Can New Ventures Control Learning and Leakage in Alliances?
The Partial Tradeoff between Knowledge Acquisition and Protection in Partnerships
Formed by Newly Created Businesses

Short title: Controlling Learning and Leakage in Alliances

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Abstract

This paper explores the extent to which new ventures can control knowledge transfers to and from their alliance partners. We identify individual and organizational-level mechanisms that underlie both the intent to learn new knowledge and the intent to protect from unwanted knowledge leakage in alliances. In turn, we assess whether intent to learn and intent to protect conflict with or reinforce each other. We test our predictions on a sample of 107 alliances involving e-commerce ventures. Our findings suggest that new ventures can use alliances as reliable sources of external knowledge, while also facing an asymmetric trade-off between learning and leakage such that learning efforts interfere with protection but protection efforts do not damage learning outcomes.

Keywords: Alliances, Learning, Protection, Firm-controlled determinants of learning
One of the key challenges for entrepreneurial ventures, whether new companies or new businesses initiated by established firms, is to enter into partnerships that provide opportunities to learn from external organizations while also protecting themselves from the leakage of key knowledge to alliance partners (Deeds & Hill, 1996; Dickson, Weaver & Hoy, 2006; Larson, 1991). Partnerships provide access to resources that ventures need to support their initial activities, while also providing the potential to gain knowledge from alliance partners that will support longer term growth (Larson, 1991; Patzelt, Shepherd, Deeds & Bradley, 2008; Phillips McDougall, Shane & Oviatt, 1994). At the same time, though, partnerships create the risk that ventures will lose key knowledge to their partners (Deeds & Hill, 1998; Singh & Mitchell, 2005).

To date, though, neither the new venture literature nor the broader literature on alliance management provides detailed understanding of the mechanisms that firms can put into place to manage the flow of knowledge in their partnerships, both to facilitate learning and to protect themselves from undesired knowledge loss.

This study investigates what we refer to as a new venture’s intent to learn and its intent to protect knowledge in alliances. In doing so, we address three limits in the existing literature on learning and protection in new venture partnerships and in the alliances literature more generally. First, the notion of intent to learn has received only limited conceptual development and empirical investigation, particularly in identifying the mechanisms that underlie the intent to learn. Second, the literature rarely addresses the parallel notion of the intent to protect knowledge in alliances, along with corresponding protection mechanisms. Third, scholars have only begun to consider how processes that businesses use to protect knowledge may either conflict with or reinforce a business’s ability to learn from its alliances.
Our contribution is both conceptual and empirical. Conceptually, the paper explores the extent to which ventures can control knowledge transfers in their alliances and the trade-offs that this control entails. Our discussion emphasizes mechanisms that the focal venture establishes independently, thereby complementing and enriching the literature’s prior focus on mechanisms that are set up jointly with partners. Empirically, we develop multi-dimensional measures of the intents to learn and to protect in alliances that incorporate their underlying mechanisms. Our discussion centers on new ventures, which need alliances as a reliable and controllable vehicle of learning because of the ventures’ typical scarcity of resources, although part of our reasoning also applies to established firms. We test our predictions on a sample of 107 alliances involving e-commerce ventures that were active in 2001 and were based in Europe, North America, and Asia.

BACKGROUND AND PREDICTIONS

Inkpen (2002) identified four dimensions of learning in alliances: learning to manage alliances, learning about partners, joint learning, and learning from partners. This paper focuses on the fourth of these dimensions – learning from partners – which involves the transfer of knowledge from one partner to another (Inkpen & Dinur, 1998; Mowery, Oxley & Silverman, 1996; Simonin, 1999). Greater learning means obtaining a wider range and depth of useful knowledge from a partner (further transfers within the focal firm or applications of the acquired knowledge are beyond the scope of the study). In turn, we define leakage as undesired transfer of knowledge to a venture’s partner (Hamel, Doz & Prahalad, 1989). Of course, a venture may wish to transfer some knowledge to a partner or may be indifferent to the transfer of non-essential knowledge; our definition of leakage includes only undesired transfers. Building on these
definitions, this section develops hypotheses regarding firm-controlled determinants of inter-partner knowledge transfer in alliances: the venture’s intent to learn and its intent to protect.

The intent to learn in alliances

The alliance and entrepreneurship literatures identify multiple mechanisms that might influence learning and protection in alliances. Most mechanisms are either set up jointly by the partners, such as alliance contracts (Ariño, Ragozzino & Reuer, 2008) and alliance scope (Oxley & Sampson, 2004), or depend on the selected partner, such as an ally’s relative absorptive capacity (Lane & Lubatkin, 1998). Exploring the mechanisms that a venture can set up independently from its partner, a review of the literature suggests that the primary determinant of learning in alliances that firms fully control is what we refer to as the focal firm’s intent to learn, such that firms with greater intent to learn gain more knowledge from their partners (Hamel, 1991; Johnson & Sohi, 2003; Kale, Dyer & Singh, 2002; Norman, 2004; Pucik, 1988; Simonin, 2004; Tsang, 2002).

To date, though, the literature has generated little agreement on what is meant by a firm’s intent to learn. Discussions of intent to learn include notions such as “desire and will” (Tsang, 2002: 839), “propensity” (Hamel, 1991: 89), “self-determination, desire and will” (Simonin, 2004: 409), and “how hungry and ambitious the firm is to learn and build competencies” (Johnson & Sohi, 2003: 759). Relying on a form of anthropomorphism to transpose individual-level concepts to an organizational level, these approaches, not surprisingly, often measure a firm’s learning intent by the top management’s stated desire to learn from the alliance (Norman, 2004; Simonin, 2004; Tsang, 2002). By contrast, other authors stress that gaps often appear between top management intentions and the actual operational behavior of a firm’s members, arguing that the intent often fails to be “communicated throughout the firm” (Pucik, 1988: 82)
and observing “firms with explicit learning objectives are unable to put into place the appropriate mechanisms and systems to transfer knowledge from the JV to the parent” (Inkpen & Crossan, 1995: 595). In the same vein, Kale and Singh (2007) demonstrate that the creation of an alliance management function helps articulate learning objectives throughout a firm.

