units (Crisp and Turner, 2011). Indeed, Leung and Chiu (2010) shows that individuals exposed to two cultures simultaneously (i.e. culture mixing) sampled more different ideas from both cultures and integrated these ideas more than those who were exposed to only one of the cultures.

Consistent with the above logic, research on creativity found that the presence of different perspectives and authentic dissenting views could lead to elevated levels of idea generation (Austin, 1997; Nemeth *et al.*, 2001; Nemeth *et al.*, 2004). Research on alliances seems to show similar findings. Many organizations make the best of the foreign "thought worlds" contributed by their culturally distant partners, with their OLMs sharing knowledge and learning from each other. They tend to obtain more synergies from these partnerships than those with culturally similar partners (Das and Teng, 2000; Saxton, 1997; Simonin, 1999; Tanriverdi and Venkatraman, 2004). In a study of 1,699 Food and Drug Administration new applications by 98 firms between 1992 and 2002, Dunlap-Hinkler *et al.* (2010) found that innovation was likely to emerge from collaborations between firms foreign to each other. Similarly, research on firm internationalization found that firms that attempted to transfer practices to a distant culture tended to benefit from it (Beugelsdijk *et al.*, 2018).

Culture mixing: co-existence of multiple cultural systems
Nevertheless, it is important to note that cultural distance only represents *potential* ideas and perspectives for exploratory innovation. In an exploratory collaboration with a culturally distant partner, uncertainty and ambiguity are pushed to an extreme. When OLMs from both partner firms attempt to make sense of a yet unknown work environment, they tend to import into the collaboration routines, norms and structures from their home organizations as a coping mechanism (Koza and Lewin, 1999). And it is at this initial stage when OLMs first encounter such manifestations of two cultures side by side, activating two distinct psychological processes. One of these is the cultural brokering process that is relevant to the noticing, comprehending and assimilating of partner knowledge in its own context – this process tends to require cognitive capability and effort (Chiu and Shi, 2019). Cultural brokering results in learning and potentially, exploratory innovation. The other process is the cultural defense process, which has little to do with learning itself but comes naturally with cultural distance – this process tends to consume energy that can otherwise be used for cultural brokering.

These two processes have been examined in the cultural mixing literature, which studies individuals' responses to situations when two or more cultural interpretive lenses coexists in the same sensory and perceptual space (Hao *et al.*, 2016; Yang *et al.*, 2016). Research in culture mixing shows that when exposed to manifestations of two distant cultures simultaneously, individuals' impressions of the two cultures – be it accurate or stereotypical – will be evoked, prompting individuals to interpret, filter and enact information with culture as a schema and driving them to compare and contrast the cultures against each other (Cheng *et al.*, 2011). This process heightens individuals' awareness of the differences between cultures. As individuals focus more on the differences than on the similarities between cultures, they are likely to perceive these cultures as discrete systems with distinct attributes. Individuals respond differently when their own culture is juxtaposed against a foreign one, a situation that prompts them to be either open-minded or feel threatened (Fu *et al.*, 2016; Cheon, 2019). Hence, in the journey of realizing the potential brought by partner cultural distance, OLMs must engage in behaviors that allow them to broker across cultures and gain new knowledge while defending their cultural identities simultaneously.

Encouraging cultural brokering
Cultural brokering includes but is not restricted to the brokering of knowledge across cultures. Innovating between distant cultures can be challenging. First, individuals from distant cultures are likely to have distinct ideas of what problems are worthy of solving, what their priorities are and what goals to be achieved. It takes tremendous effort to reach mutual understanding on the problems and relevant information to notice. Second, even when individuals can agree on what problems to solve and how to tackle the problems, they may filter, interpret and attach meaning to the same piece of information differently (Belderbos *et al.*, 2016). Therefore, the more culturally distant the partners are, the more knowledge stretch the OLMs will feel in assimilating and combining knowledge units (Nooteboom *et al.*, 2007). In culture mixing terms, this means that more effort will be required to reconcile disparate cultural interpretations and achieve mutual comprehension, which is critical to knowledge transfer. Third, exploratory innovation is the novel recombination of ideas. Hence, once OLMs reach mutual comprehension, they will still need to find ways to assimilate and combine knowledge units from the different sources. The above arguments are consistent with the literature on knowledge brokering and absorptive capacity (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998). While great cultural distance between partners can bring immense opportunities for exploratory innovation, these opportunities cannot be captured without significant effort. Only partnerships in which OLMs actively engage in cultural brokering can reap the benefits of great partner cultural distance. Figure 1 depicts our propositions.

P1. Culturally distant partnerships will result in more exploratory innovation through increased levels of cultural brokering among OLMs.

Given that significant effort is necessary for cultural brokering, to sustain high levels of exploratory innovation, partners will need to set the stage early by making cultural brokering easy for OLMs. Certain mindsets are more conducive than others to fostering cultural brokering. As cultural brokering involves comprehending and elaborating ideas, mindsets that predispose OLMs to learning new ideas would set the stage of viewing cultural distance as an opportunity to appreciate and synthesize ostensibly incompatible concepts. Thus, OLMs who are prompted to consider the partnership as a learning opportunity are likely to find cultural brokering more motivating and less effortful. In contrast, if the OLMs are not motivated to learn about distant partners, the potential embedded in the cultural distance will not be realized. Below we propose factors that would prepare OLMs cognitively to activate the cultural brokering process when encountering cultural distance.

Learning orientation. Although many partnerships are formed for mutual learning purposes, not all such partnerships emphasize mutual learning above other objectives explicitly. Hence, OLMs may not enter the partnership prepared to learn from each other. If OLMs enter a partnership preoccupied by many objectives in addition to learning, the added stress may make it difficult for them to engage in rational decision-making and information processing, impairing learning activities. This tension is especially acute in ambiguous situations, such as knowledge exploration (Simonin, 1999). In contrast, if OLMs start the collaboration with learning clearly highlighted as the dominant goal, energy can be channeled readily into joint problem solving and active experimentation with new concepts (Hughes and Weiss, 2007). They are also more motivated to explain ideas to their counterparts and more willing to ask questions that will enable them to comprehend unfamiliar ideas. This is particularly essential if the partner cultural distance is wide.

Indeed, research has indicated that when individuals are consciously guided to focus on learning and integrating perspectives from a foreign culture, they are more able to take advantage of any multicultural experience they have and assimilate concepts from different cultures to solve problems (Janssen *et al.*, 2004; Leung and Chiu, 2010; Leung *et al.*, 2008; Maddux and Galinsky, 2009). In a collaboration between HP and Microsoft, OLMs were explicitly asked to document the differences between the two organizations and reflect on how they might benefit from the differences (Hughes and Weiss, 2007). The OLMs reported to have inspired each other in this process. An explicit emphasis on learning helps focus OLMs cognitively on cultural brokering, readying them to navigate between distant partner cultures.

> *P2.* OLMs in partnerships that explicitly cultivate a learning orientation are more likely to realize the impact of cultural distance on cultural brokering.

