

TOP MANAGEMENT ATTITUDE AND INTER-ORGANIZATIONAL LEARNING: THE MODERATING EFFECT OF ENVIRONMENTAL UNCERTAINTY

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ABSTRACT

A framework is developed for organizational learning in alliance based context. Transparency, intent, and receptivity are identified as factors affecting interorganizational learning in alliances. Affect of top management attitude toward learning on intent and receptivity is discussed. Also, how environmental uncertainty affects the relationship between top management attitude toward learning and intent, and top management attitude toward learning and receptivity is discussed.

INTRODUCTION

During the last two decades the world economy has come across an extraordinary transformation. Intensified global competition and reorganization of economic boundaries have significantly shortened the product and process lifecycles forcing firms to develop a continuous stream of innovation (Achrol 1991). To be successful, organizations must not only process information but also acquire and create new information and knowledge. Stata (1991) stated that organizational learning may be the only competitive advantage for firms in the future.

Organizational learning is a very well researched area in management and marketing. Many researchers have discussed organizational learning in many different contexts. Slater and Narver (1995) examined the effect of market orientation on organizational learning and performance. Hamel (1991), Inkpen (1998, 2000), and Hamel and Prahalad (1993) looked at organizational learning in alliance based context. Crossan et. al. (1999) discuss the process of organizational learning. Argyris (1976), Argyris and Schon (1978), and Senge (1990) examined the single loop (adaptive) and double loop (generative) learning process. Miller (1996) discusses many different modes of organizational learning. However, to our knowledge, no study has looked at the effect of top management attitude on organizational learning under varying environmental conditions. The focus of this paper is on the conditions fostering or hampering interorganizational learning in an alliance based context. This paper presents a framework of interorganizational learning in uncertain environments by integrating it with strategic alliances. First, we define strategic alliances, reasons for forming alliances, and then we define interorganizational learning and how it is affected by top management attitude. We also propose that the relationship between top management attitude and interorganizational learning is moderated by environmental uncertainty.

CONCEPTUAL FRAMEWORK

Strategic Alliances. Strategic alliance involves the pooling of specific resources and skills by the cooperating organizations in order to achieve common goals, as well as the goals specific to the individual partners. Given limited resources and capabilities, each partner firm seeks to leverage them through transferring them to and from its connected relationships striving toward the complementarity of its activities across the various connected relationships (Hamel and Prahalad 1993). Parkhe (1993) defines strategic alliances as, “Relatively enduring interfirm cooperative arrangements, involving flows and linkages that utilize resources and/or governance structure from autonomous organizations, for the joint accomplishments of individual goals linked to the corporate mission of each sponsoring firm” (p. 795). Gaining access to new markets, accelerating the pace of entry into new markets, sharing of research and development, manufacturing, and/or marketing costs, broadening the product line/filling product line gaps, protecting competitive position in the home market, reducing potential threat of future competition, raising entry barriers, overcoming entry barriers, enhancing resource use efficiency, extending resources, and *learning new skills* are among the motives underlying the entry of firms into strategic alliances (Varadarajan & Cunningham 1995). The various theoretical frameworks advanced to explain the evolution of strategic alliances suggest that market uncertainty, drive for increased efficiency, resource dependence, skills and resource heterogeneity, and imperfect factor markets drive firms to form alliances in their quest for competitive advantage. Webster (1992) notes that “there are multiple types of strategic alliances, virtually all are within the theoretical domain of marketing as they involve partnerships with customers or resellers or with real or potential competitors for the development of new technology, new products and new markets” (p. 8). Alliances are an economical and flexible way to cope with increasing market turbulence, uncertainty and scope (Day 1995). There are many benefits of alliances but these benefits are not cost free. Some identified costs by Varadarajan and Cunningham (1995) are (1) the time spent by management to negotiate, implement, and integrate the alliance; (2) the loss of flexibility and freedom of action in the areas of joint interest; (3) *leakage of proprietary knowledge* to the alliance partner; (4) the atrophying of firm capabilities in areas of alliance activity that have been given up to the partner.

Inkpen (1998) notes that the formation of an alliance is an acknowledgement that the alliance partner has useful knowledge. If the knowledge were not useful, there would be no reason to form a learning alliance.