Thus, authors who view the firm’s intent to learn as an essential driver of inter-partner learning in alliances differ significantly in the way they define the concept. They differ, in particular, on the level to which the notion applies: at the individual level, focusing on top management, or at an organizational level, which places the behavioral patterns throughout the firm. This discussion is highly relevant for new ventures. The high rate of hiring in new ventures (Markman & Gartner, 2002), the resulting short average tenure of managers and employees, and the fact many employees have not had time to share in the leadership’s vision often lead to substantial gaps between top management’s intentions and other employees’ behaviors.

Building on these two views of firm intent, we argue that the individual and organizational levels are reinforcing aspects of the learning intent concept. A learning intent at the top management level only, with no translation into collective objectives, is more akin to wishful thinking than to a guide for action. Conversely, organizational mechanisms that are distributed throughout the venture but lack top management guidelines as to what needs to be learned lack the strategic integration needed to coherently build up and develop the venture’s knowledge base. We argue that a firm’s learning intent includes both intentionality embodied in a definition of the firm’s learning objectives provided by top management, together with an organizational dimension in the form of engrained behavioral patterns that translate the learning objectives into actions that capture and incorporate external knowledge into the firm.
Hence, in contrast to prior studies, we argue that a measure of a venture’s learning intent needs to include both individual and organizational dimensions. This intent to learn is firm-directed, i.e., independent from influences that a partner in a given alliance might exercise on the alliance. We expect that ventures with greater intent to learn, where intent to learn includes both explicit learning objectives determined by top management and more broadly distributed organizational elements, will achieve greater learning in an alliance, irrespective of decisions that need the partner’s consent. We state a baseline hypothesis concerning the learning impact of learning intent, which we will then operationalize in terms of both individual and organizational mechanisms.

**Hypothesis 1:** The greater a venture’s intent to learn in alliances, where intent to learn includes both individual and organizational mechanisms, the more the venture will learn from a partner in a given alliance.

**The intent to protect in alliances**

The inter-organizational learning literature also contends that, while alliances provide learning opportunities, they entail significant risks of knowledge leakage to partners. As we noted earlier, leakage refers to undesired transfer of knowledge to a partner. We argue that if ventures can enter an alliance with the intent to learn, they can also do so with the intent to protect their valuable knowledge from leakage. Although the risk of opportunistic behavior in alliances has been extensively studied both for entrepreneurial ventures and for established companies (Dickson et al., 2006; Hennart, 1988; Khanna, Gulati & Nohria, 1998), the notion of intent to protect has not yet been developed. Several authors examine the impact of various factors on protection and leakage in alliances (Baughn et al., 1997; Das & Teng, 1999; Dussauge, Garrette & Mitchell, 2000a; Hamel et al., 1989), but they have not delved into the
meaning or impact of a firm’s intent to protect. We believe that understanding this intent is particularly important for new ventures, which typically base their advantage on very few valuable resources and for which the loss of the proprietary nature of these resources often would lead to failure and dissolution.

Our argument concerning protection intent parallels our discussion of the firm’s learning intent in an alliance. We suggest that the firm’s intent to protect in an alliance is both determined by top management intentions and engrained in behavioral patterns at a more operational level. A firm’s intent to protect must include a conscious understanding of those pieces of knowledge that need to be protected from appropriation by a potentially opportunistic partner in an alliance. Thus, as is the case for the firm’s intent to learn, its intent to protect incorporates the strategic intentionality of top management. As in the case of the firm’s intent to learn, however, top management intentions alone are merely wishful thinking. The firm’s intent to protect is not limited to the top management’s declared intentions but needs to also encompass behavioral patterns at a more operational level.

The intent to protect is controlled by the venture, in the sense that it is largely independent of a partner’s influences. As we noted earlier, a venture may wish to transfer some knowledge or may be indifferent to the loss of non-essential knowledge to a partner, but we focus on how ventures protect themselves from undesired losses. We expect ventures with greater intent to protect, where intent to protect includes both top management objectives and broader organizational processes, will incur lesser leakage (i.e., undesired loss of knowledge) in an alliance, irrespective of decisions that need the partner’s consent. We state a baseline hypothesis concerning protection intent, which we will again operationalize in terms of both top management and organizational mechanisms.
Hypothesis 2: The greater a venture’s intent to protect in alliances, where intent to protect includes both individual and organizational mechanisms, the less the leakage to a partner in a given alliance.

Do learning and protection intents conflict with or reinforce each other?

Most authors who have considered leakage in alliances in parallel with learning objectives emphasize trade-offs between learning and protection. There are two traditional arguments. First, greater attempts at learning may lead to higher risks of leakage to a potentially opportunistic partner (Oxley, 1997). Second, a stronger focus on protection and control may hinder inter-partner learning (Baughn et al., 1997; Hamel et al., 1989). Creating an environment conducive to knowledge transfer requires openness as well as repeated interactions between the two firms. While such an environment may favor learning by the focal venture, it will also allow the partner to gain knowledge. Because the literature typically assumes openness to be symmetric, the traditional argument is that both the focal venture and its partner will benefit from learning opportunities and, conversely, suffer leakage.