Delivery slack. Another factor that affects whether OLMs are cognitively prepared to explore new knowledge from partners is the amount of slack they are given to explore. Exploratory innovation is often quite uncertain, time-consuming and ambiguous (Levinthal and March, 1993) and the collective sensemaking required takes time (Poppo *et al.*, 2019). OLMs in partnerships with culturally distant partners will find it challenging and psychologically
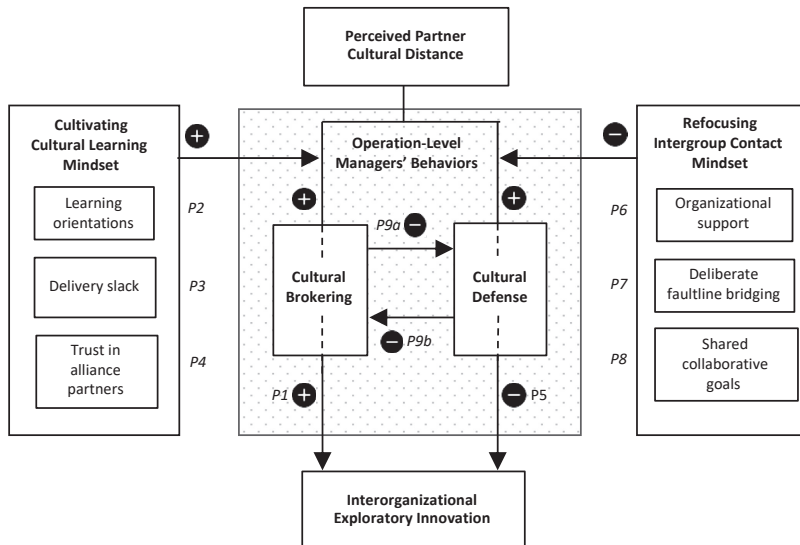

Figure 1.
A dual-process
microfoundational
framework of
interorganizational
cultural distance and
innovation

disconcerting to forgo the comfort of automatic and well-learned routines in exchange for the learning of knowledge and perspectives that are foreign. Similarly, the articulation of ideas to people who are not familiar with the assumptions and concepts behind the ideas is laborious. OLMs facing culturally distant counterparts will find it stressful to explain their ideas. Unfortunately, partnerships formed in search of innovation are often formed in turbulent and high-pressure conditions. And it is inadvertent for senior managers to push the OLMs to deliver. If such pressure dominates the interactions among OLMs before the collaboration commences, they will enter the partnership feeling stressed and even more uneasy about the "distraction" of a foreign culture (De Dreu, 2003; Kruglanski and Webster, 1996); this pushes them to resort to well-learned and deeply ingrained responses for quick result delivery (Chiu *et al.*, 2000; Fu *et al.*, 2007b). To make things worse, if OLMs from different partners are unmotivated to explain their ideas clearly to each other, they become even more foreign and a bigger nuisance to each other, making the integration of diverse ideas more unlikely (Fagerberg, 2005). Leung and Chiu (2010) have found that even individuals with plenty of multicultural experience, when pre-conditioned to perform creative tasks under time pressure, were unlikely to sample foreign knowledge that was incongruent to their own perspectives. Similarly, Hargadon (2002) recalls examples in Boeing and McKinsey where individuals are less willing and less able to share and explore knowledge when they are also pressed for efficiency at the same time. West (2002) also notes that external demands tend to impact exploration negatively. In contrast, individuals who were not rushing for an answer were found to be more likely to benefit from the multiple perspectives brought by culture mixing (Fu *et al.*, 2016). In sum, by giving OLMs more delivery slack to explore, partners allow them the freedom to broker culture for exploratory innovation.

P3. OLMs in partnerships that allow more delivery slack are more likely to realize the impact of cultural distance on cultural brokering.

Trust in alliance partner. A third factor that influences OLMs' preparedness to broker culture is the trust they feel toward their counterparts. Trust refers to the extent to which individuals are willing to be vulnerable to their counterparts (Rousseau *et al.*, 1998). Sharing knowledge and perspectives exposes OLMs and their organizations to the risks of resource appropriation and rent-seeking behaviors by partners and their representatives. The apprehension of being exposed to such risks prevents OLMs from communicating freely in partnerships. The lack of communication between partners is particularly detrimental if the cultural distance is large and the tasks involved are highly interdependent. Partner firms can overcome this obstacle if their OLMs can build trust with each other, allowing them to feel comfortable to take the first step to share knowledge (Krishnan *et al.*, 2006; Powell and Grodal, 2005). Studies have found that partnerships with longer histories tend to have more trust among OLMs and are more likely to see knowledge sharing (Janssen *et al.*, 2004). Trusting relationships and subsequently, in-depth knowledge sharing are also more likely if organizations engage in repeated collaborations with the same partners or embed themselves in a dense network of collaborations (Gulati, 1998; Park and Ungson, 1997; Polidoro *et al.*, 2011; Uzzi, 1997). Exploratory innovation is more likely when OLMs take their minds off the possibility of knowledge loss to partners (Janssen *et al.*, 2004). In fact, trusting and embedded relationships make the investment on partner-specific knowledge-sharing routines and relation-specific assets worthwhile (Dyer and Singh, 1998).

Although trust is typically studied at the organizational level in the alliance literature, ownership of relationships and trust tend to be at the individual level (Cui, 2019). OLMs may signal or initiate the development of trust with each other through behaviors suggestive of openness and receptivity in communication patterns, fairness and discretion in interactions, thereby setting in motion a positive cycle, leading to further behaviors that are conducive to the exchange of knowledge. When GSK Healthcare and Cardinal Health were collaborating on a transparent nicotine patch called NiQuitin, the production director of Cardinal trusted

the GSK director when a rushed order was requested and when he got his production team to work over the weekend to deliver the shipment, his initial trust was repaid by the trust of the GSK director later (Niven, 2016). The strong mutual trust was cited by both as the critical factor to the success of the partnership. Similarly, when Rolls-Royce was looking to assemble a group of strategic suppliers, the Managing Director of TNT Express spoke candidly about his company's limitations but committed steadfastly to developing the necessary capabilities. It signaled to the Rolls-Royce director that they could trust each other in an open and honest relationship. Although such interpersonal trust can be transitory, if OLMs can back up the trust with reciprocal obligations, persistent integrity and consistent openness, then cultural brokering can be sustained.

P4. OLMs who have more opportunities to build trust are more likely to realize the impact of cultural distance on cultural brokering.

Curbing cultural defense
Working across cultures is challenging also due to cultural defense, which occurs in parallel with cultural brokering. Cultural distance between partners lends itself naturally to anxieties among OLMs and these anxieties trigger a cultural defense process that consumes resources that can be expended in the cultural brokering process. When OLMs perceived cultural distance exists between the two organizations, a reflexive cultural defense process could be triggered if they put their identity as members of their home organizations in the forefront of their minds and categorize individuals and perspectives along organizational boundaries. Exposure to a distinct set of values and beliefs from an unfamiliar culture tends to elicit a feeling of uncertainty and threat (Burris and Rempel, 2004). When the different perspectives and ways of the partners are juxtaposed against each other (a culture mixing condition), OLMs may feel that the values and beliefs of their home organizations are threatened, especially with the lack of interorganizational-level norms during the initial period of the partnership. To restore some sense of certainty and security, they are likely to resort to heightened identification with a familiar group or culture, which will provide them a good sense of who they are and how they should behave (Greenberg *et al.*, 1997; Grieve and Hogg, 1999; Hogg *et al.*, 2010). They are also tempted to find an identity anchor in their home organizational identity. Through this process, OLMs are reminded of typical ideologies of their home organizations and are spontaneously prompted to filter information and behave accordingly (Fu *et al.*, 2007a; Hong *et al.*, 2000; Wong and Hong, 2005). Thus, in a partnership with two culturally distinct firms, we are likely to see two groups of individuals having two organizational identities, thinking and behaving according to two different sets of norms. While it does not take much for this splintering to happen (Tajfel and Turner, 1986), the wider the partner cultural distance, the more readily it will occur.

Once OLMs identify with their in-group and behave accordingly, they are easily driven to categorize people and everything else in the partnership into distinct groups along organizational boundaries. Under such a condition, three outcomes are likely. First, those who are considered outsiders are likely to be discriminated against and their perspectives rejected as potential "contaminants" to the in-group cultures. Studies have shown support for such rejection reactions. For instance, individuals tended to express negative feelings such as fear towards economic activities between culturally distant organizations and were likely to resort to solutions that insulated them from those alien organizations when they were prompted to think that their home culture was mixed with a foreign one (Tong *et al.*, 2011). Recent studies showed evidence of disgust when one rejected the forceful blending of one's own culture with a foreign culture, a type of culture mixing condition that prompts a potentially basic biological response (Cheon *et al.*, 2016). Putting this into the context of alliances, we expect OLMs to insulate themselves and discriminate partner representatives in a similar manner if this ingroup-outgroup distinction is heightened, leading to reduced communication in the partnership.

Indeed, Polzer *et al.* (1999) found negative relationships between social categorization and individuals' willingness to contribute resources to the collective. Likewise, Leonardelli and Toh (2011) have found similar relationships between social categorization and parochial behaviors. Instead of cooperating, OLMs may withdraw from their counterparts. These outcomes are more likely as partner cultural distance increases.