Organizational Learning. In bringing together firms with different skills and knowledge bases, alliances create unique learning opportunities for the partner firms (Inkpen 1998). “Organizational learning is the acquisition of new knowledge by the actors who are able and willing to apply that knowledge in making decisions or influencing others in the organization” (Miller 1996, pg 486). Organizational learning is both a function of access to new knowledge and the capabilities for using and building on such knowledge. Miller (1996) describes six modes of learning such as analytical, synthetic, experimental, interactive, structural, and institutional. In an alliance based context, interactive learning most commonly occurs. In interactive learning, learning occurs by the exchange of information and evaluation of transactions that reveal the motives, resolve, and resources of rivals and allies within and outside

the organization. A strength of interactive learning is that it allows managers to exchange a good deal of information with one another which fosters more realistic collaboration (Miller 1996). There are many types and processes of learning discussed in the literature (Argyris 1976, Cohen and Levinthal 1990, Crossan, Lane and White 1999).

Single-loop learning (Argyris 1976) is the activity which adds to the knowledge base, or firm-specific competence, or routines of the firm without altering the nature of the activity. This is analogous to *adaptive learning* as described by Senge (1990). *Generative learning* (Senge 1990), which is analogous to *double-loop learning* (Argyris 1976), requires new ways of looking at the world in understanding customers and competitors. This occurs when the organization is willing to question long held assumptions about its missions, customers, capabilities, or strategy (Slater and Narver 1995).

Inter-organizational learning can be achieved by transferring existing knowledge from one partner firm to another partner firm, as well as by creating completely new knowledge through interaction among the firms.

Perceived Transparency. This also can be termed as openness of the firm to its alliance partner. Asymmetry in transparency pre-ordains asymmetric learning (Hamel 1991). Some firms and some skills may be inherently more transparent than others. Transparency can be influenced through the design of organizational interfaces, the structure of joint tasks and the protectiveness of individual partners. Since knowledge and skills are considered as power, it is not surprising to find firms protecting their transfer to alliance partners particularly when the embodied knowledge or skill is explicit (Hamel 1991). Alliance partners can adopt explicit measures to protect the transparency of their competencies. The nature of partner interactions may range from operational information exchange necessary to run the alliance to the sharing of more strategic information. Openness in the relationship should be a key element in determining the amount of information shared (Inkpen 2000). Inkpen (2000) defines openness as the willingness and ability of the alliance partner to share information and communicate openly. Transparency also depends on the tacitness, specificity, and complexity of knowledge or skill. *Tacitness* is the implicit and non-codifiable accumulation of skills that results from learning by doing. The degree of tacitness of a particular competency or skill influences transfer outcomes (Simonin 1999). Tacit knowledge is not easily visible and hard to formalize, making it difficult to communicate or share with others. In contrast, explicit knowledge is systematic and easily communicated in the form of hard data or codified procedure (Inkpen 1998). *Specificity* refers to the transaction specific skills and assets (Simonin 1999). The main issue is the ease with which a skill and asset can be redeployed to alternative uses and by alternative users without loss of productive value. *Complexity* refers to the number of independent routines, individuals, technologies, and resources linked to a particular knowledge, skill or asset (Simonin 1999). Complexity impairs comprehending the totality of a skill and prevents its transferability. (Figure 1 presents this relationship graphically as the link from perceived transparency of partner to organizational learning).

Intent. The objectives of alliance partners, with respect to inter-partner learning and competence acquisition, may be usefully characterized as internalization or substitution (Hamel 1991). An *internalization* intent will be strongest in firms which conceive of competitiveness as

competence-based, rather than as product-based, and seek to close skill gaps rather than to compensate for skills failure. Organizational learning will occur when the partner firm has internalization intent. The intent to internalize also depends on the management's perception about the payoff of learning. Internalization intent is strongest when the skill to be acquired from the partner is seen as critical to the growth of the entire company, and not just the competitiveness of a single product or business (Hamel 1991). A *substitution* intent pre-ordains asymmetric learning, and for systematic learning to take place, operators must possess an internalization intent. In an alliance based context, very little or no organizational learning will occur if a firm has a substitution intent as the firm will be seeing the alliance partner only as a substitute for its lack of skills. A firm with no ambition beyond investment avoidance and substitution of its partner's competitiveness for its own lack of competitiveness may be perfectly content not to learn from its partner. The perceived pay-off to learning is influenced by a partner's calculation of the cost of continued dependence. An internalization intent and substitution intent can be placed on the two ends of a continuum.

Receptivity. Receptivity is the ability of a firm to actually absorb skills from its alliance partners (Hamel 1991). This is similar to *absorptive capacity* as discussed by Cohen and Levinthal (1990) and *knowledge acquisition effectiveness* discussed by Inkpen (2000). Receptivity is the ability to recognize and assimilate valuable knowledge from a particular alliance partner. Some organizations may lack the capacity to learn and some firms may be inherently more receptive than others. Asymmetry in receptivity pre-ordains asymmetric learning (Hamel 1991).