Kale, Singh, and Perlmutter (2000) challenge the trade-off view, arguing that learning and protection often are not conflicting objectives in an alliance. They suggest that firms can address protection concerns by building inter-partner relational capital and using an integrative approach to managing conflict in the alliance. This approach brings together the argument that inter-partner trust and alliance routines enhance knowledge transfers (Ariño, De La Torre & Ring, 2001; Zaheer, McEvily & Perrone, 1998; Zollo, Reuer & Singh, 2002) and the argument that trust and control in alliances complement each other (Das & Teng, 1998; Poppo & Zenger, 2002). Nonetheless, while inter-partner
relations may enhance learning and protection in alliances jointly, they fall outside the realm of control of the focal firm. Indeed, inter-partner relational capital, trust, and control are not factors that are directly controlled by the firm. Of course, the focal firm influences partnership-specific factors. Nonetheless, because they are set up jointly by both partners, the firm cannot fully control them. Therefore, in this approach, learning and protection objectives can only be reconciled at the inter-organizational level.

We argue that ventures can enter alliances with both learning and protection intent and that, through these intents, they can control at least some of the knowledge transfer that takes place in the alliance. In contrast to the relational view of learning, we note that both types of intent arise within the focal venture, independently from the partner’s intent. On this basis, we predict that the cross-effects of the learning intent on leakage and of the protection intent on learning are not symmetric.

Several studies suggest that a strong learning intent associates with wider openness to the partner (Ariño et al., 2001; Hamel et al., 1989; Nonaka, 1994; Zollo et al., 2002). Indeed, the broader the knowledge base that a venture puts in contact with the alliance through its employees, the greater the absorptive capacity (Cohen and Levinthal, 1990) that the venture will generate for recognizing valuable knowledge in its partner’s knowledge base. In return, this openness risks greater undesired loss in parallel with greater learning (Baughn et al., 1997), because allowing the partner to connect with a broader knowledge base increases the partner’s ability to recognize and acquire valuable resources from the focal venture (Oxley & Sampson, 2004). Indeed, even when a venture sets deliberate learning objectives, the nature and location of the knowledge to be acquired within the partner or the alliance is often somewhat ambiguous (Simonin, 1999).
Identifying and locating the sought knowledge implies trial-and-error, more interpersonal contacts and communication and, in turn, more openness than would be necessary if the firm knew the precise nature and location of the targeted knowledge. Finally, identifying and locating valuable knowledge requires that employees have enough “slack” time and resources to interact with the employees of the partner and learn from them (Pucik, 1988), which also increases the risk of “micro-leakage” of valuable knowledge to the partner (Hamel et al., 1989). This issue is likely to be of particular importance for young ventures, because they cannot rely on years of experience to refine and improve the routines they use to identify valuable knowledge in alliance partners. Therefore, we expect that a greater intent to learn will entail more undesired loss of information to the partner.

Hypothesis 3: The greater a venture’s intent to learn in alliances, the more the leakage to a partner in a given alliance.

In parallel, Norman (2004) initially argued that the level of knowledge protection decreases the focal firm’s learning in an alliance. The prediction drew from the idea that limitations on knowledge sharing by either partner cause a spiral in which both partners become reluctant to share any knowledge, which results in fewer learning opportunities for either partner. However, Norman’s prediction did not receive empirical support.

Indeed, an alternative logic suggests that approaches to learning and to protection are not symmetric. As we argued above, learning requires openness because the nature and location of the sought knowledge are not fully identified by the learning firm. Protection concerns, in contrast, center around key knowledge that the firm has identified
as valuable and for which it seeks to avoid leakage (Baughn et al., 1997; Dussauge et al., 2000a; Hamel et al., 1989).

Because protection involves a focus on particular elements of knowledge, the protection efforts may have only a limited impact on the wider openness, intense communication flows, and strong inter-personal bonds associated with more general learning objectives. In this respect, protection efforts would only marginally impact a firm’s learning in an alliance. Oxley and Sampson (2004) argue that leakage fears will lead a firm to limit the scope of an alliance it is entering; it is likely, however, that it will limit this scope in a targeted way, so that specific elements of its knowledge it has identified as valuable are not exposed. Unless the partner also has a similarly strong intent to protect, this needs not lead to a symmetric reduction in alliance scope by the partner and thus not significantly affect the learning opportunities for the focal firm. In other terms, while a venture’s learning opportunities may be reduced by its partner’s protection intent, there is no reason to believe that they should be impacted by its own protection intent.

Such an argument on the focused nature of protection efforts will be particularly relevant in the case of new ventures, which typically have especially scarce resources: what new ventures seek to protect is often a particular innovation, technology, or capability on the basis of which the venture was created in the first place. Therefore, new venture managers involved in alliances are likely to have a very clear understanding of what resource the firm should seek to protect, know its primary locus within the organization and thus be able to protect it in a targeted way without jeopardizing the quality of the relationship with the partner. Therefore, we anticipate that having a greater
intent to protect does not significantly reduce the extent of learning that a new venture can achieve in an alliance.

*Hypothesis 4: A venture’s intent to protect in alliances does not reduce the amount of learning from a partner in a given alliance.*

These predictions reinforce the idea that ventures can shape inter-partner knowledge flows in alliances using mechanisms that are largely under their independent control, irrespective of decisions that need the partner’s consent. First, we expect a venture’s intent to learn to lead to greater learning. Second, we expect greater intent to protect to lead to less leakage. Third, while we expect learning efforts to interfere with protection efforts, we do not anticipate that protection efforts will negatively influence learning outcomes. Overall, the arguments suggest that alliances may provide at least a constrained means by which entrepreneurial ventures can acquire external knowledge without giving up valuable proprietary knowledge. Thus, our arguments suggest that alliances may provide a reliable response to a venture’s typical scarcity of resources.

