Why Are Some New Ventures Better than Others at Appropriating Alliance Knowledge?
The Role of the Venture’s Alliance Knowledge Appropriation Orientation

Short title: Alliance Knowledge Appropriation Orientation

Miguel Rivera-Santos
Babson College
Management Division
Tomasso 123
231 Forest Street
Babson Park, MA 02457
Tel: (781) 239-5325
Fax: (781) 239-5272
e-mail: mrivera@babson.edu

Pierre Dussauge
HEC School of Management, Paris
Department of Strategy and Business Policy
1, rue de la Libération
78351 Jouy-en-Josas – France
Phone: (+33) 1 39 67 72 79
Fax: (+33) 1 39 67 70 84
e-mail: dussauge@hec.fr

Will Mitchell
Fuqua School of Business
Duke University
1 Towerview Drive
Durham, NC 27708
Phone: (919) 660-7994
Fax: (919) 681-6244
e-mail: will.mitchell@duke.edu

Paper currently under review. Please do not cite or quote without the authors’ permission.
Why Are Some New Ventures Better than Others at Appropriating Alliance Knowledge?  
The Role of the Venture’s Alliance Knowledge Appropriation Orientation

Short title: Alliance Knowledge Appropriation Orientation

Abstract

This paper explores why some new ventures are better than others at appropriating knowledge in their alliances. Expanding and re-conceptualizing the notion of intent to learn to include both TMT-level decisions and firm-wide processes, we develop the notion of Alliance Knowledge Appropriation Orientation (AKAO) and propose that its learning and protection components significantly influence learning and leakage in alliances, both directly and through cross-effects. We test our predictions on a sample of 107 e-commerce alliances. We find that a venture’s AKAO influences its learning and leakage outcomes in alliances, while also highlighting an asymmetric trade-off between learning and leakage: learning efforts interfere with protection, but protection efforts do not damage learning outcomes.

Keywords: Alliances; Knowledge appropriation; Learning; Protection; Orientation

Executive Summary

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. 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 enhance longer term growth. At the same time, partnerships create the risk that ventures will lose key knowledge to their partners.

While alliances provide a source of valuable knowledge for all ventures, some entrepreneurial ventures seem to be better than others at appropriating knowledge in their alliances, and the literature suggests that ventures that exhibit a greater intent to learn end up appropriating more knowledge than others. The notion of intent to learn lacks clarity, however,
both in its own right and in connection with the ability to avoid undesired knowledge leakage. Existing measures of a firm’s learning intent often simply reflect the top management team (TMT)’s stated desire to learn from alliances, in spite of the gaps that typically appear between TMT intentions and firm-wide practices. Moreover, scholars often overlook the ventures’ intent to protect themselves from undesired knowledge leakage, which has the potential to conflict with efforts to acquire partners’ knowledge.

Drawing on the entrepreneurial orientation (EO) literature, this study clarifies and re-conceptualizes the notion of intent to learn and develops the concept of “alliance knowledge appropriation orientation” (AKAO). Contrasting with the notion of intent to learn, which refers to TMT’s statements of intent, AKAO includes not only TMT intentions and policies, but also firm-wide processes and practices that influence knowledge flows. Further contrasting with the notion of intent to learn, AKAO incorporates protection aspects of knowledge appropriation, thereby assessing the complex interactions between learning and protection goals. We identify the specific organizational mechanisms that constitute a new venture’s AKAO and empirically test whether they influence inter-partner knowledge flows on a multi-country sample of e-commerce alliances active in 2001.

We find that the learning component of a venture’s AKAO (AKAO-L) consists of five distinct mechanisms, which include both TMT-level decisions and firm-wide practices: organizational slack, which refers to the time employees can devote to learning; the incentives to learn at an operational level, which refers to the financial (or other) incentives that employees receive when they learn; the firm’s overall learning culture; the alliance experience that the employees sent to the alliance have; and the TMT’s stated intention to learn in the alliance. We find that the protection component of a venture’s AKAO (AKAO-P) consists of four distinct
mechanisms, which also include both TMT-level decisions and firm-wide practices: the incentives to protect at an operational level; the firm’s overall protection culture; the creation of a centralized alliance function within the venture; and the TMT’s stated intention to protect.

We find that a venture’s AKAO-L and AKAO-P do increase learning and decrease leakage, respectively, suggesting that new ventures developing a greater AKAO are, indeed, better at appropriating knowledge in alliances. We also find, however, that cross-effects exist. Specifically, our findings suggest that a greater AKAO-L leads to greater leakage, even though we find that this impact is significantly smaller than the impact of AKAO-L on learning outcomes. By contrast, a new venture’s AKAO-P has no influence on its learning. In other terms, while a partner’s AKAO-P may decrease the new venture’s ability to learn in the alliance, the venture’s own AKAO-P does not impact its learning potential, suggesting that the cross-effects of learning and protection are asymmetric.

This study contributes to the literature both conceptually and empirically. Conceptually, we help explain why some new ventures are better than others at appropriating knowledge in alliances. We clarify and re-conceptualize the notion of intent to learn and propose the notion of alliance knowledge appropriation orientation, which includes not only TMT-level intent and venture-wide processes, but also the learning and protection components of knowledge appropriation. Empirically, we test the existence of AKAO, we identify the mechanisms underlying its learning and protection components, thereby providing an operationalization of this new construct, and we show that a greater AKAO does help a new venture be better at appropriating knowledge in alliances.
Why Are Some New Ventures Better than Others at Appropriating Alliance Knowledge?  
The Role of the Venture’s Alliance Knowledge Appropriation Orientation