Top Management Attitude toward Learning. The management of knowledge has become an important role of top management (Prahalad and Hamel 1994). To be successful, organizations must not only process information but also acquire and create new information and knowledge. Firms purposefully adopt structures and strategies to encourage learning. They are not totally reactive, and can proactively seek to influence the environment in which they learn (Dodgson 1993). Firms that purposefully construct structures and strategies so as to enhance and maximize organizational learning have been termed as *learning organizations*. Pedler, Boydell, & Burgoyen (1989) define it as an organization which facilitates the learning of all its members and continually transforms itself. A Learning organization has a climate in which individual members are encouraged to learn and to develop to their full potential. It is an instilled attitude toward learning. Attitudes are leaned states that influence the choice of personal action the individual makes towards persons, objects or events (Dodgson 1993). A long-term orientation of top management will have a significant effect on the intent of learning. Based on the top management's attitude toward learning, in some alliances, partners aggressively seek to acquire knowledge and skills where as in others, the partners take a more passive approach to knowledge acquisition and learning.

Based on the above explanation, an organization may adopt the philosophy of generative learning rather than adaptive learning depending on top management's attitude. This will ultimately affect the intent of the organization and will result in *internalization (learning)* of skills rather than *substitution* of skills (Figure 1 presents this relationship graphically). Hence we propose:

Proposition 1: A positive top management attitude toward learning will lead to higher internalization intent and lower substitution intent for learning.

Also, if the top management has a positive attitude toward learning, it will allocate more resources and will invest to increase receptivity (absorptive capacity), and give support for higher organizational learning. Hence we propose:

Proposition 2: A positive top management attitude toward learning will lead to higher receptivity for learning.

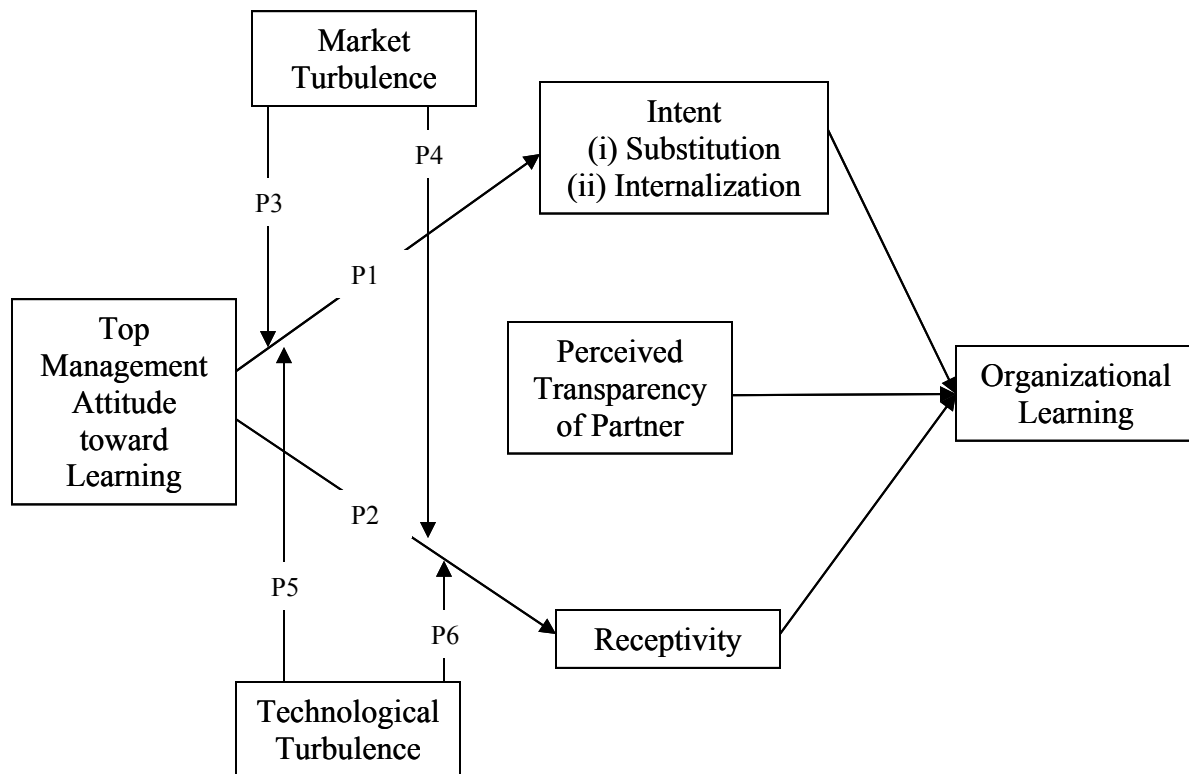


Figure 1

Environmental Uncertainty. In the face of major discontinuities in the environment, firms are likely to find themselves lacking in the broader set of skills and resources needed to effectively compete in the changing marketplace and, hence, demonstrate a greater propensity to enter into alliances with firms possessing complementary resources and *skills* (Varadarajan and Cunningham 1995). Environmental uncertainty as defined by Milliken (1987) is the perceived inability of an organization’s key managers to accurately assess the external environment of the organization or the future changes that might occur in that environment. Uncertainty results from scarcity and environmental fluctuations. According to resource dependence theory (Pfeffer and Salancik, 1978), interorganizational exchange arises from uncertainty regarding the availability of productive inputs and markets for finished goods (demand). The scarcity of