**METHOD, DATA, AND MEASUREMENTS**

**Data collection and sample**

We chose alliances involving e-commerce ventures operating in 2001 to test the hypotheses. E-commerce alliances are created between companies in order to conduct new ventures on the internet. Given that commercial activities on the internet only started to develop in the mid-1990’s (BBC, 2006), this choice allowed to explore these ventures in the first few years after their creation. The companies involved in such alliances can be pure e-commerce players as well as established brick-and-mortar firms that create new online ventures. For example, Amazon.com, an entrepreneurial firm founded in 1995, and Toys’R’Us, an established firm starting a new online venture, entered into an alliance to jointly sell toys online in 2000.
(Dussauge, Mitchell & Rivera-Santos, 2001). The alliance was formed to combine Amazon.com’s e-commerce expertise with Toys ‘R’ Us’ strengths in the toy business, and followed disappointing performance by both firms when they each tried to develop the online business on their own in 1999. In this alliance, the learning opportunities for Amazon.com involved deeper understanding of the toy industry, while Toys ‘R’ Us could learn how to manage an online toy business. Because of the value of these capabilities for both partners’ respective strategies, these parallel learning opportunities would also create the potential for leakage between the partners.

We carried out the research in two steps. The first step in the empirical validation of our model consisted of face-to-face and phone interviews with ten CEOs of e-commerce ventures in both the US and Europe. The interviews helped us understand how practitioners view alliance learning and protection issues and what solutions they suggest. Each interview lasted about an hour. The open-ended questions focused on topics that addressed factors identified in the alliance literature, but did not introduce a theoretical model so that we would not bias the interviewee’s responses. The second step was the development of a survey based on the theoretical model. We used a survey because the fine-grained information needed to test our hypotheses was not available in secondary sources. We pre-tested this questionnaire in face-to-face interviews with another ten CEOs of e-commerce companies in Europe, as well as with several industry experts.

We administered the survey online, using English and French versions. Reverse translations and pre-tests ensured that both versions were equivalent. We identified target companies from online databases. We contacted respondents via e-mail. We sent three e-mails to each company, with an interval of about two weeks between each e-mail. The e-mail asked companies to choose one alliance in which they had participated and a resource they had tried to
acquire from the alliance, as well as a resource their partner had tried to acquire from them. Thus, each questionnaire covers two potential knowledge transfers, one in each direction. A seven-point Likert scale (1 = “Strongly disagree”, 7 = “Strongly agree”) measures the variables in the model. We contacted 1,211 companies and obtained 148 responses, for a 12% response rate. This is comparable to response rates and sample sizes in similar surveys involving top management respondents and new ventures (Lane & Lubatkin, 1998; Lechner, Dowling & Welpe, 2006; Schulze, Lubatkin, Dino & Buchholtz, 2001). A Kruskal-Wallis test of difference in variable means between early and late respondents suggests that the sample does not have a response bias. A similar test between respondents using the French and the English versions of the questionnaire found no significant difference in responses to the main questionnaire items, suggesting that the two versions are equivalent.

Almost all respondent companies were small, with a median of 30 employees, and were mainly service or software companies. In addition, almost all respondents were new single business firms, although a few (12%) were new e-commerce ventures created by established businesses (we control for this difference in the statistical analysis and sensitivity analysis based on both business size and established parent). Ninety percent of the respondents were CEOs or VPs of marketing, business development, or alliances, consistent with other studies that use top-management respondents to report on learning and opportunism in new ventures’ alliances (Dickson et al., 2006; Lechner et al., 2006). We cross-checked the respondents’ corporate position by the contact e-mail they provided in the questionnaire. The respondents’ alliances had varied geographic operations: 78% in Europe, 40% in North America, and 13% in Asia (the total exceeds 100% because some alliances operated on multiple continents). About half the responses state that both partners tried to learn from the alliance, while the rest are distributed evenly
between only one of the partners and none trying to learn. The variable means of the English (59%) and French (41%) responses do not differ significantly.

We used a single respondent from each firm, for both conceptual and empirical reasons. Conceptually, multiple respondents allow researchers studying large organizations to obtain responses that are less biased by the respondent’s position within the organization. In our sample, though, almost all firms are small, all alliances are new ventures, and our respondents (overwhelmingly CEO’s or VP’s) are the most knowledgeable individuals for questions about alliances, thus reducing the need for multiple respondents (Lechner et al., 2006). Indeed, seeking multiple respondents might have introduced bias by requesting information from less knowledgeable people. Prior studies on knowledge transfer commonly rely on single respondents (Lechner et al., 2006; Zander & Kogut, 1995). To check for biases, we conducted a Kruskal-Wallis test of potential differences in variable means between respondents with different positions and found no significant differences. This suggests that the responses were not influenced by the position of the respondent in the company. Finally, we conducted a Harman’s one-factor test to check for common method variance bias. A factor analysis with the model variables showed the existence of 9 factors with an eigenvalue over 1, accounting for 67.72% of total variance, suggesting that common method bias is not a serious issue.

The study design limits the risk of reverse causality. We need to ensure that respondents do not simply associate alliances that have substantial learning or little leakage with questionnaire items that we used to measure the intent to learn and intent to protect. The fact that we do not measure the intent to learn and intent to protect with a direct question addresses this concern. Instead, we measure both concepts with multiple items, several of which do not have immediately obvious relationships with learning or leakage outcomes in specific alliances. This
reduces the potential for reverse causality as respondents would need to recognize that a series of items scattered throughout the questionnaire are combined to measure the learning and protection intent and then associate this with the actual learning and leakage they report.