Findings in the alliance literature also seem to support this line of argument. Partners with vastly different histories, routines and practices tend to have difficulties resolving their differences or reaching compromises without discrimination and miscommunication (Inkpen and Tsang, 2005; Park and Ungson, 2001; Parkhe, 1991; Sarkar *et al.*, 2001; Young-Ybarra and Wiersema, 1999). Meanwhile, relationships between culturally similar partners are found to be more harmonious and trusting (Deeds and Hill, 1998; Johnson *et al.*, 1996). For instance, among the alliances IBM formed to develop its semiconductor technology, it had enjoyed a fruitful and harmonious relationship with the culturally similar Motorola while suffering tempestuous relationships with the culturally distant Toshiba, Canon and Hitachi (Lei *et al.*, 1997). Likewise, Sarkar and colleagues (2001) found that among construction contractors, alliances between culturally dissimilar firms were less likely to enjoy harmonious relationships, hampering the intermingling of competencies. In other words, partnerships that aspire to take advantage of partner cultural distance for exploratory innovation will need to keep cultural defense in check.

P5. Culturally distant partnerships will result in more exploratory innovation through decreased level of cultural defense among OLMs.

It is worth noting that the above mentioned cultural defense process occurs quite naturally and is often about issues that are not directly related to the exploratory innovation itself. Instead of channeling their energy and cognitive resources into the cultural brokering process, OLMs may expend the limited energy and cognitive resources on defending their own cultures or resisting the urge to act on discriminating thoughts. Social categorization can be triggered by different decision-making processes, resource allocation mechanisms, or even ways in which information is shared. Hughes and Weiss (2007) report that when HP and Microsoft began their collaboration, their OLMs noticed the cultural quirks of the two companies quickly. Soon these cultural quirks were dismissed by OLMs from opposite sides as signs of incompetence and sources of irritation. Niven (2016) also shares the difficult collaboration between Delta Airlines and Air France, in which the OLMs had different approaches to escalating problems to their senior managers and distinctive styles of communication. If left unmanaged, these differences and corresponding discriminating thoughts can consume the energy of OLMs and preempt cultural brokering.

More critically, the mere suppression of cultural defense is not sustainable on its own. The suppression of impulsive reactions requires mental energy that individuals need for other activities (Baumeister *et al.*, 2006; Muraven and Baumeister, 2000). This depletion of mental energy is particularly impactful if the individuals are carrying out cognitively challenging tasks, such as exploratory innovation. When individuals are mentally occupied, they are likely to revert to well-rehearsed socially and culturally scripted behaviors (Knowles *et al.*, 2001). Instead of cooperating and brokering knowledge, individuals who merely suppress impulsive reactions oftentimes end up rebounding to the same impulsive reactions (Wegner, 1989). Consequently, to facilitate exploratory innovation, it is necessary to consider factors that can curb the anxieties and threats OLMs feel due to intergroup contact. By preemptively refocusing OLMs' mindset away from salient intergroup boundaries, we can avoid tripping that mental alarm system and setting off cultural defense. Below are a set of factors that aim to bolster OLMs' psychological security by reshaping their intergroup dynamics.

Organizational support. It is common for individuals to feel threatened and anxious when encountering an uncertain and ambiguous environment (Dutton and Jackson, 1987). Collaborating with culturally distant others is such a case. Oftentimes, the sense of psychological threat is quite symbolic (Burris and Rempel, 2004). For example, OLMs may

perceive their ways of organizing being threatened with a partner espousing a different value (e.g. "we value flexibility, but they value structure"). Threats are usually framed as negative, loss-inducing and uncontrollable, prompting defensive reactions (Dutton and Jackson, 1987). If the sense of threat and anxiety can be neutralized, the negative evaluation of an out-group can be attenuated. This happens if organizations can assure OLMs their identity security (Mikulincer and Shaver, 2001). Attachment theory in psychology proposes that individuals with a reservoir of security are less likely to reject new experiences and meet new people (Boccato *et al.*, 2015). Young children with stable caretakers are more open to experience unknowns. Similarly, OLMs who feel secure about their identities are less likely to reject partner perspectives impulsively.

The sense of security can come from organizational support in different forms. Research has found that individuals who have the chance to reflect on the people and systems that they can rely on for support during tough times and situations in the past tended to feel more secure than those who were not given that opportunity (Mikulincer and Shaver, 2001; Fu *et al.*, 2015). Concrete organizational support provided by home organizations, such as regular communication between OLMs and their senior managers, frequent show of senior management support of the partnership work, as well as adequate commitment of resources to the partnership can also stimulate the sense of security. Kostova and Roth (2003) argue that the amount and quality of interactions between OLMs and their home organizations can provide a sense of comfort for them to request resources and help from their home organizations, as well as enhance the likelihood that they will engage in cooperative behaviors. Liu (2009) found similar results. Collaborative anxiety is less likely when the perceived psychological threats from a culturally distant partner are neutralized, reducing the chance of effort-consuming cultural defense.

> P6. OLMs who perceive a high level of organizational support are less likely to suffer from the impact of cultural distance on cultural defense.

Deliberate faultline bridging. In addition to tackling the sense of threat and anxiety directly, organizations can mitigate the effects of psychological threat and anxiety by dealing with the social categorization itself. Research on cross-border mergers and acquisitions has found that how individuals react to cultural distance depends on how they interpret the categorization of individuals and firms in the relationship (Lee *et al.*, 2015). Cultural defense occurs naturally because the organizational boundaries between partners provide a ready means to categorize people and perspectives. OLMs are psychologically ready to view the different organizational cultures in a partnership as two discrete systems the moment they encounter two organizational cultures side-by-side simultaneously. An organizational boundary is analogous to a fault line within a partnership (Lau and Murnighan, 2005). The presence of faultlines highlights the differences between partner cultures and makes OLMs feel insurmountable challenges in communicating across the organizational boundary. However, the power of firm boundaries as the means for social categorization can be weakened considerably by deliberate categorization restructuring. If OLMs encounter individuals that blur the boundaries, the categorization along organizational boundaries will be weakened. For example, due to differences in professional training, individuals from the same functional backgrounds (e.g. computer engineering) tend to have more similarities with each other than with individuals from other functional backgrounds (e.g. sales and marketing), regardless of organizational affiliation (Dearborn and Simon, 1958). If OLMs are sensitized toward the possibility of alternative categorization that crisscrosses organizational boundaries, the faultline effect may be weakened (Hall and Crisp, 2005). The more different bases of categorization that can criss cross organizational boundary (e.g. gender, age, management level, etc.), the less discrete the partners appear as two cultural systems, making the social categorization weaker and the partner representatives less threatening as a group (Crisp and Hewstone, 2007). In fact, even OLMs who merely consider how categorization is complex and

people can be categorized in multiple ways can resist the impulse for self-partner categorization – actual cross-categorization is not always necessary (Crisp and Turner, 2011). The more OLMs can resist self-partner categorization, the less likely they would succumb to effort-consuming cultural defense.

> *P7.* OLMs in partnerships that take deliberate steps to bridge fault lines are less likely to suffer from the impact of cultural distance on cultural defense.

Shared collaborative goal. Another way through which psychological anxiety and self-partner categorization can be mitigated is the creation of a shared goal for all to strive, thereby re-categorization of in- and out-groups. The creation of a salient overarching categorization can reduce discrimination and biases between subgroups within a collective (Gaertner and Dovidio, 2000). If OLMs are made aware of a salient "common enemy" outside of the partnership, representatives from different camps will be re-categorized as unthreatening *fellow* collaborators. The perceived psychological anxiety posed by culturally distant partners is replaced by more imminent threats from an entity that is even more foreign than the partners. Subgroup categorization can also be tamed by emphasizing the positive linkages between all the subgroups (i.e. the home organization and partner) and the achievement of the ultimate goals (e.g. "partners are critical in getting us closer to the goal of innovation") (Fitzsimons and Shah, 2009; Govindarajan and Gupta, 2001; Poppo *et al.*, 2019). If OLMs are made aware of a clear common goal that partners can help them achieve, they will be less threatened by the differences within the partnership.