Alliance partnerships are common means by which resource-limited entrepreneurial ventures, whether new companies or new businesses that established firms initiate, attempt to expand their knowledge bases. A key challenge for such ventures is to appropriate knowledge from their partners, with or without the agreement of the partners, while also protecting themselves from the leakage of key knowledge to the partners (Dickson et al., 2006; Larson, 1991; Patzelt et al., 2008; Phillips McDougall et al., 1994). The alliance literature suggests that ventures that exhibit a greater intent to learn from their alliances learn more than firms that do not (Hamel, 1991; Johnson & Sohi, 2003; Kale et al., 2002), where a firm’s intent to learn has been viewed as a top management team (TMT) goal that can extend to all the alliances that a firm is involved in (Simonin, 2004; Tsang, 2002). The notion of learning intent lacks clarity, however, both in its own right and in connection with the ability to avoid undesired knowledge leakage. We are only beginning to understand the conceptual basis of learning intent, including the nature of the mechanisms that link learning intent and actual knowledge transfer, while existing measures of a firm’s learning intent often simply reflect the top management team’s stated desire to learn from alliances (Norman, 2004; Simonin, 2004; Tsang, 2002), in spite of the gaps that typically appear between TMT intentions and firm-wide practices (Inkpen & Crossan, 1995; Pucik, 1988). Moreover, scholars of learning intent often overlook firms’ intent to protect themselves from undesired knowledge leakage, which has the potential to conflict with efforts to acquire partners’ knowledge (Deeds & Hill, 1998; Norman, 2004; Singh & Mitchell, 2005). Clarifying and re-conceptualizing the notion of intent to learn, this paper develops the idea of “alliance knowledge appropriation orientation” (AKAO) and examines the impact of AKAO on both learning and leakage.

The concept of alliance knowledge appropriation orientation draws on the entrepreneurial orientation (EO) literature (Lee et al., 2001; Lumpkin & Dess, 1996; Walter et al., 2006). Rauch
et al. (2009: 763) define EO as “the policies and practices that provide a basis for entrepreneurial decisions and actions”. Contrasting with the notion of intent to learn, which refers to TMT’s statements of intent, AKAO includes not only TMT intentions and policies, but also firm-wide processes and practices that influence knowledge flows. Further contrasting with the notion of intent to learn, AKAO incorporates protection aspects of knowledge transfer, thereby assessing the complex interactions between learning and protection goals.

We develop a measure of AKAO that includes both TMT goals and organizational processes. We then examine how AKAO affects alliance knowledge flows in a sample of 107 alliances involving e-commerce ventures based in Europe, North America, and Asia. We find that both the learning and protection components of AKAO affect inter-partner knowledge flow in alliances, with both main effects and asymmetric cross effects. The results suggest that, while the learning component of AKAO increases the risk of losing key knowledge to the partner, the protection component of AKAO does not inhibit learning opportunities in the alliance.

We contribute to the entrepreneurship and alliance management literatures and, more generally, to inter-organizational relationships studies, by re-conceptualizing and measuring concepts that the literatures have long suggested influence inter-firm knowledge flows. In showing that AKAO influences knowledge flow to and from partners we clarify and expand the notion of a firm’s knowledge intent in alliances, providing a more thorough definition of an important yet ambiguous concept, while demonstrating that the learning and protection aspects of appropriation have direct and joint effects. Our discussion centers on new ventures, but the reasoning also applies to established firms.

**BACKGROUND AND PREDICTIONS**

We define knowledge appropriation in an alliance as the transfer of knowledge between partners, with or without the other partner’s agreement (Inkpen & Dinur, 1998; Mowery et al., 1996; Simonin, 1999). For young organizations that want to grow in spite of a typical scarcity of resources, the literature suggests that the ability to appropriate resources in alliances can help firms build their capabilities and, in turn, improve performance (Kale et al., 2002; Larson, 1991;
Patzelt et al., 2008; Phillips McDougall et al., 1994), provided the learning venture does not unwillingly lose valuable knowledge to its partner in the process (Hamel et al., 1989). Thus, learning and protection are two tightly related components of knowledge appropriation. We define learning as the transfer of knowledge from a partner to the focal venture. We define protection as preventing the undesired transfer of knowledge from the focal venture to a partner, which we also refer to as avoiding leakage. Of course, a venture may wish to transfer some knowledge to a partner or may be indifferent to transferring non-essential knowledge; such cases do not constitute leakage because they have the consent of the focal venture.

The alliance literature suggests that some firms are better than others at using alliances as vehicles for appropriating knowledge (Hamel et al., 1989; Inkpen & Crossan, 1995; Kale et al., 2002; Kale & Singh, 2007). We define a firm’s alliance knowledge appropriation orientation as the policies and practices that provide a basis for the firm’s ability to appropriate knowledge in alliances, including both TMT aims and firm-wide processes. AKAO, in turn, incorporates two linked components: a learning component (AKAO-L) and a protection component (AKAO-P). This section develops hypotheses regarding the impact of both components of AKAO on learning and leakage in alliances.

AKAO-L: The learning component of AKAO and its impact on actual learning

As we mentioned, the alliance literature suggests that some firms learn from their alliances more easily than others (Hamel et al., 1989; Inkpen & Crossan, 1995; Kale et al., 2002; Kale & Singh, 2007). This idea has led scholars to investigate the determinants of learning in alliances, commonly focusing on mechanisms that partners determine jointly, such as alliance contracts (Ariño et al., 2008) and alliance scope (Oxley & Sampson, 2004), or depend on the selected partner, such as an ally’s relative absorptive capacity (Lane & Lubatkin, 1998). Hence, most determinants of learning in the literature are specific to each alliance and do not apply to all the alliances that a firm may be involved in. These determinants can only partially explain why some firms are overall better than others at learning from their alliances.

The extant literature does highlight a firm’s intent to learn as one determinant of learning
which contributes to learning in all of that firm’s alliances. 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 the 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). In other terms, most scholars equate a firm’s intent to learn with the firm’s TMT stated desire to learn. Yet, 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 that “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).

Despite the discussions to date, the mechanisms that connect a TMT’s learning intent and actual learning are still unclear. Some studies simply state that the greater the intent, the more learning that will occur (Hamel, 1991; Simonin, 2004). A firm’s TMT can certainly directly influence learning in its alliances, as its statement of intent sets direction for the action of employees. But additional, more operational, decisions can reinforce learning intent. For instance, a firm’s TMT can set up an alliance function to deal with alliances and coordinate learning throughout the firm; evidence suggests that such an alliance function has a direct impact on the firm’s ability to learn (Kale & Singh, 2007). It can also set up specific learning goals for its alliance employees and align the employees’ incentives with these learning goals, thereby modifying the operational behavior of employees to emphasize learning (Hamel et al., 1989; Pucik, 1988). The learning literature highlights the importance of organizational slack, defined as additional time available to employees to learn and innovate, as a major determinant of learning and innovation (Nohria & Gulati, 1996; Nonaka, 1994; Pucik, 1988). Thus, there is likely to be a causal link between a TMT’s stated learning intent and actual learning.
The orientation literature, meanwhile, suggests that a stated intent and other TMT-level influences are not sufficient to determine firm-wide behavior. The entrepreneurship literature, as we noted above, highlights the importance of the entrepreneurial orientation in understanding venture-wide entrepreneurial action. Paralleling these insights, we argue that a TMT’s alliance learning decisions are not sufficient to understand a venture’s orientation towards learning. In addition, in this view, organizational processes and practices ingrained within the venture and its employees can help the venture enhance its learning in alliances.