Table 1 reports summary statistics for the variables that we used in the reported analysis. Assessing the correlations shows little association between specific items and either learning or leakage, further suggesting that there is little risk of reverse causality. The following section describes how we measured both types of intent, as well as the other variables in Table 1.

********** Table 1 about here **********

**Measurements and Tests**

We measure the dependent variables for learning and leakage in an alliance with a series of questionnaire items. The dependent variable for learning includes three items: (1) “We have been successful in acquiring the capability described in question 59” (question 59 reads: “Have you tried to acquire a new capability from the alliance?”); (2) “We consider that we acquired it fully”; and (3) “We consider that we acquired it easily”.

The dependent variable for leakage (undesired loss of knowledge) also includes three items: (1) “Our partner has been successful in acquiring the know-how/capability described in question 65” (question 65 reads: “Do you believe that your partner has tried to acquire a new capability from the alliance?”); (2) “We believe that our partner acquired it fully”; and (3) “We believe that our partner acquired it easily”. In turn, the leakage variable is set to “no leakage” if the partners agree to the transfer of knowledge, measured by the item: “The partners in this alliance agreed upon certain transfers of capabilities/know-how”, so that the variable has a positive value only in the case of undesired loss of knowledge.
We created multi-item measures for the independent variables for learning intent and protection intent. As we argued earlier, both types of intent incorporate deliberate as well as emergent dimensions. Thus, our measures of the firm’s intent to learn and of its intent to protect draw on a series of items reflecting both the deliberate and the behaviorally emergent facets of the concept. Some of the measures include both dimensions simultaneously. We first present the measures relating to the deliberate aspect of both the intent to learn and the intent to protect and then move on to presenting the measures of the emergent aspects of both types of intent.

A review of the literature suggests that the deliberate aspect of a firm’s intent to learn and to protect involves four major dimensions: the top management’s statements of intention (Hamel, 1991; Johnson & Sohi, 2003; Simonin, 2004), the incentives that the firm deliberately creates to induce learning and protection behaviors at a more operational level (Pucik, 1988), the existence of a dedicated alliance function with the deliberate aim of “coordinating alliance activity and capturing/disseminating alliance-related knowledge” (Kale et al., 2002: 747), and the slack time that a firm makes available to its participating employees (Nonaka, 1994).

The survey included questions for each of these dimensions. We measure top management’s expressed intention to learn by the following item: “Gaining access to new capabilities or know-how was one of our main objectives when we created the alliance”, and its intention to protect by a combination of the items: “We let our employees know what capabilities we do not want our partner to access” and “Our employees receive training about how to protect our capabilities in alliances”. We measure the incentives to learn and protect at a more operational level by the following two items: “We encourage our employees to collect information and acquire capabilities when they collaborate in alliances” and “We encourage our employees to protect our capabilities when they collaborate in alliances”. We measure the
existence of an alliance function by the following item: “In our company, we coordinate our alliances centrally”. We note that the literature considers the existence of an alliance function as a measure of the firm’s learning intent (Kale et al., 2002) as well as of its protection intent (Baughn et al., 1997). Taking an exploratory approach, we model the existence of an alliance function as a measure of both types of intent. Finally, we measure the slack time made available to employees to learn from the alliance with the item: “Our employees in the alliance can allocate time to collect information about our partner and acquire new capabilities”.

We note that, even though this series of measures constitutes the deliberate aspect of a firm’s intent to learn or of its intent to protect, several measures could arise from organizational processes as much as from deliberate aspects. For instance, incentives that induce line employees to learn and protect are deliberate, since they are part of a conscious intention on the top management’s part, but they are also organizational processes, because they impact the behavioral patterns of employees.

Two other organizational aspects of the firm’s intent to learn and to protect involve different dimensions identified in the literature: culture (Fiol, 1991; Hamel et al., 1989; Minguzzi & Passaro, 2001) and alliance experience (Kale et al., 2002; McGee & Dowling, 1994; Reuer & Zollo, 2005; Simonin & Helleloid, 1993). Both culture and alliance experience create routines and behavioral patterns, which, while not deliberate, are conducive to learning or protection. A learning culture, for instance, will engrain the intention to learn in the minds of employees throughout the organization.

Several questionnaire items address these dimensions. We measure a firm’s learning and protection cultures, respectively, by the items “Learning is a major feature of our corporate culture” and “Protection and confidentiality are major features of our corporate culture”. We
measure experience at two levels: the firm’s overall alliance experience and the specific alliance experience of employees. While scholars often measure experience at the firm level, typically through the number of alliances the focal firm has been involved in (Dussauge, Garrette & Mitchell, 2000b; Kale et al., 2002), several authors argue that it is more appropriate to consider experience of the employees engaged in an alliance in order to understand intent or, more generally, factors influencing learning and protection in alliances (Baughn et al., 1997; Hamel et al., 1989). Therefore, we measure both employee and firm experience. The item “Our employees working in this alliance had previously been involved in alliances” assesses employee experience, while the number of alliances the responding firm has been involved in prior to the focal alliance assesses firm experience. Paralleling our argument about the firm’s dedicated alliance function, experience is a measure of both the firm’s intent to learn and its intent to protect. We model experience as a measure of both types of intent. We note that, while a firm’s protection culture is clearly an organizational aspect of its intent to protect, other aspects can involve both top management intent and organizational processes. For instance, the employees’ alliance experience is embedded in organizational processes because it creates routines and behavioral patterns without a specific intention, but it is also deliberate because senior management selected the participants.

