STRATEGIC ALLIANCES AS AN INTERNATIONALIZATION PATTERN FOR SMEs

Abstract

Purpose: This paper focuses on understanding three dimensions of international alliance formation by SMEs: the role of internal actors, planning/opportunity management, and organizational learning.

Design/methodology/approach: These three dimensions form a proposed model of international alliance formation which is examined using semi-structured interviews with 16 biotechnology SMEs from Montreal (Canada) and 12 from Boston (USA).

Findings: Findings deepen our understanding of the firm’s internal development of international alliance strategy. Results generally support different roles of organizational actors in international alliance formation, often a combination of planning and opportunity management, and signal rather weak administrative routines to ensure organizational learning from the alliance experience. Interestingly, alliance formation strategies vary across the two cities (countries). Age of the firm, development phase, human and financial resources, and competencies may explain these differences.

Research limitations/implications: Limitations include single respondent in each firm, sample size, and single sector (biotechnology). Future longitudinal research could combine information from and about the implication of all actors and their networks during alliance formation and examine the process by alliance functions (R&D, production, marketing) and governance modes (equity, non-equity).

Practical implications: Results suggest weaknesses and potential avenues to be explored by managers.

Originality/value: To our knowledge, this is a first attempt to model the internal dimensions of alliance strategy formation for SMEs, integrating the role of actors, planning and opportunity, as well as learning. Multiple quotations provide a rich environment for understanding practice.

Keywords: alliance, international new venture, planning, opportunity management, learning, biotechnology

Classification: Research paper
STRATEGIC ALLIANCES AS AN INTERNATIONALIZATION PATTERN FOR SMEs

1. Introduction

Since the end of the 1980s, the globalization of the economy has encouraged the internationalization of small and medium enterprises (SMEs). A growing body of research exists on international entrepreneurship, delving into various dimensions of the phenomenon: identification of the characteristics and motivations of entrepreneurs, factors associated with early internationalization, its advantages, characteristics of new international ventures, performance correlates, the internationalization process, and entry modes used by SMEs (Jones and Coviello, 2005).

Strategic alliances are predominant among entry modes studied. Moreover, alliances are the prevailing strategy of new high-tech international ventures because these firms evolve in an industry that disperses knowledge (Kuivalainen et al., 2004). The hybrid governance structure of alliances permits the flexibility necessary to promptly seize opportunities. Furthermore, the firm’s ability to build alliance relationships and to manage them leads to continuous and accelerated growth. The literature on international entrepreneurship covers many aspects of alliances, such as their motives, partner selection, structure, governance, control, performance, and learning. However, to date, the research pays little attention to the process of alliance formation of SMEs or to the role of different actors during the process (Alvarez et al., 2006).

In this context, and with the support of the resourced-based view of the firm, the present study explores this specific issue, as well as the internal mechanisms (antecedents/consequences) related to the international alliance formation strategy of SMEs.

2. Literature review

The resource-based view of the firm conceptualizes the organization as a combination of heterogeneous resources which are imperfect and mobile (Peng, 2001). Organizations are thus unable to internally generate all resources and functions which are essential to prosper and grow. The manager’s role, according to the resource-based view, is to assemble resources and competencies by transacting with elements of the firm’s environment. In the context of constraints, alliances are seen as optimal solutions: “It is to aggregate, share, or exchange valuable resources with other firms when these resources cannot be efficiently obtained through market exchanges or mergers/acquisitions” (Das and Teng, 2000). By combining their resources and skills, firms can more rapidly seize important international opportunities while avoiding long, costly efforts to acquire indispensable capabilities while reinforcing their competitive advantage (Chung et al., 2000). Firms can improve their performance by configuring effective alliance portfolios contribute information and skills with little cost of redundancy and provide learning opportunities. Consequently, the optimization of the alliance formation process is very important (Anslinger and Jenk, 2004). The following sections aim to conceptually identify key variables in the international alliance formation process.

2.1 Role definition of internal actors

The involvement and support of management in alliance formation is critically important. The ideal executive organizes its intentions, then develops these into strategies to remain competitive (Spence and Crick, 2009). Strategies are coherent with his knowledge of management and of the environment, and they operationalize his vision of the organization. Aware that his individual cognitive capacities are limited, he recognizes that he possesses a small part of the knowledge and competencies present in the organization. He therefore structures an organizational context that enables the firm’s internal actors to be involved in
strategic actions. These actors, by their daily activities, perceive and interpret the environment based on their knowledge and experience. Strategy depends on the capacity of all actors to interact and to continually create links with the environment, which is unpredictable and turbulent. Strategies will therefore be reconstructed subjectively by organizational members according to the context which they face. The following proposition seeks to validate the implication of internal actors in alliance formation strategy:

**Proposition 1:** The founder, top management, and scientists are involved in the process of international alliance formation in high-tech SMEs.