Several broader organizational dimensions are potentially important. Scholars have repeatedly shown that alliance experience, both at the firm and at the employees’ level, leads to better alliance management and greater learning (Kale et al., 2002; McGee & Dowling, 1994; Reuer & Zollo, 2005; Simonin & Helleloid, 1993). A firm can also develop a culture that helps employees recognize and take advantage of learning opportunities (Fiol, 1991; Hamel et al., 1989; Minguzzi & Passaro, 2001), leading to greater actual learning. These processes and practices, which differ from the TMT’s stated intent to learn, also play a major role in a venture’s orientation towards learning in an alliance.

Like EO, therefore, we argue that the learning component of AKAO (AKAO-L) incorporates several dimensions that can link causally to actual learning in alliances. The traditional view of learning intent, because of its narrow focus on TMT-level stated objectives, misses important organizational dimensions; this likely explains the gap between intent and actual learning outcomes that several studies have highlighted (Inkpen & Crossan, 1995; Pucik, 1988). Thinking in terms of learning orientation, rather than learning intent, not only emphasizes the congruence between TMT-level and organizational dimensions, but also helps understand the link between a learning orientation and actual learning. This leads to the following hypothesis.

Hypothesis 1: The greater a venture’s AKAO-L, the more the venture will learn from a partner in a given alliance.

AKAO-P: The protection component of the AKAO and its impact on 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 et al., 1998), the idea that some ventures are better than others at protecting their valuable knowledge in alliances has received very limited attention. Several authors examine the impact of various factors on protection and leakage in alliances (Baughn et al., 1997; Das & Teng, 1999; Dussauge et al., 2000a; Hamel et al., 1989), but they have not delved into the meaning or impact of a firm’s intent to protect, the logical counterpart of a firm’s intent to learn.

Paralleling our argument regarding the existence and impact of AKAO-L, we argue that the protection component of AKAO (AKAO-P) can influence the extent to which ventures are likely to lose valuable knowledge across their alliances. Like AKAO-L, AKAO-P includes TMT-level policies and practices. TMT’s stated intentions set guideline for employees’ actions and therefore can directly lead to enhanced protection. TMT’s explicit warning to employees of the danger of micro-leakages through social interactions with the partner’s employees, for instance, can reduce the overall risk of leakage in alliances (Hamel et al., 1989). Operational decisions can also reinforce such statements. The existence of an alliance function that coordinates alliance activities throughout the firm and shares best practices (Kale et al., 2002) can lead to enhanced protection across alliances. Similarly, an explicit description of the type of knowledge that should not be transferred to partner employees and an alignment of employee incentives with protection concerns can enhance protection, especially in cases of micro-leakage concerns (Hamel et al., 1989; Pucik, 1988). A statement of intent, whether or not reinforced by operational decisions, can thus diminish the risk of leakage in an alliance.

As we argued for AKAO-L, though, statements of intent are not sufficient to determine firm-wide behavior. AKAO-P, like AKAO-L, also includes firm-wide practices. A firm can develop a culture emphasizing protection that leads employees to recognize risks of leakage and thus avoid the undesired transfer of valuable knowledge to the partner (Fiol, 1991; Hamel et al., 1989). Similarly, experiences of opportunism in prior alliances, both at the firm and at the employee level, can help employees recognize and manage leakage situations more effectively.

Like EO, and paralleling our argument regarding the impact of AKAO-L on actual
learning, we argue that the protection component of AKAO (AKAO-P) incorporates several dimensions that can link causally to the ability to protect in alliances and which go beyond simple TMT-level statements of intention. This leads to the following hypothesis.

Hypothesis 2: The greater a venture’s AKAO-P, the less the leakage to a partner in a given alliance.

Cross effects of AKAO-L and AKAO-P

Authors who have considered leakage in alliances in parallel with learning objectives emphasize trade-offs between learning and protection. There are two traditional arguments, both of which emphasize negative interactions. 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.

With reference to specific partners, Kale, Singh, and Perlmutter (2000) challenge the trade-off view, arguing that learning and protection are often compatible 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 perspective brings together the argument that inter-partner trust (Zaheer et al., 1998), type of contract (Ariño et al., 2008), and alliance routines (Zollo et al., 2002) enhance knowledge transfers, as well as arguments 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, they are specific to a given alliance. Therefore, they cannot fully explain why
some firms are better than others at using their overall portfolio of alliances to appropriate knowledge, i.e., to learn valuable knowledge while avoiding undesired leakage. The predictions that we develop below contend that the cross effects of AKAO-L on leakage and of AKAO-P on learning are asymmetric and that trade-offs between the learning and the protection components of AKAO exist.

**AKAO’s cross effects: The impact of AKAO-L on leakage**

Several studies suggest that a strong intent to learn leads to 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 & Levinthal, 1990; Lane & Lubatkin, 1998) that the venture will generate for recognize the value of its partner’s knowledge base. While prior studies have emphasized the relationship between openness and the intent to learn, the same kind of reasoning suggests that a greater learning component in a venture’s AKAO also leads to more openness. Not only the TMT-level learning intent but also the firm-wide processes promoting learning in alliances, such as a learning culture, typically lead to greater openness.

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 desired knowledge implies trial-and-error, more inter-personal 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. This issue is likely to be of particular importance for young ventures, because they cannot rely on long experience to refine and improve the routines they use to identify valuable knowledge in alliance partners. 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). We expect that a greater AKAO-L will entail more undesired loss of information to the partner, which leads to the following hypothesis.