As control variables, we added five alliance-specific mechanisms that the literature suggests affect inter-partner knowledge transfers. First, knowledge overlap between the partners could increase both the potential knowledge acquisition from alliances and the knowledge leakage risks (Khanna et al., 1998; Lane & Lubatkin, 1998). Second, inter-partner equity sharing could reduce the threat of opportunistic behavior and so reduce leakage (Dyer & Chu, 2000; Mjoen & Tallman, 1997). Third, protective clauses in the alliance contract could reduce leakage
(Dyer, 1997; Reuer & Ariño, 2007). Fourth, the existence of an independent organizational structure for the alliance could improve learning through day-to-day interactions (Nonaka, 1994) but at the same time increase leakage (Hamel et al., 1989). Fifth, prior relationships with the same partner could help create trust and knowledge, thereby increasing knowledge transfers while guarding against leakage (Ariño et al., 2001; Das & Teng, 2001). We also examined several other control variables, such as size and geographic location of the alliance, in sensitivity analysis.

We test the theoretical model in two steps. The first step develops a measurement model that tests the construct validity of the firm’s intent to learn and of its intent to protect in alliances, both constructed as latent variables. We test the measurement model with a confirmatory factor analysis (CFA) using LISREL-type structural equation modeling (Bollen, 1989). The CFA approach allows us to model the fact that, as the literature suggests, some items could measure both the firm’s learning intent and its protection intent in alliances, making it impossible to use traditional tests of construct validity based on Cronbach’s alpha. Furthermore, unlike an exploratory factor analysis which is driven by data only, the CFA allows us to test for theoretically derived relationships. After assessing which measures should be dropped from the measurement model, the CFA allows us to compute composite reliabilities for each construct and assess their convergent and discriminant validities. The second step tests our hypotheses by incorporating the measurement model into a structural model that assesses how both types of intent affect firm learning and leakage. This procedure follows Anderson and Gerbing’s (1988) recommendation to use a two-stage approach when conducting structural equation modeling analyses. We used the CALIS procedure in SAS V9.1 to obtain maximum likelihood parameter estimates.
RESULTS

Table 2 presents the summary results of the different models used in this study, including the measurement models. We were able to use 107 responses for the measurement model. Following Maruyama (1998), who suggests using multiple measures to assess goodness of fit of a model, the figure reports several indices. While some measures suggest a reasonable fit, others suggest a need for improvement of the measurement model. The model chi-square value, for instance, is highly significant ($\chi^2 = 129.5$, df = 95; p>0.01), and the Goodness of Fit Index (GFI) = 0.88 is close to but still below the 0.90 rule-of-thumb cut-off point, suggesting a need for improvement. The chi-square over degrees of freedom ratio, $\chi^2$/df = 1.36, however, is well below the rule-of-thumb cut-off point of 2.0 (Maruyama, 1998) and the RMSEA Estimate = 0.058 is below the 0.06 cut-off-point (Hu & Bentler, 1999). Similarly, while most of the loadings on the four latent variables are significant, three paths are either not significant or only marginally significant, suggesting that they should be dropped from the measurement model and that a revised measurement model should be constructed (Hatcher, 1994).

********** Table 2 about here **********

We find that the existence of a dedicated alliance function is a measure of the firm’s intent to protect (loading = 0.45, p<0.05), but it only imperfectly measures its intent to learn (loading = 0.24 p<.10). This might be explained by the fact that the link between the employee level patterns embodying the intent to learn (Pucik, 1988) and a dedicated alliance function is too tenuous for the latter to become a strong measure of the firm’s learning intent. This may also suggest that the impact of a dedicated alliance function is weaker in new ventures than in larger established firms. We note that, even though it is not significant enough to be included in a
revised measurement model, the path is still marginally significant, directionally consistent with Kale, Dyer, and Singh’s (2002) arguments.

We also find that the alliance experience of employees, although a strong measure of a firm’s intent to learn (loading = 0.72, p < 0.01), does not provide a significant measure of a firm’s intent to protect. This difference might be explained by the fact that the learning routines created by experience are more general and thus more redeployable than those created through the experience of protecting a specific resource or knowledge. Therefore, the protection experience might be less helpful when applied in a new setting or with different types of resources.

Finally, we find that firm-level experience does not measure either intent significantly. This might arise if learning and protection behavioral patterns and routines created by experience tend to reside at the operational level rather than the broader firm level, in line with arguments by Baughn, Stevens, Denekamp and Osborn (1997) and Hamel, Doz and Prahalad (1989). Because of the empirical support for the impact of firm-level experience on learning and leakage in the literature, though, we will reintroduce this measure as a control variable in the structural model.

Table 2 also reports the results of the revised measurement model, which drops the insignificant paths. We find a reasonable overall fit for the model. Although the model is still significant (p > .035), most other fit indices fall within or very close to rule-of-thumb ranges: $\chi^2 = 108.99$, df = 84, $\chi^2$/df = 1.30, RMSEA estimate = 0.053, GFI = 0.89, Bentler’s CFI = 0.97, McDonald’s Centrality = 0.89, and Bentler and Bonnet’s NNI = .96.

The revised measurement model thus assesses a firm’s intent to learn in alliances with five mechanisms (learning culture, incentives to learn, stated learning goals, slack, and employee alliance experience), its intent to protect in alliances with four mechanisms (protective culture, incentives to protect, stated protective goals, and a dedicated alliance function), and both
dependent variables, learning and leakage, with three parallel items each. In order to assess whether the measurement model is adequate, we still need to assess the composite reliabilities of the constructs, their convergent validities, and their discriminant validity. We find that the composite reliabilities of all four latent constructs are over the 0.60 cut-off point (Hatcher, 1994): the constructs measuring the firm’s intent to learn and to protect have a composite reliability of 0.60 and 0.61 respectively, while the learning and leakage constructs have a composite reliability of 0.93 and 0.97 respectively. The fact that all the loadings in the revised measurement model are significant further suggests that they all exhibit convergent validity (Hatcher, 1994). Finally, we test the discriminant validity of the intent constructs by running a single-factor model and comparing it to the revised measurement model with a $\chi^2$ difference significance test (Hatcher, 1994). We find a highly significant difference ($\delta \chi^2 = 147.97 - 108.99 = 38.97$, $\delta \ df = 85-84 = 1$, p<0.001), empirically supporting discriminant validity.