It is important to note that having a shared collaborative goal does not mean that any of the partners will need to suppress its culture in favor of the other's or conform to everything (Niven, 2016). A shared collaborative goal is the result of understanding and integrating different perspectives (West, 2002). Therefore, having OLMs who have good integrating skills, conflict management and experience in managing diversity can help re-categorization and calm psychological anxiety. In addition, conscious use of shared and participative decision making can also help partners calm anxiety among OLMs and reach integration. For instance, Niven (2016) reports that before Siemens Communications and SAP started their collaboration, they carried out a five-day exercise with 13 executives from each partner. Through the exercise, they agreed on a range of three to five new initiatives that they could inculcate into the product set of both firms in the next 18 months. This exercise helped address a lot of the anxiety before the commencement of the collaboration.

Re-categorization appeared to play a crucial part in the success of SEMATECH. In the original incarnation of the semiconductor manufacturing technology consortium, made up of manufacturers with strong and distinct cultures, such as Hewlett–Packard and IBM, the presence of a salient, seemingly monolithic "common enemy" – the Japanese manufacturers – prompted participants to consider sharing information with parties that they would otherwise view as incompatible collaborators (Browning *et al.*, 1997). After the threats of the "common enemy" were neutralized, SEMATECH has continued to flourish by making clear a common goal (i.e. accelerating the commercialization of technology innovations into manufacturing solutions) and highlighting the role of all participating firms, now including Japanese firms, as entities that will get each other closer to the common goal. Self-partner categorization and cultural defense are preempted if partners are framed as collaborators facing the same threats or aiming for the same targets (Cui, 2019; Poppo *et al.*, 2019).

> *P8.* OLMs in partnerships that develop shared collaborative goals are less likely to suffer from the impact of cultural distance on cultural defense.

The dynamics between cultural brokering and cultural defense
We have briefly alluded that cultural defense, being easily triggered, may preempt the more effortful cultural brokering. These two processes are also linked in a more curious way.

Individual OLMs may share their views with each other. This may help make cultural brokering less effortful for each other if OLMs can develop a common language and shared routines to coordinate; alternatively, OLMs may spur each other on in cultural defense behaviors if they reinforce self-partner categorization for each other. A partnership that is making satisfactory progress in cultural brokering begets further cultural brokering, allowing partners to create a partnership-based identity, thereby reducing the chance of cultural defense (Janssen *et al.*, 2004). In contrast, a partnership stuck in a cultural defense loop is highly stressful, leaving OLMs fewer mental resources to consider foreign knowledge and perspectives (Das and Teng, 2000; van Knippenberg *et al.*, 2004). Indeed, in a longitudinal study of four projects in two inter firm partnerships, Doz (1996) found tremendous impact of initial partnership conditions on the evolution of the partnerships.

P9a. OLMs in partnerships achieving more cultural brokering are less likely to expend effort on cultural defense, leading to more cultural brokering in the next period.

P9b. OLMs in partnerships suffering from more cultural defense are less likely to expend effort on cultural brokering, leading to more cultural defense in the next period.

Discussion

As interorganizational collaborations become increasingly common and critical as a strategic option, the ability for organizations to work across boundaries becomes a competence that they must nurture to stay innovative and competitive. Partner cultural distance has been identified as both a reason interorganizational partnerships are innovative and a reason they are not. Drawing on theories and empirical findings on organization learning and culture mixing, we propose a multilevel dual-process model linking partner cultural distance and interorganizational innovation by explaining the intervening micro-level processes experienced by OLMs in response to the co-existence of multiple organizational cultures. The model presents a more nuanced picture. Partnerships with large cultural distance carry a large potential for noticing, comprehending and assimilating new knowledge units for exploratory innovation. However, with large cultural distance, cultural brokering (due to collaborative activities of the OLMs) will take more effort and cultural defense (due to anxieties felt by OLMs) will consume more resources unnecessarily. Whether such partnerships can unleash their potential will depend on how the cultural brokering and cultural defense processes are managed.

We posit that the mindsets that OLMs carry into a partnership are the key to the management of the two processes. Specifically, OLMs who are prompted to a learning mindset when they enter a collaboration are psychologically prepared to explore, which leads to more cultural brokering effort. This preparedness can be induced if partners explicitly emphasize learning orientation, provide delivery slack and build strong trust among OLMs. Meanwhile, OLMs who are shielded from self-partner categorization and intergroup anxieties it induces are more likely to avoid cultural defense. This shielding can be done if partners can provide OLMs with stronger organizational support, pay more attention to deliberately bridging faultlines and put in the work to set shared collaborative goals. If the cultural brokering process dominates, then the partnership will have a good chance of sustaining a virtuous cycle of exploratory innovation; if the cultural defense process takes over, however, the partnership will not be able to sustain innovation in the long run.

Our framework resonates with many studies that explore the effect of cultural distance. For instance, scholars exploring intercultural acquisition have shown that cultural distance has an amplifying effect on the positive relationship between integration capability and post-acquisition performance because larger distance allows for more materials for post-acquisition learning (Reus and Lamont, 2009). This mechanism is somewhat similar to our argument. Nevertheless, prior research has typically focused on the examination of

interactions among people across ethnic or national boundaries. Our framework departs from conventional models by considering organizational cultural distance. Undoubtedly, differences across national boundaries can be drastic – and research in this area does tend to juxtapose cultures that are visibly and stereotypically different, such as Chinese and American cultures. Yet, while organizational cultures are sometimes influenced by national cultures in which they are situated, even organizations within the same national boundaries can be culturally quite different. Our model can shed light by taking a finer-grained definition.

More notably, we follow the trend set by recent research and take a microfoundational approach to both interorganizational relationships and organization learning. Instead of assuming that individual managers are going to think and behave as prescribed by rules and routines at the organizational level, we treat individual managers as active agents who make sense of their surroundings and behave accordingly (Cui, 2019). In other words, the social psychological processes behind their decisions and behaviors matter. In fact, our framework considers both automatic and controlled psychological processes. We contend that a better understanding of the interplay between levels of analysis will give us a better comprehension of how partnerships and organization learning take place.

Recent developments have enabled researchers to carry out studies that take a microfoundational approach. With greater disclosure requirements, researchers now have better access to details about interorganizational agreements (e.g. functional activities, product and geographic domains involved), which allows for more nuanced measures and studies (Contractor and Reuer, 2019). Therefore, it would be possible to identify partnerships that focus on upstream activities such as basic research and discovery. In terms of exploratory innovation, a potential measure can be the number of ideas that go into development for the market. In the biotechnology context, that can be operationalized as the firm's products in development that have successfully entered clinical trials (Rothaermel and Deeds, 2004).

Typically, alliance and innovation research measures interorganizational cultural distance via firm-level, objective measures such as industrial diversity, geographical diversity and functional diversity (e.g. Zhang et al., 2020). Our micro foundational framework calls for individual-level, perceptual measures that tap into the perceived differences in thought worlds and norms between partners from the OLM perspective. While an average composite among OLMs in a collaboration can be a good measure, one can argue that a collaboration is as smooth as the least cooperative OLM would allow. Therefore, an alternative measure could be the lowest composite among OLMs in the collaboration.

Research implications
Our framework is one with two partners. However, partnerships often involve more organizations (Uzzi, 1997; Van de Ven, 2005). In fact, with the help of advanced information technology, open sourcing and other network forms of collaboration are becoming popular. With more partners, the complexity will increase exponentially. Simultaneous exposure to multiple cultures is much more difficult to manage when more partners are involved. How this will alter cultural brokering and cultural defense and the factors that contribute to intercultural mindset may depend on the partner composition. Further research can explore the concept of cultural distance in multilateral partnerships.