**Hypothesis 3:** The greater a venture’s AKAO-L, the more the leakage to a partner in a given alliance.

**AKAO’s cross effects: The impact of AKAO-P on learning**

In parallel, Norman (2004) initially argued that the level of knowledge protection decreases the focal firm’s learning in an alliance. This 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, resulting 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 asymmetric. As we argued above, learning requires openness because the learning firms needs to be able to identify the nature and location of the sought knowledge. Protection concerns, in contrast, center on key proprietary 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 focuses 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 the firm will limit this scope in a targeted way, so that specific elements of knowledge it has identified as valuable are not exposed. Unless the partner also has a similarly strong orientation to protect, this need not lead to a symmetric reduction in alliance scope by the partner and thus should 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 AKAO-P, there is no reason to believe that the venture will be constrained by its own protection orientation.

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 (Zahra & Bogner, 2000). Thus, we anticipate that having a greater AKAO-P does not significantly reduce the extent of learning that a new venture can achieve in an alliance. This leads to the following hypothesis.

*Hypothesis 4: A venture’s AKAO-P does not reduce the amount of learning from a partner in a given alliance.*

These predictions broaden the concept of intent to learn in alliances. We argue that, above and beyond an intent to learn reflecting only the TMT’s statements of objectives, ventures can develop an alliance knowledge appropriation orientation that includes both TMT policies and firm-wide practices. We further argue that AKAO encompasses two distinct but related components, a learning orientation (AKAO-L) and a protection orientation (AKAO-P). We expect a venture’s AKAO-L to lead to greater learning and that a firm’s greater AKAO-P will lead to less leakage. In turn, while we expect the learning orientation to interfere with protection efforts, we do not anticipate that the protection orientation will limit learning outcomes.

**METHOD, DATA, AND MEASUREMENTS**

**Data collection and sample**

We examine alliances involving e-commerce ventures operating in 2001 to test the hypotheses. Companies create the alliances 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 us 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 and rapidly growing 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 et al., 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 online activities. 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.

The research involved two steps (Dillman, 2000). The first step 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 interviewees’ 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 and 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 response rate around 12%. This is comparable to response rates and sample sizes in similar surveys involving top management respondents and new ventures (Lane & Lubatkin, 1998; Lechner et al., 2006; Schulze et al., 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 (41% of respondents) and the English (59%) 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 distribute evenly between cases in which only one of the partners tried to learn and neither tried to learn.

We used a single respondent from each firm, for both conceptual and empirical reasons. Conceptually, multiple respondents allow researchers studying large organizations to avoid biases that arise from 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; the large number of independent factors suggests 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 learning and protection components of AKAO. The fact that we do not measure AKAO-L and AKAO-P 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, because respondents would need to recognize that a series of items scattered throughout the questionnaire are combined to measure the two components of AKAO and then associate this with the actual learning and leakage they report.

Table 1 reports summary statistics for the variables in the analysis. The correlations show 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 components of AKAO, as well as the other variables in Table 1.

********** Table 1 about here **********
Measures 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 measuring the two components of AKAO. As we argued earlier, AKAO includes TMT intentions and policies as well as firm-wide practices and processes. Thus, our measures of AKAO draw on a series of items reflecting both the TMT-level policy and the firm-wide process facets of the concept. Some of the measures include both dimensions simultaneously. We first present the measures relating to TMT-level policy of AKAO and then move on to presenting the measures of firm-wide processes of AKAO.

A review of the literature suggests that the TMT-level of AKAO 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 orientation (Kale et al., 2002) as well as of its protection orientation (Baughn et al., 1997). Taking an exploratory approach, we model the existence of an alliance function as a measure of both components of AKAO, reinforcing the idea that the learning and protection components of AKAO are closely linked and that firms enter alliances with one alliance knowledge appropriation orientation, which in turn incorporates both learning and protection aspects. 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 TMT-level aspect of a firm’s AKAO, some of the measures could arise from firm-wide processes as well as from TMT-level decisions, reinforcing the orientation literature’s argument that both aspects are intimately linked. Incentives that induce line employees to learn and protect are based on TMT-level decisions, since they are part of a conscious intention on the top management’s part, but they are also firm-wide processes, because they impact the behavioral patterns of employees. In addition, the availability of slack time reflects TMT decisions about staffing levels, but also generates
organizational processes that become elements of AKAO.

The literature suggests two other process dimensions of the firm’s AKAO: 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 decided at the TMT level, are conducive to learning or protection. A learning culture, for instance, will promote learning in the minds of employees throughout the organization.

Several items address culture and experience. We measure a firm’s learning and protection cultures 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 employee experience in particular alliances. While scholars often measure experience through the number of alliances the focal firm has been involved in (Dussauge et al., 2000b; Kale et al., 2002), several authors argue that it is more appropriate to consider the 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 learning and protection orientation. We model experience as a measure of both components of AKAO. We note that, while a firm’s protection culture is clearly a firm-wide process related to AKAO-P, other aspects can involve both TMT intent and firm-wide 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 related to TMT intent because senior management presumably selected the participants.

As control variables, we added five alliance-specific mechanisms. 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 about that partner’s organization, 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. A measurement model first tests the construct validity of both components of AKAO, 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 components of AKAO, making it impossible to use traditional tests of construct validity based on Cronbach’s alpha. Further, unlike a data-driven exploratory factor analysis (EFA), the CFA allows us to test theoretically derived relationships. After assessing which items that the measurement model should drop, 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 components of AKAO 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, Table 2 and Figure 1 report several indices. While some measures suggest a reasonable fit, others suggest a need for moderate 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 is, at 0.058, 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 model should be constructed (Hatcher, 1994).

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

The initial model in Table 2 shows that the existence of a centralized alliance function is a strong measure of the firm’s AKAO-P (loading = 0.45, $p<0.05$), but it only weakly measures its AKAO-L (loading = 0.24 $p<.10$). This may be due to the fact that the link between the employee level patterns embodying the learning orientation (Pucik, 1988) and a dedicated alliance function is too tenuous for the latter to become a strong element of the firm’s AKAO-L. 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 moderately significant, directionally consistent with Kale, Dyer, and Singh’s (2002) arguments.