We introduce the structural model after assessing the validity of the measurement model. Figure 1 presents the structural model graphically, while Table 2 reports the summary results of all models discussed in the paper. Most fit indices suggest a very good fit of the model: the model is not significant (p>0.08), $\chi^2 = 174.76$, df = 150, the RMSEA estimate = 0.04, GFI = 0.86, Bentler’s CFI = 0.97, McDonald’s Centrality = 0.89, Bentler and Bonnet’s NNI = 0.96, and Delta2 = 0.97.

********** Figure 1 about here **********

The structural paths provide support for the four hypotheses. H1 predicts that a stronger intent to learn will lead to more learning. As expected, the structural path between both constructs is positive and significant (loading = 0.536, p<0.01). H2 predicts that a stronger intent to protect will lead to less leakage. The loading on this path is negative and significant (loading =
supporting the hypothesis. These results suggest that a venture can significantly influence the knowledge flows in its alliances and, most importantly, that it can do so using mechanisms that it fully controls – through its intent to learn and its intent to protect, which are outside the partner’s control. H3 predicts that a firm’s learning intent will lead to more leakage. We find strong support for this hypothesis (loading = 0.184, p<0.01). The results also support H4, showing that a venture’s intent to protect does not have a significant impact on its learning from alliances. Thus, the results on the cross-effects between both types of intent and learning and leakage are asymmetric.

Several control variables address the influence of alliance-specific factors on learning and leakage in the structural model. The existence of an independent structure significantly increases both learning and leakage. Inter-partner trust significantly increases learning. Equity investments moderately reduce leakage.

Sensitivity analysis added six additional control variables that are common in alliance studies with a focus on new ventures: Firm size, date of creation of the alliance, intensity of competition in the business domain, geographical location of the alliance, alliance in the core activity of the focal firm, and single-business vs. multi-business firm, while also re-introducing firm-level alliance experience. Having an alliance in the core activity of the focal firm increases leakage, but the introduction of the six additional control variables resulted in no material change in the results of the core model. Firm size had no influence on learning or leakage, suggesting that the results apply generally to small ventures and to larger ventures created by established firms, although the fact that we have only a limited number of established firm ventures in the sample limits this conclusion. Similarly, the fact that the new venture had multiple businesses, indicating that it had been created by an established firm, had no influence on learning or
leakage. We omit the additional variables from the main reported model because the overall fit of the model declined with the second set of control variables (with a significant chi-square value for the weaker fit: \( \chi^2 = 311.91, \text{df} = 241, p = 0.001 \)), although we present the full results of this second structural model in Table 2. The loadings of the core results in both the measurement and structural models did not vary materially.

Overall, the model supports our predictions. We find that, operationalized with both their individual and organizational dimensions, the firm’s intent to learn and to protect in alliances, over which alliance partners have little or no control, significantly influence actual learning and leakage in alliances. We further find that a firm’s learning intent moderately increases leakage, but that a firm’s protection intent has no significant impact on learning. The results suggest that ventures can use alliances as a reliable source of external knowledge, but that they do so at some risk of also losing valuable knowledge.

**DISCUSSION AND CONCLUSION**

Many authors argue that alliances are a primary means through which new ventures can acquire external knowledge to compensate for their typical resource scarcity, and several studies suggest that firms can actively manage their alliances to meet their learning needs. This paper studies the impact of two primary firm-managed factors that influence learning and leakage in alliances, the venture’s intent to learn and its intent to protect in an alliance, and examines whether these goals conflict with or reinforce each other. In addition to this conceptual contribution, this paper also proposes a multi-dimensional operationalization of both constructs.

Building on previous research, we argue that the notion of intent to learn in alliances includes both individual and organizational levels with deliberate and emergent facets and we identify specific mechanisms underlying the construct, thereby conceptually clarifying the
concept of intent and empirically testing a multi-dimensional measurement of the concept. Our results suggest that a firm’s intent to learn incorporates five mechanisms that involve these various levels and facets: organizational slack, the incentives to learn at an operational level, the firm’s overall learning culture, the alliance experience of employees, and the top management’s stated intention to learn in the alliance.

It is intriguing that the measure prior research most often uses as a proxy for intent – the top management’s stated intention to learn in the alliance – is a more limited measure of the intent to learn than the organizational translation of the top management’s intentions, such as the creation of adequate incentives at the operational level or the allocation of time to the accomplishment of the learning objectives. In line with Inkpen and Crossan’s (1995) argument, this suggests that some top management statements reflect a genuine intent for their firm to learn, but others merely reflect wishful thinking that does not carry over to specific actions. One of the contributions of our study is to clarify the notion of learning intent, to identify its underlying mechanisms, and to offer a more encompassing definition and operationalization of the concept.