### 2.2 Planning and opportunity management

Combining technological agreements to obtain resources and competencies with minimal redundancy cost is a competence in its own right and an important component of international alliance formation. Managing, choosing and securing the most efficient alliances require the organization to conduct internal analysis of their resources, their competencies, and their administrative routines (Allio, 2008). They then must establish targets, allocate resources, define selection criteria related to resources required through alliances, and prepare an action plan. Finally, the search for complementarity of resources and competencies as well as the compatibility of strategic intentions drives partner selection. New alliance formation must also consider current alliances of the firm and its capacity to manage its alliances. Oviatt and McDougall (2005) propose other sequential models of alliance formation based on opportunistic behaviours of entrepreneurs. For instance, the integration of activities which facilitate fortuitous meetings represents a source of opportunities for SMEs during the alliance formation process. Proactiveness and flexibility are also success factors in environments characterized by continual change.

A winning and optimal strategy for international alliance formation may consist of a skillful mix of the two approaches, which advocates strong planning, synonym of a structured organization, and a certain liberty and openness to the identification of partners in order to preserve the entrepreneurial nature of firms. Consequently, this paper will also examine the following propositions:

**Proposition 2a:** High-tech SMEs plan their international alliance strategy by internal analysis of needs, the establishment of objectives, the allocation of resources, the definition of selection criteria, and the preparation of an action plan.

**Proposition 2b:** High-tech SMEs manage opportunities by being proactive and flexible concerning the development of their international alliance strategy.

Whether the firm plans its alliance formation or takes advantage of opportunities to do so, the organizational actors must learn from their experiences if they are to improve their success with future alliance partners. In addition, this learning may be a source of competitive advantage, as discussed below.

### 2.3 Organizational learning

Evolutionist, incrementalist, and resource theories of the firm recognize that organizational learning plays a central role in the internationalization process. Learning is essential to the firm’s performance and survival (Almeida et al., 2003). Numerous studies show that alliances, in particular, are a source of learning and experience. Through alliances, organizations learn from collaboration and learn to collaborate. Thus, the firm builds upon its experience and repeated relationships to increase its alliance-building competency and its performance in subsequent alliances. However, since organizational learning
is both individual and collective, experience must be captured, evaluated, transmitted throughout the organization, and used effectively to constitute an advantage (Nonaka et al., 2006). Indeed, in addition to tacit knowledge, the organization creates codified routines, policies, and procedures.

During the internationalization process, high-technology new ventures use a flexible, collective process which assures sharing of knowledge within the firm, at different levels and divisions, through communication and weekly project review (Zahra et al., 2006). Newly acquired knowledge is then applied to future operations. This type of knowledge has a strong tacit dimension since it is embedded in local organizational competencies and routines. Cumulative knowledge is thus difficult to imitate and cannot be acquired outside the firm.

Coherent with their approach, we propose that alliance formation leads to organizational learning by way of documentation of the firm’s experience and the transmission of the knowledge gained:

**Proposition 3:** International alliance formation of high-tech SMEs leads to organizational learning by way of documentation of acquired knowledge and transmission of this knowledge within the organization.

These propositions constitute the cornerstone of this study; the conceptual framework in Figure 1 summarizes these propositions.

**(INSERT FIGURE 1 HERE)**

Figure 1 proposes that the formation of alliances depends on the implication of various actors within the organization. These people plan alliance formation and/or manage the opportunities to form alliances. They gain experience in doing so. That experience leads to organizational learning by way of documentation and transmission of experience within the organization (hence the circular arrows in the “actors” box of the model). Learning by internal actors permits them to better perform in current alliances and/or to plan more alliances and/or to take advantage of and manage opportunities to form alliances. This study tests the conceptual framework in Figure 1 using interviews with 28 SME executives in biotechnology forms in the U.S. and Canada. Method, results, and discussion are presented below.