We focused only on the relationship between cultural distance and exploratory innovation in interorganizational partnerships in this paper. Nevertheless, exploratory innovation in partnerships can be influenced by interorganizational differences in other aspects. In fact, Lee et al. (2017) highlight a multitude of diversity domains that have been considered in the alliance literature. These include diversity in functions, governance structures, industries, national cultures, technological capabilities and organizational characteristics. We contend that organizational culture, to a considerable extent, is shaped by an organization's industry, national culture and other

idiosyncratic characteristics of an organization and is a good reflection of these differences. By tapping into the micro processes triggered by organizational distance between partners, we attempt to explain the nuances behind ambiguous results in the literature. Nevertheless, organizational culture is by no means the only factor that can trigger micro processes that bear consequences for interorganizational innovation. Further exploration of other factors can provide us with a better understanding of interorganizational innovation processes.

We have also limited our discussion to exploratory innovation. Exploration is not the only activity for interorganizational innovation. Innovation happens when the acquired knowledge is implemented to create value in the marketplace (Fagerberg, 2005). Thus, the acquired knowledge must be shared throughout the organization beyond the group of OLMs we focus on. Such diffusion of knowledge is sticky and tricky (Schein, 1996). It is possible that the larger the cultural distance between partners, the more likely that the rest of the organizational members will perceive the OLMs as semi-strangers or semi-outsiders (Hughes and Weiss, 2007). This will create an interesting dynamic internally during the knowledge transformation and implementation stages. Future research can investigate what implications this will have on the relationship between partner cultural distance and innovation implementation.

Practical implications
We can also conceivably extend our model to other settings involving the management of cultural differences across organizations or other social systems. For instance, cultural distance has always been a major concern in mergers and acquisitions (Reus and Lamont, 2009). Cultural gaps also loom large when opposing political parties work together, or when the governments of different countries discuss global issues, such as financial crises and environmental concerns. Our model suggests that seeking out a tolerable collaborative partner is no longer enough. Innovation in collaborations occurs only when foreign perspectives are celebrated.

Our framework also provides insights into the practice of partnership management and innovation. Consistent with Cui (2019) and Niven (2016), our framework highlights the importance of having dedicated partnership management mechanisms that aim at actively managing OLM decisions and behaviors. Such mechanisms include participative goal setting, strong emphasis on shared goals, trust and rapport building, diversity management, influencing skills and conflict resolution are critical. Many organizations have already set up dedicated offices of alliance management to manage their partnerships. Some have also provided general management skills training for their OLMs. However, Niven (2016) notes that much is left to be done. While more than 50% of the executives surveyed received training in general skills (e.g. interpersonal skills, communication skills, negotiation), less than 6% of them were given formal collaboration skill training that integrates these different skills in the alliance context. By providing OLMs with more targeted training, organizations stand to gain more from their partnerships.

Exploratory innovation in partnerships is curiously difficult. The skillsets of the partner organizations and their people are undoubtedly crucial to the success of an innovation partnership. However, organizations that intend to innovate with partners will ultimately need to focus as much on mindsets as on skill sets. In fact, for partners to take advantage of the skillsets, the people they engage will need to be in the right mindsets. Many of the measures suggested in this paper appear simple and intuitive. Nevertheless, it is often simple and intuitive factors like these that are neglected.

References

Abell, P., Felin, T. and Foss, N.J. (2008), "Building micro-foundations for the routines, capabilities and performance links", *Managerial and Decision Economics*, Vol. 29 No. 6, pp. 489-502.

Adair, W.L. and Brett, J. (2005), "The negotiation dance: time, culture and behavioral sequences in negotiation", *Organization Science*, Vol. 16 No. 1, pp. 33-51.

Adam, H., Obodaru, O., Lu, J.G., Maddux, W.W. and Galinsky, A.D. (2018), "The shortest path to oneself leads around the world: living abroad increases self-concept clarity", *Organizational Behavior and Human Decision Processes*, Vol. 145, pp. 16-29.

Albers, S., Wohlgezogen, F. and Zajac, E.J. (2016), "Strategic alliance structures: an organization design perspective", *Journal of Management*, Vol. 42 No. 3, pp. 582-614.

Andreu, R. and Ariño, A. (2019), "Learning to coordinate in alliances: toward a microfoundation framework", in Contractor, F.J. and Reuer, J.J. (Eds), *Frontiers of Strategic Alliance Research: Negotiating, Structuring and Governing Partnerships*, Cambridge University Press, Cambridge.

Austin, J.R. (1997), "A cognitive framework for understanding demographic influences in groups", *The International Journal of Organizational Analysis*, Vol. 5 No. 4, pp. 342-359.

Barkema, H. and Vermeulen, F. (1997), "What differences in cultural backgrounds of partners are detrimental for international joint ventures?", *Journal of International Business Studies*, Vol. 28 No. 4, pp. 845-864.

Barringer, B.R. and Harrison, J.S. (2000), "Walking a tightrope: creating value through interorganizational relationships", *Journal of Management*, Vol. 26 No. 3, pp. 367-403.

Baumeister, R.F., Gailliot, M., DeWall, C.N. and Oaten, M. (2006), "Self-regulation and personality: how interventions increase regulatory success and how depletion moderates the effects of traits on behavior", *Journal of Personality*, Vol. 74, pp. 1773-1801.

Beckman, C.M. and Haunschild, P.R. (2002), "Network learning: the effects of partners' heterogeneity of experience on corporate acquisitions", *Administrative Science Quarterly*, Vol. 47, pp. 92-124.

Belderbos, R., Gilsing, V.A. and Suzuki, S. (2016), "Direct and mediated ties to universities: 'scientific' absorptive capacity and innovation performance of pharmaceutical firm", *Strategic Organization*, Vol. 14 No. 1, pp. 32-52.

Bell, G.G. and Zaheer, A. (2007), "Geography, networks and knowledge flow", *Organization Science*, Vol. 18 No. 6, pp. 955-972.

Beugelsdijk, S., Kostova, T., Kunst, V.E., Spadafora, E. and Van Essen, M. (2018), "Cultural distance and firm internationalization: a meta-analytical review and theoretical implications", *Journal of Management*, Vol. 44 No. 1, pp. 89-130.

Boccato, G., Capozza, D., Trifiletti, E. and Di Bernardo, G.A. (2015), "Attachment security and intergroup contact", *Journal of Applied Social Psychology*, Vol. 45 No. 11, pp. 629-647.

Browning, L.D., Beyer, J.M. and Shetler, J.C. (1997), "Building cooperation in a competitiveindustry: SEMATECH and the semiconductor industry", *Academy of Management Journal*, Vol. 38 No. 1, pp. 113-151.

Burris, C.T. and Rempel, J.K. (2004), "It's the end of the world as we know it: threat and the spatial-symbolic self", *Journal of Personality and Social Psychology*, Vol. 86, pp. 19-42.

Chandler, D. and Hwang, H. (2015), "Learning from learning theory: a model of organizational adoption strategies at the microfoundations of institutional theory", *Journal of Management*, Vol. 41 No. 5, pp. 1446-1476.

Cheng, S.Y.Y., Rosner, J.L., Chao, M.M., Peng, S., Chen, X., Li, Y., Kwong, J.Y.Y., Hong, Y.-Y. and Chiu, C.-Y. (2011), "One world, one dream? Intergroup consequences of the 2008 Beijing Olympics", *International Journal of Intercultural Relations*, Vol. 35, pp. 296-306.

Cheon, B.K. (2019), "The diversity of cultural diversity: psychological consequences of different patterns of intercultural contact and mixing", *Asian Journal of Social Psychology*, Vol. 22 No. 1, pp. 93-105.

Cheon, B.K., Christopoulos, G.I. and Hong, Y.Y. (2016), "Disgust associated with culture mixing: why and who?", *Journal of Cross-Cultural Psychology*, Vol. 47 No. 10, pp. 1268-1285.

Chiu, C.Y. and Shi, Y. (2019), "Cross-cultural competence", in Keith, K.D. (Ed.), *Cross-cultural Psychology: Contemporary Themes & Perspectives*, John Wiley & Sons, pp. 39-55.

Chiu, C.-Y., Morris, M.W., Hong, Y.-Y. and Menon, T. (2000), "Motivated cultural cognition: the impact of implicit cultural theories on dispositional attribution varies as a function of need for closure", *Journal of Personality and Social Psychology*, Vol. 78, pp. 247-259.

Cohen, W.M. and Levinthal, D.A. (1990), "Absorptive capacity: a new perspective on learning and innovation", *Administrative Science Quarterly*, Vol. 35, pp. 128-152.

