A Dynamic Theory of Collaboration and Decision-Making

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Abstract

The model presented in this paper incorporates various causal and feedback loops in the structure of the dynamic decision-making processes and performance in non-equity alliances. According to this structure, partnership performance is driven mainly by the nature of the decision-making and implementation processes of the partners. These, in turn, are affected by two external influences, the setting in which the partnership is occurring (partnership setting)—such as the legal and market conditions—and the characteristics of the partnership itself (partnership arrangement)—such as whether such partnerships require specific informal and/or formal agreements. While we model these relationships and interactions explicitly, we also portray, in turn, how partnership performance aspects and the implementation processes influence the decision-making processes.

1. Importance to business practice

It is a disconcerting fact that many, if not most, partnerships between organizations fail. This is particularly the case when there is a lack of joint (financial) equity in the partnership. Such partnerships can exist as separate corporate entities in which each of the partners holds an equity position or as looser affiliations where the relationship partners take no equity position.

Partnerships with no equity position typically have no separate formal organization but rather operate as a loose system of inter-partner roles and responsibilities supported by boundary spanning agreements of coordination, liaison, and decision-making. This lack of a mutual organizational structure can give the partner organizations flexibility and more strategic options in dynamic environments but will impede the effectiveness of traditional governance mechanisms.

Collaborative arrangements that govern this type of loose partnership are designed to coordinate and to enhance predictability of each partner’s activities. They can specify with different levels of precision one or more of the following components: each partner’s activities (e.g., customer service provision); partnership-specific marketing objectives (e.g., level of customer retention); revenue sharing agreements; and penalty clauses. Moreover, to clarify particular components they can comprise formal procedures employing explicit arrangements (e.g., written contracts), and informal procedures making use of communicative activities oriented toward the creation of implicit, norm-based understandings between each partner (e.g., face-to-face meetings and resultant handshake agreements). The former—formal arrangements—induce rigidity, while the latter—informal arrangements—allow partners to adapt their effort to changing dynamic circumstances.

However, given the proclivity with which this type of fragile partnership fails, we need to understand whether any alternative informal and formal arrangements can enhance partnership performance in dynamic environments. The goal of this paper is to provide such insights. More specifically, this study aims to enhance our understanding of collaborative decision-making processes and related governance arrangements in alliances and to develop sound guidelines for partnership managers to improve their relationship competencies in order to enhance the probability of developing and maintaining successful partnerships that facilitate the achievement of desired objectives. We attempt to offer a straightforward and practical guide that is flexible enough to help managers employ suitable informal and formal collaborative arrangements under varying conditions for the practice of alliance management. This constitutes a contribution of practical relevance as the careful adoption of these guidelines may reduce the number of alliance failures and therefore help organizations achieve stated objectives in dynamic environments.

2. Importance to business theory

There has been an increase in research and theorizing about collaborative business partnerships in the general management literature. The literature deals with two types of organizational relationships: vertical
3. A theory of alliance performance

The basis of the framework developed and tested in this paper is that decision-making processes and behavior posited by microeconomic theories such as agency and transaction cost theoretic frameworks can also be assessed using a framework whose roots lie in inductive behavioral theories. Such integration synthesizes theories from the microeconomic deductive and behavioral inductive philosophies to obtain a richer and more realistic framework for understanding dynamic decision-making aspects and complex governance mechanisms in alliances.

Our framework, see also Gudergan [9] and Gudergan and Ellis [10], incorporates new conceptual building blocks in developing a more comprehensive dynamic model of collaborative decision-making in organizational partnerships. According to this structure, partnership performance is driven by the nature of the decision-making and implementation processes of the partners. These, in turn, are affected by two external influences, the setting in which the partnership is occurring (partnership setting)—such as the legal and market conditions—and the characteristics of the partnership itself (partnership arrangement)—such as whether such partnerships require specific informal and/or formal agreements.

For the purpose of this paper, we will restrict our shortened discussion to the following two areas: (1) the decision-making processes proposed in this framework; and (2) selected key propositions to illustrate how various collaborative arrangements influence partnership performance. Figure 1 illustrates the model structures which explain collaboration and decision-making in alliances.