3. Method

3.1 Sample and data collection

The globalization of an industry increases pressure on firms to become involved in foreign markets, and the high technology sector is a case in point. It must serve emerging niches and have an international orientation. Among high technology sectors, biotechnology firms must internationalize very early in their development due to the dispersion of global knowledge and skills in this area. In 2006, the United States and Canada occupied the first and second place in the biotechnology sector. The cities of Boston (USA) and Montreal (Canada) are retained for the present study because they are especially well known for their concentrations of biotechnology firms. We identified Boston companies using the Massachusetts Biotechnology Industry Directory, BioSpace, Bio Member Directory, and Bioscan. These databases allowed the preparation of a list of 37 organizations. In Montreal, we drew the list of 38 potential respondents from Canadian and Quebec government websites, the trade association BioQuebec, and scientific parks (Cité de la biotechnologie, Technopole Angus, and Technoparc St-Laurent).

Semi-structured interviews with the vice-president of business development or the CEO of these companies revealed data concerning the internationalization and the alliance formation process. The final samples are composed of 12 Boston firms and 16 from Montreal (which represents response rates of 32%
and 42%, respectively), with no response bias after analysis. At the time of data collection, all respondent firms were involved in international activities.

Table 1 shows the profiles of respondents from Boston and Montreal.

<table>
<thead>
<tr>
<th>Description of respondent firms</th>
<th>Boston (n = 12)</th>
<th>Montreal (n = 16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firms with founders having previous experience in the formation of international alliances</td>
<td>50 %</td>
<td>50 %</td>
</tr>
<tr>
<td>Firms which had obtained venture capital</td>
<td>100 %</td>
<td>75 %</td>
</tr>
<tr>
<td>Presence on the stock market</td>
<td>58 %</td>
<td>50 %</td>
</tr>
<tr>
<td>Age of firms (median)</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Number of employees (median)</td>
<td>115</td>
<td>25</td>
</tr>
<tr>
<td>Number of American patents (median)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Number of products (median)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Age at first international alliance (median)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Number of continents where the firm is present (median)</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Number of countries where the firm is present (median)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Number of international alliances (median)</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

Results below compare the two samples on the three dimensions of alliance strategy development which are the focus if the present research.

4  Results and analysis

4.1  Role of actors

First, executives from Boston and Montreal benefit from the support of a board of directors (94% and 100%), and very often a scientific committee or panel of expert consultants (69% and 92%) to guide their strategic decisions. Descriptive statistics demonstrate a major difference in the role of actors within the organizations in the two countries. In effect, in Montreal, the CEO is often very independent: 44% leave little place for other actors in the development of strategic alliances, and only 25% mention the importance of guidance by experienced people (e.g., a board of directors). In contrast, Boston firms value teamwork; i.e., the CEO collaborates with people in business development and/or alliance management. In addition, scientists in Boston SMEs also participate in strategic activities related to alliance formation. As described by one respondent: “The business development philosophy is to let scientists go first. We encourage them to discuss with their network. At the end, there will be an alliance only if scientists get along; they are the ones who create value.” The differences in age and size (number of employees) between the firms in the two countries may explain the divergence of their internal collaborative behavior. In the young biotechnology firms of Montreal, the founder-president is often also the principal researcher. He possesses his own contacts and must often act without the support of dedicated personnel for business development and alliance management in the initial years after inception of the company. The function of an alliance manager may therefore be more appropriate for medium and large firms. Quotations in Table 2 give more details about the role of actors in respondent firms. Except for some younger firms, just mentioned, the data support Proposition 1 that multiple internal actors are involved in alliance formation.
### Table 2
The role of “people” in forming alliances: practical support.

<table>
<thead>
<tr>
<th>Conceptual Variable</th>
<th>Boston</th>
<th>Montreal</th>
</tr>
</thead>
</table>
| Owner or president’s influence | “The agreement comes from my prior employment. My old partners called me to ask where I was working now.”  
Company M13 | “The contacts are often made by shareholders.”  
Company M4 |
| Key individuals | “A past member of a scientific committee talked to us about its technology. We then called him for a meeting. The first meeting was a scientific presentation. For the second meeting, we visited his company to talk about the science and the business structure desired by the young company... You have to make certain that the right people are involved at all levels, including decision makers. There must be a scientific champion and the necessary funds to pay for the project.”  
Company B3 | |
| | “We hired a consultant to advise us. For Japan, we have a consultant who I knew in one of my prior jobs.”  
Company B4 | “First of all, the potential user must have a scientific need. When there is interest, the business development team calls in scientists for the agreement on confidentiality.”  
Company M10 |
| | “Our alliance with the Taiwan firm is the result of a contact by one of our scientists...”  
Company B8 | |
| Team Work | “In the company, there is a group dedicated to alliances, composed of two people from business development, to which we add a scientist when required.”  
Company B7 | |
| | “Internally, there are three people dedicated to business development and three others to manage alliances. They each have individual mandates and share project management.”  
Company B10 | |
4.2 Planning and opportunity management