Contractor, F.J. and Reuer, J.J. (2019), "Frontiers of alliance research", in Contractor, F.J. and Reuer, J.J. (Eds), *Frontiers of Strategic Alliance Research: Negotiating, Structuring and Governing Partnerships*, Cambridge University Press, Cambridge.

Crisp, R.J. and Hewstone, M. (2007), "Multiple social categorization", *Advances in Experimental Social Psychology*, Vol. 39, pp. 163-254.

Crisp, R.J. and Turner, R.N. (2011), "Cognitive adaptation to the experience of social and cultural diversity", *Psychological Bulletin*, Vol. 137, pp. 242-266.

Cui, A.S. (2019), "A multilevel framework of alliance management", in Contractor, F.J. and Reuer, J.J. (Eds), *Frontiers of Strategic Alliance Research: Negotiating, Structuring and Governing Partnerships*, Cambridge University Press, Cambridge.

Cui, V., Yang, H. and Vertinsky, I. (2018), "Attacking your partners: strategic alliances and competition between partners in product markets", *Strategic Management Journal*, Vol. 39, pp. 3116-3139.

Cullen, J.B., Johnson, J.L. and Sakano, T. (1995), "Japanese and local partner commitment to IJVs: psychological consequences of outcomes and investments in the IJV relationships", *Journal of International Business Studies*, Vol. 26 No. 1, pp. 91-115.

Das, T.K. and Teng, B.-S. (1998), "Between trust and control: developing confidence in partner cooperation in alliances", *Academy of Management Review*, Vol. 23 No. 3, pp. 491-512.

Das, T.K. and Teng, B.-S. (2000), "A resource-based theory of strategic alliances", *Journal of Management*, Vol. 26 No. 1, pp. 31-61.

De Dreu, C.K.W. (2003), "Time pressure and closing of the mind in negotiation", *Organizational Behavior and Human Decision Processes*, Vol. 91, pp. 280-295.

Dearborn, D.C. and Simon, H.A. (1958), "Selective perception: a note on the departmental identifications of executives", *Sociometry*, Vol. 21 No. 2, pp. 140-144.

Deeds, D.L. and Hill, C.W.L. (1998), "An examination of opportunistic action within research alliances: evidence from the biotechnology industry", *Journal of Business Venturing*, Vol. 14, pp. 141-163.

Dosi, G., Nelson, R.R. and Winter, S.G. (2000), *The Nature and Dynamics of Organizational Capabilities*, Oxford University Press, Oxford.

Doz, Y.L. (1996), "The evolution of cooperation in strategic alliances: initial conditions or learning processes?", *Strategic Management Journal*, Vol. 17 No. S1, pp. 55-83.

Dunlap-Hinkler, D., Kotabe, M. and Mudambi, R. (2010), "A story of breakthrough vs. incremental innovation: corporate entrepreneurship in the global pharmaceutical industry", *Strategic Entrepreneurship Journal*, Vol. 4 No. 2, pp. 106-127.

Dutton, J.E. and Jackson, S.E. (1987), "Categorizing strategic issues: links to organizational action", *Academy of Management Review*, Vol. 12 No. 1, pp. 76-90.

Dyer, J. and Singh, H. (1998), "The relational view: cooperative strategy and sources of interorganizational competitive advantage", *Academy of Management Review*, Vol. 23 No. 4, pp. 660-679.

Dyer, J., Kale, P. and Singh, H. (2001), "How to make strategic alliances work: the role of the alliance function", *Sloan Management Review*, Vol. 42 No. 4, pp. 37-43.

Elia, S., Petruzzelli, A.M. and Piscitello, L. (2019), "The impact of cultural diversity on innovation performance of MNC subsidiaries in strategic alliances", *Journal of Business Research*, Vol. 98, pp. 204-213.

Fagerberg, J. (2005), "Innovation: a guide to the literature", in Fagerberg, J., Mowery, D.C. and Nelson, R.R. (Eds), *The Oxford Handbook of Innovation*, Oxford University Press, Oxford.

Farlan, A., Galeazzo, A. and Paggiaro, A. (2019), "Organizational and perceived learning in the workplace: a multilevel perspective on employees' problem solving", *Organization Science*, Vol. 30 No. 2, pp. 280-297.

Felin, T., Foss, N.J., Heimeriks, K.H. and Madsen, T.L. (2012), "Microfoundationis of routines and capabilities: individuals, processes and structure", *Journal of Management Studies*, Vol. 49, pp. 1351-1374.

Fitzsimons, G.M. and Shah, J.Y. (2009), "Confusing one instrumental other for another: goal effects on social categorization", *Psychological Science*, Vol. 20, pp. 1468-1472.

Fu, H.J., Chiu, C.-Y., Morris, M.W. and Young, J.M. (2007a), "Spontaneous inferences from cultural cues: varying responses of cultural insiders and outsiders", *Journal of Cross-Cultural Psychology*, Vol. 38 No. 1, pp. 58-75.

Fu, H.J., Morris, M.W., Lee, S., Chao, M., Chiu, C.-Y. and Hong, Y.-Y. (2007b), "Epistemic motives and cultural conformity: need for closure, culture and context as determinants of conflict judgments", *Journal of Personality and Social Psychology*, Vol. 92 No. 2, pp. 191-207.

Fu, J.H.Y., Morris, M.W. and Hong, Y.Y. (2015), "A transformative taste of home: home culture primes foster expatriates' adjustment through bolstering relational security", *Journal of Experimental Social Psychology*, Vol. 59, pp. 24-31.

Fu, J.H., Zhang, Z., Li, F. and Leung, Y.K. (2016), "Opening the mind: effect of culture mixing on acceptance of organizational change", *Journal of Cross-Cultural Psychology*, Vol. 47 No. 10, pp. 1361-1372.

Gaertner, S.L. and Dovidio, J.F. (2000), *Reducing Intergroup Bias: The Common Ingroup Identity Model*, Psychology Press, Philadelphia, PA.

Govindarajan, V. and Gupta, A.K. (2001), "Building an effective global business team", *Sloan Management Review*, Vol. 42 No. 4, pp. 63-71.

Greenberg, J., Solomon, S. and Pyszczynski, T. (1997), "Terror management theory of self-esteem and cultural worldviews: empirical assessments and conceptual refinements", *Advances in Experimental Social Psychology*, Vol. 29, pp. 61-139.

Grieve, P.G. and Hogg, M.A. (1999), "Subjective uncertainty and intergroup discrimination in the minimal group situation", *Personality and Social Psychology Bulletin*, Vol. 25, pp. 926-940.

Gulati, R. (1998), "Alliances and networks", *Strategic Management Journal*, Vol. 19 No. 4, pp. 293-317.

Hall, N.R. and Crisp, R.J. (2005), "Considering multiple criteria for social categorization can reduce intergroup bias", *Personality and Social Psychology Bulletin*, Vol. 31 No. 10, pp. 1435-1444.

Hao, J., Li, D., Peng, L., Peng, S. and Torelli, C.J. (2016), "Advancing our understanding of culture mixing", *Journal of Cross-Cultural Psychology*, Vol. 47 No. 10, pp. 1257-1267.

Hargadon, A.B. (2002), "Brokering knowledge: linking learning and innovation", *Research in Organizational Behavior*, Vol. 24, pp. 41-85.

Hawkins, M.A. and Rezazade, M.H. (2012), "Knowledge boundary spanning process: synthesizing four spanning mechanisms", *Management Decision*, Vol. 50 No. 10, pp. 1800-1815.

Hennart, J.-F. (1993), "Explaining the swollen middle: why most transactions are a mix of 'market' and 'hierarchy'", *Organization Science*, Vol. 4 No. 4, pp. 529-547.

Hobfoll, S.E. (1989), "Conservation of resources: a new attempt at conceptualizing stress", *American Psychologist*, Vol. 44 No. 3, pp. 513-524.

Hobfoll, S.E. (2001), "The influence of culture, community and the nested-self in the stress process: advancing conservation of resources theory", *Applied Psychology: An International Review*, Vol. 50 No. 3, pp. 337-421.