We also find that employee alliance experience is a strong measure of a firm’s AKAO-L (loading = 0.72, $p<0.01$) but does not provide a significant measure of a firm’s AKAO-P (loading=0.03; n.s). This difference might be explained by the fact that the learning routines created by experience are more general and 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 alliance experience does not measure either component of AKAO significantly. This might be caused by the tendency of learning and protection behavioral patterns and routines 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. The table reports non-standardized and standardized forms of the model. The revised measurement model finds a reasonable overall fit. Although the model is still significant ($\chi^2 = 108.99$, $df = 84$, $\chi^2/df = 1.30$, 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 AKAO-L with five mechanisms (learning culture, incentives to learn, stated learning goals, slack, and employee alliance experience), its AKAO-P 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 both components of the firm’s AKAO have composite reliabilities of 0.60 and 0.61 respectively, while the learning and leakage constructs have composite reliabilities of 0.93 and 0.97 respectively. To assess convergent validity, we computed the Average Variance Extracted for all four latent variables (Fornell & Larcker, 1981). All AVEs are above the 0.5 threshold. AKAO-L and AKAO-P have AVEs of 0.50 and 0.57 respectively, while the learning and leakage constructs have AVEs of 0.90 and 0.93 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 both components of AKAO 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 ($\delta \chi^2 = 147.97 - 108.99 = 38.97, \delta \text{ df} = 85-84 = 1, p<0.001$), empirically supporting discriminant validity. This suggests that, while the learning and protection components of AKAO are linked, they empirically constitute two separate constructs.

We introduce the structural model after assessing the validity of the measurement model. Table 2 reports the summary results of the models, while Figure 1 presents the structural model graphically. 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 in Figure 1 support the four hypotheses. H1 predicts that a greater AKAO-L will lead to more learning; as expected, the path between both constructs is positive and significant (loading = 0.536, $p<0.01$). H2 predicts that greater AKAO-P will lead to less leakage; as expected, the loading on this path is negative and significant (loading = -0.136, $p<0.05$). H3 predicts that a firm’s AKAO-L will lead to more leakage as a cross-effect; we find strong support (loading = 0.184, $p<0.01$). The results also support H4, showing that a venture’s AKAO-P does not constrain its learning from alliances. (loading = -0.056, n.s.) 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 increased 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, a new venture having 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: $\chi^2 = 311.91$, 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 a firm’s AKAO significantly influences actual learning and leakage in alliances, thereby re-conceptualizing, broadening, and empirically testing the idea that firms can enter an alliance with an intention of appropriating knowledge. We further find that the learning component of a firm’s AKAO moderately increases leakage, but that its protection component has no significant impact on learning. The results suggest that ventures face trade-offs and asymmetric cross-effects between learning and protection as they enter alliances to appropriate 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 resource scarcity. In turn, several studies suggest that ventures that exhibit a greater intent to learn from their alliances learn more than firms that do not, which helps explain why some ventures are better at using their alliances as a source of valuable knowledge than others. However, the notion of intent to learn, as presented in the
literature, lacks clarity. This paper clarifies and re-conceptualizes the notion of intent to learn and draws on the orientation literature to develop the concept of “alliance knowledge appropriation orientation” (AKAO). AKAO includes not only TMT intentions that are central to traditional discussions of intent to learn, but also firm-wide processes and practices that influence knowledge flows. Further contrasting with the notion of intent to learn, AKAO incorporates both a learning component, which we call AKAO-L, and also protection aspects, which we call AKAO-P. Simultaneously considering these two facets of a firm’s alliance knowledge appropriation orientation helps assess the complex interactions between learning and protection goals, two inextricably linked aspects of knowledge appropriation.

This study suggests that a firm’s AKAO-L incorporates five mechanisms, involving both TMT-level decisions and firm-wide practices: organizational slack, the incentives to learn at an operational level, the firm’s overall learning culture, employees’ alliance experience, and the top management’s stated intention to learn in the alliance. It is intriguing that the measure that 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 AKAO-L than the presence of organizational-based factors, such as the creation of adequate incentives at the operational level and the availability of time to accomplish 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, especially in the case of rapidly growing new ventures in which new employees are hired at a high pace. Thus, one of the contributions of our study is to clarify and re-conceptualize the notion of learning intent. Viewing the relevant construct as a broader organizational orientation instead of a narrower TMT-level intent offers a more encompassing definition of the concept.

AKAO also introduces the notion that the desire to appropriate knowledge is inextricably linked to the need to protect valuable knowledge. While the literature often discusses the need for protection, especially in the case of new ventures relying on a limited set of core resources, the notion that knowledge appropriation includes both learning and protection components has,
to the best of our knowledge, not yet been explicitly developed. Paralleling our discussion of AKAO-L, we find that AKAO-P includes both TMT-level decisions and firm-wide practices. Our results suggest that AKAO-P 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 at least as strong a measure of the firm’s protection orientation as the top management’s stated intentions.

We find that the firm’s AKAO-L affects learning outcomes in an alliance, while the firm’s AKAO-P affects leakage. These results help understand why some ventures are better at appropriating knowledge from their alliances than others. 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, these results suggest that firm-specific orientations, which exist irrespective of any specific alliance or partner, can influence knowledge transfers in the firm’s alliance. In essence, the venture’s AKAO constitutes the backbone of a new venture’s strategy of knowledge appropriation in alliances.

Our results support the argument that alliances are a vehicle through which some new ventures can build their knowledge base; as such, alliances are an essential mechanism in the dynamic capability perspective (Capron & Mitchell, 2004; Lorenzoni & Lippiappini, 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 some new ventures, and, more generally, firms, effectively 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 emphasize knowledge appropriation in their alliances 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 AKAO-L on leakage and of its AKAO-P on learning. As the literature often expects, we find that a greater AKAO-L does indeed increase leakage. We note, however, that this impact is significantly
smaller than the impact of the AKAO-L on learning outcomes. Interestingly, we find that the cross-effects are asymmetric, because the firm’s AKAO-P does not significantly 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 venture’s own AKAO-P does not seem to impact its learning abilities, a given partner’s AKAO-P may, of course, significantly reduce the firm’s learning potential in alliances involving that specific partner. Our argument relates to the trade-off within the AKAO that a venture can develop on its own, rather than to the interaction between both partners’ decisions and behavior and its effects on the dynamics of the alliance.

At the same time, the standardized loadings associated with AKAO-P (i.e., the magnitude of the coefficient values, presented in Table 2 are much weaker on both leakage and learning than those associated with AKAO-L. This is consistent with the view that firms have less influence over leakage to their partners in alliances than they do over learning from partners, reinforcing the idea that alliances generate inherent risks of knowledge leakage.