Table 3 illustrates that Boston firms appear to be more planning oriented than are Montreal firms. Globally, among Boston firms, planning covers periods ranging from six months to five years and is more frequent than in Montreal firms. Eighty-three percent (83%) of American firms do internal analysis, 83% establish partner selection criteria, and 75% fix objectives (including timelines and the appropriate number and types of alliances according to the stage of the research development program. In Canadian firms 50%, 56% and 44% respectively, engage in these three planning activities. However, only 42% of Boston firms set up an action plan, compared to 56% of Montreal firms. Specific objectives may also cover contacts, meetings, decision making, and sales. Action plans include communications activities (conferences, press conferences) and a budget.

The experience of Boston respondents linked to their age, size, and mode of financing may explain the greater importance of planning.

Table 3
Planning activities by Boston and Montreal firms

<table>
<thead>
<tr>
<th>Planning</th>
<th>Boston (n = 12)</th>
<th>Montreal (n = 16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal analysis</td>
<td>83 %</td>
<td>50 %</td>
</tr>
<tr>
<td>Selection criteria</td>
<td>83 %</td>
<td>56 %</td>
</tr>
<tr>
<td>Objectives</td>
<td>75 %</td>
<td>44 %</td>
</tr>
<tr>
<td>Action plan</td>
<td>42 %</td>
<td>56 %</td>
</tr>
<tr>
<td>No planning</td>
<td>0 %</td>
<td>6 %</td>
</tr>
</tbody>
</table>

Conversely, Boston respondents are less open to opportunities that may arise. Additional analysis indicates that 25% of Boston firms (versus 6% of Montreal firms) admit leaving little place to take advantage of favorable situations that may develop. Moreover, the circumstances leading to opportunism are less diversified. Potential partners, rather than the biotechnology firm itself, initiate two out of three (67%) opportunities encountered by respondents Boston. In addition to being open to requests by potential partners (44%), opportunities considered by Montreal firms arise from scientific offers from members of their network and unplanned meetings at scientific conferences.

The quotations in Tables 4a (Planning) and 4b (Opportunity management) provide additional insights into the philosophies and practices of respondents. For example, a Montreal firm completely reoriented its activities to take advantage of a discovery: “Several years ago, the company’s scientists discovered a product that was unplanned, by pure luck. We decided to reorient the company around this product. We had the intelligence to see the opportunity.” Another respondent goes as far as stating that his company does not welcome planning: “Small companies are not as structured as the big ones. Planning is not welcomed here. We must be entrepreneurial.” In conclusion, 88% of Montreal firms and 75% of Boston firms combine planning and opportunism, but at different levels and in various forms, lending support to Propositions 2a and 2b.
### Table 4a

**The role of planning in alliance formation: practical support**

<table>
<thead>
<tr>
<th>Conceptual Variable</th>
<th>Boston</th>
<th>Montreal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Analysis</strong></td>
<td>“Planning is for strategic decisions. There are guidelines for the types of alliances, depending on the stage of the process and what we want to accomplish. Deadlines are set according to available funds.” <em>Company B2</em></td>
<td>“The company’s actions are guided by the business plan. It is simply implemented. It contains objectives of the number of alliances by type and the actions to accomplish this in terms of strategies, tactics, and budget.” <em>Company M2</em></td>
</tr>
<tr>
<td><strong>Setting objectives</strong></td>
<td>“We have annual objectives for partnerships. The majority of activities are planned: “There are so many companies, so much noise. You have to maximize the likelihood of success.” <em>Company B3</em></td>
<td>“Seeking out partners is a continuous activity. Four people are actively engaged. It requires a lot of planning. Three- to five-year objectives are established according to new products to introduce.” <em>Company M11</em></td>
</tr>
<tr>
<td><strong>Partner selection criteria</strong></td>
<td>“Partner selection criteria are the price offered, the priority the partner is willing to give to the product in terms of allocation of resources, the cultural “fit”, as well as the ability to communicate, the reputation of the partner for collaboration, and its speed of execution. Financial resources, the size of their team, and the technological “fit” are considered.” <em>Company B3</em></td>
<td>“Alliances are necessary due to expertise. We choose distributors who are present at the same tradeshows as we are. We examine their literature to see how good they are. We meet them, talk to their clients, and look at their financial health. The country where they operate is not important. We look to see who has the science and especially at the offers we receive. Language is also an issue.” <em>Company M16</em></td>
</tr>
</tbody>
</table>
Table 4b
The role of opportunity management in alliance formation: practical support.