We also introduce the notion that firms can develop the intent to protect, which mirrors their intent to learn in an alliance. While the literature often discusses the need for protection, the notion of a firm-controlled intent to protect has, to the best of our knowledge, not yet been explicitly developed. Paralleling our discussion of the intent to learn, we find that the intent to protect includes both deliberate and behaviorally emergent facets. Our results suggest that the notion incorporates a series of four mechanisms: operational incentives to protect, top management’s stated intention to protect, the firm’s overall protection culture, and the creation of a centralized alliance function. Again, these findings suggest that the behavioral translation of
the top management’s intentions is a measure of the firm’s protection intent, which is at least as strong as the top management’s stated intentions.

We find that the firm’s learning intent affects learning outcomes in an alliance, while the firm’s protection intent affects leakage. These results suggest that a venture can influence inter-partner knowledge flows in alliances using mechanisms under its own control, irrespective of decisions that need the partner’s consent. Indeed, a venture can develop and control both types of intent, without reference to a partner. Clearly, this does not imply that partner-specific features, negotiated factors, and relational attributes of the alliance do not affect learning and leakage in the alliance. However, the impact of firm-controlled intent demonstrates that ventures have a real influence on learning and leakage, irrespective of external influences on these processes. In essence, the venture’s learning and protection intent in their alliances constitute the backbone of a venture’s strategy of learning in alliances.

Our results support the argument that alliances are a vehicle through which firms can build their knowledge base and, as such, are an essential mechanism in the dynamic capability perspective (Capron & Mitchell, 2004; Lorenzoni & Lipparini, 1999; Zollo & Winter, 2002). This is in line with arguments developed by Larson (1991), by Koza and Lewin (1998) and by Vassolo, Anand, and Folta (2004) who contend that new ventures, and, more generally, firms, can use their portfolio of alliances for exploration or exploitation purposes and that the configuration of the alliance portfolio co-evolves with the firm’s strategic intent. At the same time, ventures that place substantial emphasis on learning do so with some risk of losing valuable knowledge, which tempers the learning opportunity.

The results also provide empirical evidence of the cross-effects of the firm’s learning intent on leakage and of its protection intent on learning. As the literature often expects, we find
that a greater learning intent does indeed increase leakage. We note, however, that this impact is significantly smaller than the impact of the learning intent on learning outcomes. Interestingly, we find that the cross-effects are asymmetric, because the firm’s intent to protect does not reduce learning. This supports our argument that protection and learning goals are structurally asymmetric, as learning requires openness, while protection can be focused on specific pieces of knowledge. We note that, while a firm’s own intent to protect does not seem to impact its learning abilities, its partner’s intent to protect may, of course, significantly reduce the firm’s learning potential. Our argument relates to the trade-off between the intent to learn and to protect that a venture may develop and fully control in an alliance, rather than to the interaction between both partners’ decisions and behavior in the alliance.

At the same time, the standardized loadings associated with the intent to protect (i.e., the magnitude of the coefficient values), on both leakage and learning, are much weaker than those associated with the intent to learn. This is consistent with the view that firms have less control over leakage to their partners in alliances than they do over knowledge acquisition, reinforcing the idea that alliances are inherently risky.

The study has limitations that suggest avenues for future research. First, the work relies on one-sided perceptual measures of learning and protection, following the example of the many scholars exploring inter-firm knowledge transfers based on the responses provided by one of the two alliance partners (e.g., Lechner et al., 2006; Muthusamy & White, 2005; Si & Bruton, 2005; Wu & Cavusgil, 2006). While we are confident that top managers have a clear understanding of the knowledge they were seeking to acquire, or have acquired, from an alliance partner, their perception of what their partner was trying to learn from them, and the extent to which they succeeded in doing so, is likely to be more imprecise. Second, new venture alliances in e-
commerce may exhibit specificities that may limit the generalization of these findings. Activities such as web design and e-commerce software development involve highly codified knowledge, which, in turn, might make learning easier, and protection more difficult, than in other settings.

Our focus in this paper on a venture’s firm-managed intent to learn or to protect in its alliances contributes to the more general discussion of a firm’s learning and protection abilities in alliances. Alliance partners also influence what a firm can learn and protect in its alliances. Previous research has repeatedly shown the importance of decisions made jointly with the partner, such as the formal structure and scope of the alliance (Hennart, 1988; Khanna, 1998; Oxley, 1997; Oxley & Sampson, 2004) and the existence of inter-organizational routines (Zollo et al., 2002), as well as the impact of alliance partner features such as the overlap in knowledge bases (Dussauge et al., 2000b; Lane & Lubatkin, 1998) and the similarity between partners (Parkhe, 1991). While we find that both types of intent significantly influence learning and leakage, they are complemented by partner-specific features, negotiated factors, and relational attributes of the alliance. Exploring the interactions between the venture’s independent learning and protection intent and the relational and context-specific factors identified in the literature appears to be a promising avenue for future research.
REFERENCES


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Summary Statistics and Correlation Table

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**p < .01, ***p < .05, ****p < .10**
Table 2
Summary Results of the Different Models

### MEASUREMENT MODELS

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<th>Path Loadings</th>
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<th>Revised MM (non-stand.)</th>
<th>Revised MM (stand.)</th>
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### Covariances Between Latent Variables

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### Fit Indices

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### STRUCTURAL MODELS

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<th>Path Loadings</th>
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<th>SM2 (non-stand.)</th>
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### Fit Indices

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Figure 1
Structural Model

Learning Intent

Learning

Protection Intent

Leakage

Control Variables:
- Equity investment
- Conflict
- Intellectual Structure
- Task
- Overlapping Knowledge Bases
- Firm-level experience

\[ p > .08 / \chi^2/df = 1.17 / GFI = .88 / RMSEA Est. = .04 \]
Bentler’s CFI = .97 / McDonald’s Centrality = .89 / Bentler & Bonnet’s NNI = .96 / Delta2 = .97

* See Table 2 for list and description of all control variables.