The study has limitations that suggest 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 alliance partner (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 could 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 understanding why some new ventures are better at appropriating knowledge in their alliances than others 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 firms’ AKAO significantly
influences learning and leakage, this orientation is complemented by partner-specific features,
negotiated factors, and relational attributes of the alliance. Exploring the interactions between the
venture’s AKAO and the relational and context-specific factors identified in the literature
appears to be a promising avenue for future research.
REFERENCES


### Table 1: Summary Statistics and Correlation Table

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>V8</th>
<th>V9</th>
<th>V10</th>
<th>V11</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1 Learning Culture</td>
<td>122</td>
<td>5.63</td>
<td>1.64</td>
<td>1</td>
<td>7</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2 Instruction to Learn</td>
<td>122</td>
<td>5.63</td>
<td>1.64</td>
<td>1</td>
<td>7</td>
<td>0.28**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V3 Slack</td>
<td>122</td>
<td>4.38</td>
<td>1.97</td>
<td>1</td>
<td>7</td>
<td>0.19**</td>
<td>0.46***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>V4 Learning Goals</td>
<td>122</td>
<td>5.21</td>
<td>1.93</td>
<td>1</td>
<td>7</td>
<td>0.50</td>
<td>0.21**</td>
<td>0.27**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V5 Employee Experience</td>
<td>122</td>
<td>4.28</td>
<td>1.97</td>
<td>1</td>
<td>7</td>
<td>-0.53</td>
<td>0.11</td>
<td>0.40***</td>
<td>0.03</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6 Protective Culture</td>
<td>122</td>
<td>5.22</td>
<td>1.73</td>
<td>1</td>
<td>7</td>
<td>0.24***</td>
<td>0.05</td>
<td>-0.01</td>
<td>0.15</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V7 Incentives to Protect</td>
<td>122</td>
<td>4.73</td>
<td>1.96</td>
<td>1</td>
<td>7</td>
<td>-0.01</td>
<td>0.11</td>
<td>0.01</td>
<td>0.04</td>
<td>0.02</td>
<td>0.55**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V8 Protective Goals</td>
<td>122</td>
<td>0.64</td>
<td>0.66</td>
<td>0</td>
<td>2</td>
<td>-0.08</td>
<td>0.12</td>
<td>-0.11</td>
<td>-0.01</td>
<td>0.11</td>
<td>0.11</td>
<td>0.40**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V9 Alliance Function</td>
<td>122</td>
<td>5.63</td>
<td>1.71</td>
<td>1</td>
<td>7</td>
<td>0.27**</td>
<td>0.00</td>
<td>0.00</td>
<td>0.08</td>
<td>0.01</td>
<td>0.26**</td>
<td>0.24**</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V10 Firm's Successful Learning</td>
<td>122</td>
<td>3.93</td>
<td>2.34</td>
<td>1</td>
<td>7</td>
<td>0.07</td>
<td>0.34**</td>
<td>0.22**</td>
<td>0.33**</td>
<td>0.05</td>
<td>0.13</td>
<td>0.05</td>
<td>0.06</td>
<td>-0.02</td>
<td>-0.02</td>
<td>1.00</td>
</tr>
<tr>
<td>V11 Firm's Full Learning</td>
<td>122</td>
<td>2.88</td>
<td>2.13</td>
<td>1</td>
<td>7</td>
<td>0.11</td>
<td>0.32**</td>
<td>0.19**</td>
<td>0.39**</td>
<td>0.06</td>
<td>0.14</td>
<td>0.00</td>
<td>0.04</td>
<td>0.03</td>
<td>0.81***</td>
<td>1.06</td>
</tr>
<tr>
<td>V12 Firm's Early Learning</td>
<td>122</td>
<td>2.73</td>
<td>1.96</td>
<td>1</td>
<td>7</td>
<td>0.05</td>
<td>0.30**</td>
<td>0.21**</td>
<td>0.33**</td>
<td>0.09</td>
<td>0.15**</td>
<td>0.00</td>
<td>0.06</td>
<td>0.03</td>
<td>0.77**</td>
<td>0.95**</td>
</tr>
<tr>
<td>V13 Partner's Successful Learning</td>
<td>114</td>
<td>1.66</td>
<td>1.44</td>
<td>1</td>
<td>7</td>
<td>-0.07</td>
<td>0.07</td>
<td>0.09</td>
<td>0.16**</td>
<td>0.13</td>
<td>0.00</td>
<td>-0.17**</td>
<td>-0.08</td>
<td>-0.08</td>
<td>0.15</td>
<td>0.18**</td>
</tr>
<tr>
<td>V14 Partner's Full Learning</td>
<td>122</td>
<td>1.49</td>
<td>1.34</td>
<td>1</td>
<td>7</td>
<td>-0.08</td>
<td>0.06</td>
<td>0.12</td>
<td>0.13</td>
<td>0.10</td>
<td>0.00</td>
<td>-0.08</td>
<td>-0.15</td>
<td>0.30**</td>
<td>0.30**</td>
<td>1.00</td>
</tr>
<tr>
<td>V15 Partner's Early Learning</td>
<td>122</td>
<td>1.52</td>
<td>1.35</td>
<td>1</td>
<td>7</td>
<td>-0.03</td>
<td>0.10</td>
<td>0.15**</td>
<td>0.16**</td>
<td>0.14**</td>
<td>0.10</td>
<td>-0.10</td>
<td>-0.01</td>
<td>-0.17**</td>
<td>0.22**</td>
<td>0.20**</td>
</tr>
<tr>
<td>V16 Equity Investment</td>
<td>122</td>
<td>0.16</td>
<td>0.37</td>
<td>0</td>
<td>1</td>
<td>-0.32</td>
<td>-0.06</td>
<td>0.05</td>
<td>0.15</td>
<td>0.05</td>
<td>0.03</td>
<td>0.04</td>
<td>0.12</td>
<td>-0.01</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>V17 Contract</td>
<td>122</td>
<td>2.42</td>
<td>1.92</td>
<td>1</td>
<td>3</td>
<td>-0.03</td>
<td>0.07</td>
<td>0.03</td>
<td>0.18**</td>
<td>0.01</td>
<td>0.17**</td>
<td>0.01</td>
<td>0.12</td>
<td>0.12</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>V18 Independent Org Structure</td>
<td>122</td>
<td>0.30</td>
<td>0.40</td>
<td>0</td>
<td>1</td>
<td>0.09</td>
<td>0.05</td>
<td>-0.08</td>
<td>0.13</td>
<td>0.03</td>
<td>0.14</td>
<td>0.12</td>
<td>0.18**</td>
<td>-0.01</td>
<td>0.13</td>
<td>0.27**</td>
</tr>
<tr>
<td>V19 Trust</td>
<td>118</td>
<td>0.37</td>
<td>0.38</td>
<td>0</td>
<td>1</td>
<td>0.06</td>
<td>0.10</td>
<td>-0.01</td>
<td>0.04</td>
<td>0.10</td>
<td>0.01</td>
<td>0.05</td>
<td>0.05</td>
<td>0.66</td>
<td>0.06</td>
<td>0.27**</td>
</tr>
<tr>
<td>V20 Overlapping Knowledge Bases</td>
<td>122</td>
<td>3.86</td>
<td>2.18</td>
<td>1</td>
<td>7</td>
<td>0.03</td>
<td>0.17**</td>
<td>-0.07</td>
<td>0.04</td>
<td>0.07</td>
<td>0.00</td>
<td>0.21**</td>
<td>0.01</td>
<td>0.15**</td>
<td>-0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>V21 Firm-level Alliance Experience</td>
<td>122</td>
<td>4.38</td>
<td>1.94</td>
<td>1</td>
<td>7</td>
<td>-0.27**</td>
<td>-0.04</td>
<td>0.09</td>
<td>0.04</td>
<td>0.04</td>
<td>0.25**</td>
<td>0.07</td>
<td>0.10</td>
<td>0.06</td>
<td>-0.17**</td>
<td>-0.04</td>
</tr>
<tr>
<td>V22 Alliance in N. Am.</td>
<td>122</td>
<td>0.43</td>
<td>0.90</td>
<td>0</td>
<td>1</td>
<td>-0.32**</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.13</td>
<td>-0.09</td>
<td>-0.22**</td>
<td>-0.05</td>
<td>-0.25</td>
<td>-0.07</td>
<td>-0.13</td>
<td>-0.14</td>
</tr>
<tr>
<td>V23 Size</td>
<td>122</td>
<td>3.14</td>
<td>2.06</td>
<td>1</td>
<td>7</td>
<td>-0.05**</td>
<td>-0.06</td>
<td>0.00</td>
<td>0.14</td>
<td>0.15**</td>
<td>-0.04</td>
<td>0.03</td>
<td>0.06</td>
<td>-0.11</td>
<td>-0.03</td>
<td>-0.05</td>
</tr>
<tr>
<td>V24 IntCompetition</td>
<td>121</td>
<td>1.15</td>
<td>1.14</td>
<td>2</td>
<td>7</td>
<td>0.39**</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.07**</td>
<td>0.05</td>
<td>-0.10</td>
<td>0.10</td>
<td>0.05</td>
<td>0.05</td>
<td>0.11</td>
<td>0.06</td>
</tr>
<tr>
<td>V25 Core Businesses</td>
<td>120</td>
<td>0.99</td>
<td>1.00</td>
<td>1</td>
<td>7</td>
<td>-0.01</td>
<td>-0.13</td>
<td>0.07</td>
<td>-0.04</td>
<td>0.21**</td>
<td>0.10</td>
<td>0.00</td>
<td>0.01</td>
<td>0.06</td>
<td>0.04</td>
<td>0.06</td>
</tr>
<tr>
<td>V26 Alliance Creation Date</td>
<td>122</td>
<td>3.00</td>
<td>1.31</td>
<td>1993</td>
<td>2001</td>
<td>0.02</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.06</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.05</td>
<td>-0.02</td>
<td>-0.03</td>
</tr>
<tr>
<td>V27 Firm's Active Service Factor</td>
<td>122</td>
<td>0.67</td>
<td>0.92</td>
<td>0</td>
<td>1</td>
<td>0.14</td>
<td>-0.06</td>
<td>0.14</td>
<td>0.21**</td>
<td>0.03</td>
<td>-0.05</td>
<td>-0.17**</td>
<td>0.02</td>
<td>-0.06</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>V28 Birth Partners in Same Activity</td>
<td>122</td>
<td>0.52</td>
<td>0.93</td>
<td>0</td>
<td>1</td>
<td>0.00</td>
<td>0.09</td>
<td>-0.04</td>
<td>-0.08</td>
<td>0.04</td>
<td>0.08</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.06</td>
<td>0.12</td>
<td>-0.05</td>
</tr>
</tbody>
</table>