<table>
<thead>
<tr>
<th>Conceptual Variable</th>
<th>Boston</th>
<th>Montreal</th>
</tr>
</thead>
<tbody>
<tr>
<td>External offers</td>
<td>“People call all the time to offer us partnerships. We examine each one. A good opportunity arrives every couple of days. We are 60% proactive and 40% reactive.” Company B6</td>
<td>“The partnerships in the United States are due to opportunities that were presented to me.” Company M8</td>
</tr>
<tr>
<td></td>
<td>“Three times out of four others approach us through personal contacts, calls, or email because the firm has a large number of alliances.” Company B10</td>
<td>“To accelerate the process, we sign new agreements with partners we already have. It is also necessary to be open to multiple opportunities, especially through conferences. It is difficult to foresee everything, so we must be flexible.” Company M8</td>
</tr>
<tr>
<td>Fortuitous meetings: scientific conferences, tradeshows</td>
<td>“We met the buyer at a scientific conference.” Company B1</td>
<td>“The partnership with the German company was created during a tradeshow in Europe.” Company M8</td>
</tr>
</tbody>
</table>
4.3 Organizational learning

Learning achieved by Boston firms particularly related to planning (33%); this is also a recurring theme for Montreal firms (25%), along with negotiation (25%). Half of Montreal firms use team meetings to share acquired knowledge. However, internal meetings to share knowledge do not appear to be a concern for Boston firms. Indeed, only one firm, compared to five in Montreal, documents learning from previous alliances. This suggests that a large proportion of managers do not implement measures which encourage information sharing and knowledge integration. It therefore appears that they miss out on the full benefits of learning acquired from alliances and internationalization.

Reasons mentioned for lack of documentation include the small size of the company and lack of organization, time, and resources. To avoid losing expertise, two Montreal CEOs and one from Boston emphasize that they must retain their employees as long as possible. The quotations in Table 5 complement this portrait.

Therefore, the data only partially supports Proposition 3, since, in many firms, the alliance experience resides with the CEO and/or key personnel. These firms are thus vulnerable to the departure of key management employees. However, there is some evidence of formalization, at least of documentation related to prior alliance experience: retaining documents, making checklists, and noting particular elements that caused difficulty.

The following section discusses the implications of these results, mentions several research limitations, and suggests avenues for future research.
Table 5: The role of learning in alliance formation: practical support

<table>
<thead>
<tr>
<th>Conceptual Variable</th>
<th>Boston</th>
<th>Montreal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved know-how / experience</td>
<td>“With experience, I learned that objectives must be established beforehand and that the process must be controlled...” Company B2</td>
<td>“Experience from the establishment of alliances forces me to do a more thorough in-depth review. Now we also do a “Material Transfer Agreement” and hired a patent agent so we could proceed faster...” Company M3</td>
</tr>
<tr>
<td></td>
<td>“One of the things we learned is to pay more attention to possible scenarios and results rather than to assume that events are unpredictable. Nothing can be too clear; interpretations cause problems...” Company B9</td>
<td>“The biggest lesson is not to do deals without having the money in the bank. The big companies will wait until you die. You must have “leverage” to negotiate...” Company M13</td>
</tr>
<tr>
<td></td>
<td>“It learned to be extremely detailed when drawing up the contract, putting the technology transfer into the form of a checklist in terms of time to devote and material involved, especially when there is money associated with the success of the transfer...” Company M2</td>
<td></td>
</tr>
<tr>
<td>Importance of transmission</td>
<td>“We don’t keep any notes of what we learn, but it may be useful when we become larger...” Company B1</td>
<td>“We have regular team meetings about the status of activities. We collaborate and discuss all of the agreements, but everything passes by me...” Company M11</td>
</tr>
<tr>
<td></td>
<td>“Documentation about alliances is retained because it is useful to learn from the process...” Company B7</td>
<td>“We conserve, in databases, all of the steps done; however, everything depends on the team. That’s why we must keep them (the employees) a long time, to conserve the institutional memory...” Company M16</td>
</tr>
</tbody>
</table>
Based on the resource and competencies view of the firm, this research explores the process of international alliance formation of biotechnology SMEs. The analysis of results generally supports the theoretical framework presented in Figure 1; however, results highlight a notable weakness of sample firms in terms of learning from prior alliance experience. The main contribution of our study and its uniqueness reside in the integrated analysis and understanding of the concepts of the role of actors, of planning and opportunity management, and of learning associated with international alliance formation. In the context of high-tech SMEs, these three concepts appear inseparable and strongly interlinked. Nonetheless, the following sections present concise individual discussions of key findings and contributions to the literature for each concept.