Hogg, M.A., Meehan, C. and Farquharson, J. (2010), "The solace of radicalism: self-uncertainty and group identification in the face of threat", *Journal of Experimental Social Psychology*, Vol. 46, pp. 1061-1066.

Hong, Y.-Y., Morris, M.W., Chiu, C.-Y. and Benet-Martinez, V. (2000), "Multicultural minds: a dynamic constructivist approach to culture and cognition", *American Psychologist*, Vol. 55, pp. 709-720.

Hsu, D. and Lim, K. (2014), "Knowledge brokering and organizational innovation: founder imprinting effects", *Organization Science*, Vol. 25 No. 4, pp. 1134-1153.

Hughes, J. and Weiss, J. (2007), "Simple rules for making alliances work", *Harvard Business Review*, Vol. 85 No. 11, pp. 122-131.

Inkpen, A.C. and Tsang, E.W.K. (2005), "Social capital, networks and knowledge transfer", *Academy of Management Review*, Vol. 30 No. 1, pp. 146-165.

Janssen, O., Van de Vliert, E. and West, M. (2004), "The bright and dark sides of individual and group innovation: a special issue introduction", *Journal of Organizational Behavior*, Vol. 25, pp. 129-145.

Johnson, J.L., Cullen, J.B., Sakano, T. and Takenouchi, H. (1996), "Setting the stage for trust and strategic integration in Japanese-U.S. cooperative alliances", *Journal of International Business Studies*, Vol. 27 No. 5, pp. 981-1004.

Knowles, E.D., Morris, M.W., Chiu, C.-Y. and Hong, Y.-Y. (2001), "Culture and the process of person perception: evidence for automaticity among East Asians in correcting for situational influences on behavior", *Personality and Social Psychology Bulletin*, Vol. 27, pp. 1344-1356.

Kogut, B. (1988), "Joint ventures: theoretical and empirical perspectives", *Strategic Management Journal*, Vol. 9 No. 4, pp. 319-332.

Kostova, T. and Roth, K. (2003), "Social capital in multinational corporations and a micro-macro model of its formation", *Academy of Management Review*, Vol. 28 No. 2, pp. 297-317.

Koza, M.P. and Lewin, A.Y. (1999), "The coevolution of network alliances: a longitudinal analysis of an international professional service network", *Organization Science*, Vol. 10 No. 5, pp. 638-653.

Krishnan, R., Martin, X. and Noorderhaven, N. (2006), "When does trust matter to alliance performance?", *Academy of Management Journal*, Vol. 49 No. 5, pp. 894-917.

Kruglanski, A.W. and Webster, D.M. (1996), "Motivated closing of the mind: 'seizing' and 'freezing'", *Psychological Review*, Vol. 103 No. 2, pp. 263-283.

Kruglanski, A.W., Bélanger, J.J., Chen, X., Köpetz, C., Pierro, A. and Mannetti, L. (2012), "The energetics of motivated cognition: a force-field analysis", *Psychological Review*, Vol. 119 No. 1, pp. 1-20.

Lane, P.J. and Lubatkin, M. (1998), "Relative absorptive capacity and interorganizational learning", *Strategic Management Journal*, Vol. 19, pp. 461-477.

Lau, D.C. and Murnighan, J.K. (2005), "Interactions within groups and subgroups: the effects of demographic faultlines", *Academy of Management Journal*, Vol. 48, pp. 645-659.

Lee, S.J., Kim, J. and Park, B.I. (2015), "Culture clashes in cross-border mergers and acquisitions: a case study of Sweden's Volvo and South Korea's Samsung", *International Business Review*, Vol. 24, pp. 580-593.

Lee, D., Kirkpatrick-Husk, K. and Madhavan, R. (2017), "Diversity in alliance portfolios and performance outcomes: a meta-analysis", *Journal of Management*, Vol. 43 No. 5, pp. 1472-1497.

Lei, D., Slocum, J.W. Jr. and Pitts, R.A. (1997), "Building cooperative advantage: managing strategic alliances to promote organizational learning", *Journal of World Business*, Vol. 32 No. 3, pp. 203-223.

Leonardelli, G.J. and Toh, S.M. (2011), "Perceiving expatriate coworkers as foreigners encourages aid: social categorization and procedural justice together improve intergroup cooperation and dual identity", *Psychological Science*, Vol. 22 No. 1, pp. 110-117.

Leung, A.K.-Y. and Chiu, C.-Y. (2010), "Multicultural experiences, idea receptiveness and creativity", *Journal of Cross-Cultural Psychology*, Vol. 41 No. 5, pp. 723-741.

Leung, A.K.-Y., Maddux, W.W., Galinsky, A.D. and Chiu, C.-Y. (2008), "Multicultural experience enhances creativity: the when and how?", *American Psychologist*, Vol. 63, pp. 169-181.

Levina, N. and Vaast, E. (2005), "The emergence of boundary spanning competence in practice: implications for implementation and use of information systems", *MIS Quarterly*, Vol. 29 No. 2, pp. 335-363.

Levinthal, D.A. and March, J.G. (1993), "The myopia of learning", *Strategic Management Journal*, Vol. 14 No. 8, pp. 95-112.

Liu, Y. (2009), "Perceived organizational support and expatriate organizational citizenship behavior: the mediating role of affective commitment towards the parent company", *Personnel Review*, Vol. 38 No. 3, pp. 307-319.

Maddux, W.W. and Galinsky, A.D. (2009), "Cultural borders and mental barriers: the relationship between living abroad and creativity", *Journal of Personality and Social Psychology*, Vol. 96, pp. 1047-1061.

March, J.G. (1991), "Exploration and exploitation in organizational learning", *Organization Science*, Vol. 2 No. 1, pp. 71-87.

Mazzucchelli, A., Chierici, R., Abbate, T. and Fontana, S. (2019), "Exploring the microfoundations of innovation capabilities: evidence from a cross-border R&D partnership", *Technological Forecasting and Social Change*, Vol. 146, pp. 242-252.

Mikulincer, M. and Shaver, P.R. (2001), "Attachment theory and intergroup bias: evidence that priming the secure base schema attenuates negative reactions to out-groups", *Journal of Personality and Social Psychology*, Vol. 81, pp. 97-115.

Muraven, M.R. and Baumeister, R.F. (2000), "Self-regulation and depletion of limited resources: does self-control resemble a muscle?", *Psychological Bulletin*, Vol. 126, pp. 247-259.

Nemeth, C.J., Connell, J.B., Rogers, J.D. and Brown, K.S. (2001), "Improving decision making by means of dissent", *Journal of Applied Social Psychology*, Vol. 31 No. 1, pp. 48-58.

Nemeth, C.J., Personnaz, B., Personnaz, M. and Goncalo, J.A. (2004), "The liberating role of conflict in group creativity: a study in two countries", *European Journal of Social Psychology*, Vol. 34 No. 4, pp. 365-374.

Niven, M. (2016), *The Strategic Alliance Handbook: A Practitioners Guide to Business-To-Business Collaborations*, Routledge, London, UK.

Nooteboom, B., Van Haverbeke, W., Duysters, G., Gilsing, V. and Van den Oord, A. (2007), "Optimal cognitive distance and absorptive capacity", *Research Policy*, Vol. 36, pp. 1016-1034.

Park, J.-Y. and Harris, S. (2014), "Microfoundations for learning within international joint ventures", *International Business Review*, Vol. 23, pp. 490-503.

Park, S.H. and Ungson, G.R. (1997), "The effect of national culture, organizational complementarity and economic motivation on joint venture dissolution", *Academy of Management Journal*, Vol. 40 No. 2, pp. 279-307.

Park, S.H. and Ungson, G.R. (2001), "Interfirm rivalry and managerial complexity: a conceptual framework of alliance failure", *Organization Science*, Vol. 12 No. 1, pp. 37-53.

Parkhe, A. (1991), "Interfirm diversity, organizational learning and longevity in global strategic alliances", *Journal of International Business Studies*, Vol. 22 No. 4, pp. 579-601.