Note: p < .05, **p < .01, ***p < .001, ****p < .0001
### Table 2
Summary Results of the Models

#### MEASUREMENT MODELS

<table>
<thead>
<tr>
<th>Path Loadings</th>
<th>Initial MM (non-stand.)</th>
<th>Revised MM (non-stand.)</th>
<th>Revised MM (stand.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKAO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Culture</td>
<td>0.5326***</td>
<td>0.5461***</td>
<td>0.3429***</td>
</tr>
<tr>
<td>Incentives to Learn</td>
<td>1.0713***</td>
<td>1.1150***</td>
<td>0.6513***</td>
</tr>
<tr>
<td>Slack</td>
<td>0.6413***</td>
<td>0.6479***</td>
<td>0.3291***</td>
</tr>
<tr>
<td>Protective Culture</td>
<td>0.6272***</td>
<td>0.6715***</td>
<td>0.3778***</td>
</tr>
<tr>
<td>Incentives to Protect</td>
<td>1.8170***</td>
<td>1.6033***</td>
<td>0.9249***</td>
</tr>
<tr>
<td>Protective Goals</td>
<td>0.2517***</td>
<td>0.2665***</td>
<td>0.4591***</td>
</tr>
<tr>
<td>Employee Alliance Experience</td>
<td>0.7207***</td>
<td>0.0262</td>
<td>0.3377***</td>
</tr>
<tr>
<td>Centralized Alliance Function</td>
<td>0.2413*</td>
<td>0.4514**</td>
<td>0.3109***</td>
</tr>
<tr>
<td>Firm-level Alliance Experience</td>
<td>0.1062</td>
<td>0.1296</td>
<td></td>
</tr>
<tr>
<td>Learning &amp; Leakage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm’s successful acquisition of capability</td>
<td>1.5284***</td>
<td>1.5288***</td>
<td>0.6302***</td>
</tr>
<tr>
<td>Firm’s full acquisition of capability</td>
<td>2.0524***</td>
<td>2.0519***</td>
<td>0.9613***</td>
</tr>
<tr>
<td>Firm’s easy acquisition of capability</td>
<td>1.7975***</td>
<td>1.7978***</td>
<td>0.9163***</td>
</tr>
<tr>
<td>Partner’s successful acquisition of capability</td>
<td>1.3574***</td>
<td>1.3573***</td>
<td>0.9206***</td>
</tr>
<tr>
<td>Partner’s full acquisition of capability</td>
<td>1.1991***</td>
<td>1.1990***</td>
<td>0.9503***</td>
</tr>
<tr>
<td>Partner’s easy acquisition of capability</td>
<td>1.1900***</td>
<td>1.1902***</td>
<td>0.9982***</td>
</tr>
</tbody>
</table>