Role of actors
This study highlights the relatively tight control of the CEO, often the founder and principal researcher, on alliance formation activities in the younger and smaller biotechnology firms in Montreal. On the other hand, in Boston firms, the age of the firm, the stage of development, human and financial resources, as well as skills related to experience appear to explain the greater involvement of personnel. Our results suggest that future research should go beyond the founder/owner/managers/decision-maker’s past experience, since employees’ networks may represent strategic resources as well. Indeed, research should examine networking activity through antecedent factors and performance outcomes to enable the firm to identify and manage new opportunities or plan a path-dependent networking strategy.

Planning / opportunity management
Boston firms do more planning of alliance formation and, except for considering unsolicited requests from potential partners, do not provoke and are not sensitive to opportunities which may arise from other events or sources. Biotechnology firms from Montreal, however, spontaneously mention a variety of sources of opportunities in their environment, with one respondent replying that smaller companies must be entrepreneurial and open to possibilities. This divergence as a function of a firm’s characteristics represents an important contribution to the literature on alliance formation. Our results are consistent with previous findings suggesting that both planned and unplanned activities may lead to international marketing growth. In such a context, key elements must be identified to help managers decide whether to seize an opportunity or to let it go. In those industries where the founders are often scientists themselves, how can they keep their focus on rapid commercialization when opportunities are often readily available? As part of the alliance management capability, researchers should delve deeper into the concept of alliance proactiveness routines, to identify potentially valuable partnering opportunities (Schilke and Goerzen, 2010) and into the planning/opportunity management trade-offs made by firms as they age, grow, and advance in their stage of development.

Learning from past alliances
Some respondent firms indicate that they develop internal processes to capture and retain the firm’s learning about alliance management. However, surprisingly, the vast majority of respondents, and particularly those from Boston, do not document and do not share individual learning acquired from involvement in alliances. Teamwork in half of the Montreal firms may attenuate somewhat this lack of documentation by encouraging sharing, but leaves the firm vulnerable to the departure of key managers. Documenting learning and disseminating this information throughout the organization is critical to procuring a competitive advantage. The internationalization of new ventures facilitates rapid learning because the firm is not encumbered by local routines. Therefore, learning in these young firms is a strategic objective, signalling the need to dedicate managerial and financial resources to ensure appropriate documentation and transmission strategies early in the development of the firm. Yet learning is a complex concept, and the firm must maintain the flexibility to react to contextual forces. Therefore, integrating mechanisms are important; they facilitate experimentation and also help employees to engage
in group problem-solving by sharing recent insights (Heimeriks, 2010). The most important contribution of the present study is the finding that learning is perhaps the weakest link in the international alliance formation model. This emphasizes the need for future research to understand how and when firms document and transmit information, with the objective of building a competitive advantage related to alliance formation.

Research limitations/Practical and Research implications

A single respondent involved in the establishment of international alliances provided information for each firm. Future research could combine information from all actors that may have a role to play in the formation of alliances. It should also identify key elements of the planning/opportunity management trade-offs to help managers decide whether to seize an opportunity or to let it go, while keeping their focus on rapid commercialization. The appropriate balance of institutionalizing mechanisms for SMEs clearly requires further research. In addition, this study focuses on one sector (biotechnology), therefore limiting the scope of findings. Results would greatly benefit from comparison to those from other high-tech sectors such as optics, software, and aeronautics. Other fruitful avenues of research are the examination of the impact that organizational culture and national culture have on members’ roles (in American, European, Latin American, and Asian firms). Finally, since high-tech SMEs rely on intangible resources, and especially on the expertise of human resources to build competitive advantage, top management must consider all possible inputs of personnel to planning, opportunity management, and the institutionalization of learning.

Conclusion

In conclusion, the results of this study offer a strong contribution and indicate that the roles of personnel vary, that both planning and opportunity management depend on the firm’s characteristics and phase of development, and points to the inadequacy of learning mechanisms in the biotech SMEs studied. These results are insightful and of interest to academics as well as to practitioners, whose competitive advantage may depend on becoming more skilled at managing domestic and international collaborations.
References