Phelps, C., Heidl, R. and Wadhwa, A. (2012), "Knowledge, networks and knowledge networks: a review and research agenda", *Journal of Management*, Vol. 38 No. 4, pp. 1115-1166.

Polidoro, F. Jr., Ahuja, G. and Mitchell, W. (2011), "When the social structure overshadows competitive incentives: the effects of network embeddedness on joint venture dissolution", *Academy of Management Journal*, Vol. 54 No. 1, pp. 203-223.

Polzer, J.T., Stewart, K. and Simmons, J. (1999), "A social categorization explanation for framing effects in nested social dilemmas", *Organizational Behavior and Human Decision Processes*, Vol. 79 No. 2, pp. 154-178.

Poppo, L., Schloemer, H. and Rogers, K.M. (2019), "Social psychological foundations of alliance cooperation: the role of identity and identification in shared alliance interest", in Contractor, F.J.

and Reuer, J.J. (Eds), *Frontiers of Strategic Alliance Research: Negotiating, Structuring and Governing Partnerships*, Cambridge University Press, Cambridge.

Powell, W.W. and DiMaggio, P.J. (1991), *The New Institutionalism in Organizational Analysis*, The University of Chicago Press, Chicago.

Powell, W.W. and Grodal, S. (2005), "Networks of innovators", in Fagerberg, J., Mowery, D.C. and Nelson, R.R. (Eds), *The Oxford Handbook of Innovation: 56-85*, Oxford University Press, Oxford.

Reuer, J.J., Zollo, M. and Singh, H. (2002), "Post-formation dynamics of strategic alliances", *Strategic Management Journal*, Vol. 23 No. 2, pp. 135-151.

Reus, T.H. and Lamont, B.T. (2009), "The double-edged sword of cultural distance in international acquisitions", *Journal of International Business Studies*, Vol. 40, pp. 1298-1316.

Rosenkopf, L. and Almeida, P. (2003), "Overcoming local search through alliances and mobility", *Management Science*, Vol. 49 No. 6, pp. 751-766.

Rothaermel, F.T. and Deeds, D.L. (2004), "Exploration and exploitation alliances in biotechnology: a system of new product development", *Strategic Management Journal*, Vol. 25, pp. 201-221.

Rousseau, D.M., Sitkin, S.B., Burt, R.S. and Camerer, C. (1998), "Not so different after all: a cross-discipline view of trust", *Academy of Management Review*, Vol. 23, pp. 393-404.

Ryan, P., Geoghegan, W. and Hilliard, R. (2018), "The microfoundations of firms' explorative innovation capabilities within the triple helix framework", *Technovation*, Vol. 76, pp. 15-27.

Sarala, R. and Vaara, E. (2010), "Cultural differences, cultural convergence and crossvergence as explanations of knowledge transfer in international acquisitions", *Journal of International Business Studies*, Vol. 41 No. 8, pp. 1365-1390.

Sarkar, M.B., Echambadi, R., Cavusgil, S.T. and Aulakh, P.S. (2001), "The influence of complementarity, compatibility and relationship capital on alliance performance", *Journal of Academy of Marketing Science*, Vol. 29 No. 4, pp. 358-373.

Saxton, T. (1997), "The effects of partner and relationship characteristics on alliance outcomes", *Academy of Management Journal*, Vol. 40 No. 2, pp. 443-461.

Schein, E.H. (1996), "Culture: the missing concept in organization studies", *Administrative Science Quarterly*, Vol. 41 No. 2, pp. 229-240.

Simonin, B.L. (1999), "Transfer of marketing know-how in international strategic alliances: an empirical investigation of the role and antecedents of knowledge ambiguity", *Journal of International Business Studies*, Vol. 30 No. 3, pp. 463-490.

Simonin, B.L. (2004), "An empirical investigation of the process of knowledge transfer in international strategic alliances", *Journal of International Business Studies*, Vol. 35 No. 5, pp. 407-427.

Slavova, K. and Jong, S. (2021), "University alliances and firm exploratory innovation: evidence from therapeutic product development", *Technovation*, Vol. 107, 102310.

Stahl, G.K., Maznevski, M.L., Voigt, A. and Jonsen, K. (2010), "Unraveling the effects of cultural diversity in teams: a meta-analysis of research on multicultural work groups", *Journal of International Business Studies*, Vol. 41 No. 4, pp. 690-709.

Tajfel, H. and Turner, J.C. (1986), "An integrative theory of intergroup relation", in Worchel, S. and Austin, W.G. (Eds), *Psychology of Intergroup Relations: 7-24*, Nelson-Hall, Chicago.

Tanriverdi, H. and Venkatraman, N. (2004), "Knowledge relatedness and the performance of multibusiness firms", *Strategic Management Journal*, Vol. 26 No. 2, pp. 97-119.

Tong, Y.-Y., Hui, P.P.-Z., Kwan, L. and Peng, S. (2011), "National feelings or rational dealings? The moderating role of procedural priming on perceptions of cross-border acquisitions", *Journal of Social Issues*, Vol. 67 No. 4, pp. 743-759.

Uzzi, B. (1997), "Social structure and competition in interfirm networks: the paradox of embeddedness", *Administrative Science Quarterly*, Vol. 42, pp. 35-67.

Van de Ven, A.H. (2005), "Running in packs to develop knowledge-intensive technologies", *MIS Quarterly*, Vol. 29 No. 2, pp. 365-378.

Van Knippenberg, D., De Dreu, C.K.W. and Homan, A.C. (2004), "Work group diversity and group performance: an integrative model and research agenda", *Journal of Applied Psychology*, Vol. 89 No. 6, pp. 1008-1022.

Weber-Rymkovska, J., Bhaiji, M., Rassloff, J. and Zinke, C. (2017), *Strategic Alliances: A Real Alternative to M&A?*, KPMG International Cooperative, Zurich.

Wegner, D.M. (1989), *White Bears and Other Unwanted Thoughts: Suppression, Obsession and the Psychology of Mental Control*, Viking/Penguin, New York.

Wen, J., Qualls, W.J. and Zeng, D. (n.d), "To explore or exploit: the influence of inter-firm R&D network diversity and structural holes on innovation outcomes", *Technovation* (in press).

West, M.A. (2002), "Sparkling fountains or stagnant ponds: an integrative model of creativity and innovation implementation in work groups", *Applied Psychology: An International Review*, Vol. 51 No. 3, pp. 355-424.

Wong, R.Y. and Hong, Y.-Y. (2005), "Dynamic influences of culture on cooperation in the prisoner's dilemma", *Psychological Science*, Vol. 16 No. 6, pp. 429-434.

Yang, D.Y.J., Chen, X., Xu, J., Preston, J.L. and Chiu, C.Y. (2016), "Cultural symbolism and spatial separation: some ways to deactivate exclusionary responses to culture mixing", *Journal of Cross-Cultural Psychology*, Vol. 47 No. 10, pp. 1286-1293.

Young-Ybarra, C. and Wiersema, M. (1999), "Strategic flexibility in information technology alliances: the influence of transaction cost economics and social exchange theory", *Organization Science*, Vol. 10 No. 4, pp. 439-459.

Zhang, G., Tang, C. and Qi, Y. (2020), "Alliance network diversity and innovation ambidexterity: the deferential roles of industrial diversity, geographical diversity and functional diversity", *Sustainability*, Vol. 12 No. 3, p. 1041.

Further reading

Halbesleben, J.R.B., Neveu, J.-P., Paustian-Underdahl, S.C. and Westman, M. (2014), "Getting to the 'COR': understanding the role of resources in conservation of resources theory", *Journal of Management*, Vol. 40 No. 5, pp. 1334-1364.

McAllister, D.J. (1995), "Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations", *Academy of Management Journal*, Vol. 38, pp. 24-59.

McEvily, B., Perrone, V. and Zaheer, A. (2003), "Trust as an organizing principle", *Organization Science*, Vol. 14, pp. 91-103.

Szulanski, G., Cappetta, R. and Jensen, R.J. (2004), "When and how trustworthiness matters: knowledge transfer and the moderating effect of causal ambiguity", *Organization Science*, Vol. 15, pp. 600-613.

Winter, S.G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, Vol. 24 No. 10, pp. 991-995.

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