#### Covariances Between Latent Variables

<table>
<thead>
<tr>
<th></th>
<th>Initial MM</th>
<th>Revised MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKAO-L - AKAO-P</td>
<td>0.05169</td>
<td>0.08481</td>
</tr>
<tr>
<td>AKAO-L - Learning</td>
<td>0.40387***</td>
<td>0.42204***</td>
</tr>
<tr>
<td>AKAO-L - Leakage</td>
<td>0.1926**</td>
<td></td>
</tr>
<tr>
<td>AKAO-P - Learning</td>
<td>0.01065</td>
<td>0.02811</td>
</tr>
<tr>
<td>AKAO-P - Leakage</td>
<td>-0.13572*</td>
<td>-0.13591*</td>
</tr>
<tr>
<td>Learning - Leakage</td>
<td>0.24557***</td>
<td>0.24554***</td>
</tr>
</tbody>
</table>

#### Fit Indices

<table>
<thead>
<tr>
<th></th>
<th>Initial MM</th>
<th>Revised MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI</td>
<td>0.88</td>
<td>0.89</td>
</tr>
<tr>
<td>Chi-Sq/df</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>Pr &gt; Chi-Sq</td>
<td>0.0108</td>
<td>0.0348</td>
</tr>
<tr>
<td>RMSEA Estimate</td>
<td>0.0585</td>
<td>0.05</td>
</tr>
<tr>
<td>Bentler’s Comparative Fit Index</td>
<td>0.959</td>
<td>0.97</td>
</tr>
<tr>
<td>McDonald’s (1989) Centrality</td>
<td>0.8512</td>
<td>0.8898</td>
</tr>
<tr>
<td>Bentler &amp; Bonett’s (1980) Non-normed Index</td>
<td>0.9482</td>
<td>0.9625</td>
</tr>
<tr>
<td>Bollen (1988) Non-normed Index Delta2</td>
<td>0.9601</td>
<td>0.9707</td>
</tr>
</tbody>
</table>

#### STRUCTURAL MODELS

<table>
<thead>
<tr>
<th>Path Loadings</th>
<th>SM1 (non-stand.)</th>
<th>SM1 (stand.)</th>
<th>SM2 (non-stand.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKAO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning</td>
<td>0.2397***</td>
<td>0.2386***</td>
<td>0.4742***</td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.0659</td>
<td>-0.1363**</td>
<td>-0.0854</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overlapping Knowledge Bases</td>
<td>0.0182</td>
<td>0.0193</td>
<td>0.0348</td>
</tr>
<tr>
<td>Equity Investment</td>
<td>-0.2405</td>
<td>-0.5169*</td>
<td>-0.0424</td>
</tr>
<tr>
<td>Contract</td>
<td>0.2243</td>
<td>0.0901</td>
<td>0.0609</td>
</tr>
<tr>
<td>Independent Org Structure</td>
<td>1.3388***</td>
<td>0.463*</td>
<td>0.2673***</td>
</tr>
<tr>
<td>Firm-level Alliance Experience</td>
<td>1.5861***</td>
<td>0.1523</td>
<td>0.2798***</td>
</tr>
<tr>
<td>Alliance active in North America (dummy)</td>
<td>-0.6608**</td>
<td>-0.2596</td>
<td></td>
</tr>
<tr>
<td>Alliances in Core Business</td>
<td>-0.0447</td>
<td>-0.0045</td>
<td></td>
</tr>
<tr>
<td>Alliance Creation Date</td>
<td>-0.0445</td>
<td>0.1196*</td>
<td></td>
</tr>
<tr>
<td>Single vs. Multi-business venture</td>
<td>-0.1987</td>
<td>0.1468*</td>
<td></td>
</tr>
</tbody>
</table>

#### Fit Indices

<table>
<thead>
<tr>
<th></th>
<th>SM1</th>
<th>SM2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI</td>
<td>0.86</td>
<td>0.84</td>
</tr>
<tr>
<td>Chi-Sq/df</td>
<td>1.17</td>
<td>1.29</td>
</tr>
<tr>
<td>Pr &gt; Chi-Sq</td>
<td>0.0814</td>
<td>0.0014</td>
</tr>
<tr>
<td>RMSEA Estimate</td>
<td>0.04</td>
<td>0.0537</td>
</tr>
<tr>
<td>Bentler’s Comparative Fit Index</td>
<td>0.9701</td>
<td>0.9251</td>
</tr>
<tr>
<td>McDonald’s (1989) Centrality</td>
<td>0.8878</td>
<td>0.7088</td>
</tr>
<tr>
<td>Bentler &amp; Bonett’s (1980) Non-normed Index</td>
<td>0.9622</td>
<td>0.8909</td>
</tr>
<tr>
<td>Bollen (1988) Non-normed Index Delta2</td>
<td>0.9715</td>
<td>0.9226</td>
</tr>
</tbody>
</table>

*** p<.01; ** p<.05; * p<.10
Figure 1
Structural Model

AKAO

AKAO-L

AKAO-P

Learning

Leakage

Control Variables:
- Ethn, Ethnic
- Contact
- Independent
- Tact
- Knowledge, Experience

$\chi^2$/df = 1.17 / GFI = .86 / RMSEA Est. = .04
Bentler's CFI = .97 / McDonald's Centrality = .89 / Bentler & Bonnet's NNI = .96 / Delta2 = .97

***p<.01; **p<.05; *p<.10
See Table 2 for list and description of all control variables