resources increases uncertainty about the availability of both the supply of inputs and demand for outputs. In other words, uncertainty exists when an organization is unable to assign a subjective probability to the outcome of its actions (Keister 1999). Hence, environmental uncertainty may be defined as external dynamism and unpredictability. It has two prominent dimensions, *market turbulence* and *technological turbulence*. The task environment, i.e. conditions external to the firm, affects the organization's internal behaviors and functioning. The market turbulence dimension specifies the changes in the composition of customers and their preferences (Kohli and Jaworski 1990). Technological turbulence, on the other hand, is the rate of technological change in a given market (Kohli and Jaworski 1990). Technological turbulence specifies the amount and unpredictability of change in production, process, or service technologies. Uncertainty in the form of frequent changes in technology or market preferences requires organizations to adjust to those changes. Technological complexity and volatility have been found to be associated with the formation of alliances (Hagedoorn 1993).

When market turbulence is high, i.e. the changes in the composition of customers and their preferences is frequent, though the top management attitude toward learning might be high, firms will have higher substitution intent than internalization intent as it takes time and other resources to internalize a skill and exploit it. In high market turbulence, markets may change by the time a firm internalizes and exploits the skill from its partner. Hence we propose:

Proposition 3: The relationship between top management attitude toward learning and intent for learning will be moderated by *market turbulence* such that when market turbulence is high, it will lead to lower internalization intent and higher substitution intent.

Also when the market turbulence is high, though the attitude of top management toward learning might be positive, it may not allocate sufficient resources for receptivity of the skills. Hence we propose:

Proposition 4: The relationship between top management attitude toward learning and receptivity will be moderated by *market turbulence* such that when market turbulence is high, receptivity will be low, though the top management attitude toward learning might be high.

Similarly, when the technological turbulence is high, i.e. the change in production, process, or service technologies is frequent, firms will have higher substitution intent than internalization intent as it takes time and other resources to internalize a skill and exploit it. In high technological turbulence, technology may change by the time a firm internalizes and exploits the skill from its partner. Hence we propose:

Proposition 5: The relationship between top management attitude toward learning and intent for learning will be moderated by *technological turbulence* such that when technological turbulence is high, it will lead to lower internalization intent and higher substitution intent.

When technological turbulence is high, though the attitude of top management is positive toward learning, it may not allocate sufficient resources for receptivity of the skills. Hence we propose:

Proposition 6: The relationship between top management attitude toward learning and receptivity will be moderated by *technological turbulence* such that when technological turbulence is high, receptivity will be low, though the top management attitude toward learning might be high.

DISCUSSION AND IMPLICATIONS

It is evident that alliances present a good learning opportunity for partner firms and to gain competitive advantage. However, interorganizational learning hinges on the ability of the firm to internalize and exploit different types of knowledge. This also depends on the receptivity of the firm and transparency of the partner firm. Strategic alliances are an important means to achieve this objective and alliances can create effective win-win situations for everyone involved. This paper proposes that in high environmental uncertainty condition, the relationship between top management attitude and intent, and top management attitude and receptivity is moderated by market and technological turbulence.

This paper contributes to the literature by examining the importance of top management attitude toward learning to interorganizational learning for firms in an alliance. An important contribution of this will be, measuring the effect of environmental uncertainty on the relationship between top management attitude and organizational learning.

CONCLUSION

This study addresses the question of differing alliance successes based on organizational learning in different external environmental situations. If our propositions are supported, it will provide support to the importance of top management attitude toward learning on the intent and receptivity of organizational learning. It will also show that environmental uncertainty affects the relationship between top management attitude toward learning and intent and receptivity. It may help researchers and managers to make useful distinctions in examining the sources and facilitators of organizational learning. Through the framework and propositions we hope to encourage future research and facilitate greater managerial understanding. There are no measures available for some of the constructs. Developing and testing measures for these constructs would be an important aspect of future research. Future research may also investigate the hierarchical relationship between intent, receptivity, and transparency. Future research may also investigate the effect of trust between organizations on some aspect of transparency for organizational learning.

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