3.1. Decision-making processes in alliances

We interpret interorganizational decision-making as being shaped by both procedural rationality and politics. This is similar to the process of organizational decision-making as suggested by several authors [11] who argue that organizational decisions, rather than being the result of either procedural rationality or politics, may be shaped by both; emerging from a combination of analysis and influence. Based on an integration of prospect theory [12] and theories in interactional psychology [13] and social psychology [14], we propose that three constructs—perceived risk, risk taking tendency and compliance tendency—directly affect partner effort.

Perceived risk inherent in alliances is defined as a partner’s assessment of how risky particular consequences of effort are [15]. It is formed as the consequence of perceived environmental uncertainty and the level of trust in the other partner.

Risk-taking tendency is defined as an individual’s current tendency to take or avoid risks. It is conceptualized as an individual trait that can change over time and thus is an emergent property of the decision-maker. This definition of risk propensity, which follows Sitkin and Pablo [16], is related to, but departs in a critical way from, previous conceptualizations of risk propensity as a stable
dispositional attribute [17]. It is formed as the consequence of a partner’s organizational-risk taking values, partnership-specific investments and loss/gain context. However, in this paper, we view risk-taking tendency as a constant.

Compliance refers to the overt behavioral adherence to rules and norms. We define compliance tendency as a partner’s inclination to adhere to obligations [18]. This comprises a partner’s intentions to comply with elements of the partnership arrangements. It is formed as the consequence of that partner’s sense of obligation [defined as a partner’s perception of being obliged to achieve partnership-specific objectives and/or to devote appropriate levels of effort] and accountability [defined as a partner’s perception of having to justify and be held accountable for devoting effort and/or accomplishing objectives reflecting explicit, de jure and/or implicit, de facto accountability].

According to our proposed decision-making process, a partner’s effort is determined by both risk perceptions and risk-taking tendencies as well as compliance tendencies of the partner [risk-taking tendencies is a constant in our model]. These three antecedent constructs, in turn, are affected by the decision outcomes—such as the effectiveness of the collaborative relationship—and related delayed effects—such as sense of obligation and trust that evolve over more than one period.

For instance, perceived risk, which has an indirect mediated effect on trust, in turn, is influenced by trust, is dynamic. This feedback relationship is—to some extent—delayed and interacts in a dynamic fashion with related antecedents. Also, trust is dynamic in nature. While there are positive reinforcing nonlinear effects of informal arrangements on trust, those of formal arrangements are balancing. These interrelated aspects encompass additional delayed feedback relationships over more than one period.

Understanding these dynamic decision-making aspects provides a more comprehensive foundation for investigating how both the partnership setting and informal and formal partnership arrangements affect collaborative effort in alliances. Our conceptualization of the interorganizational decision-making process allows us now to assess more fully whether informal and/or formal arrangements can enhance alliance performance in a

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**Figure 1. Causal Loop Diagram – Collaboration and Decision-Making**

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Exogenous or fixed constructs

Collaborative arrangement constructs

Decision-making constructs

Performance construct

Implementation constructs
dynamic context. We will now elaborate on selected key propositions of this paper.

3.2. Selected key propositions

Understanding that alliance performance is affected positively by each partner’s effort and the extent to which such effort can be adapted in dynamic environmental conditions—such as changing competitor or customer behavior—here, we discuss specifically those linkages that are mediated through partner effort and effort adaptability.

Prop. 1a: The greater the partner effort, the greater the performance of the alliance.

Prop. 1b: The better the adaptability of effort, the greater the partnership effectiveness.

The extent to which the focal partner feels confident in the associated alliance partner influences the perceptions of risk regarding the consequences of the effort put in. Moreover, in this paper we assume that alliance partner share the revenues of their collaborative endeavor. The greater the proportion of income generated in an alliance is related to sharing revenues, the more risky are the revenue consequences for the partner. Perceived risk, in turn, affects the amount of effort devoted to the alliance.

Prop. 2a: The higher the trust, the lower the perceived risks.

Prop. 2b: The greater the level of revenue-sharing, the higher the perceived risks.

Prop. 2c: The higher the perceived risks, the lower the effort devoted to the alliance.

Partners in exchange arrangements form obligations that are induced through agreements within the exchange relationship. This is supported by the literature in organizational psychology and sociology [19]. Explicit or formal contracts between two parties specify the obligations of each party to the contract. Such contracts do not eliminate all ambiguity. One step removed from the explicit contract is the implied contract. This contract form results from observable patterns of behavior between parties. A third level of contracts is operating at the individual, perceptual level (i.e. psychological contract) consisting of reciprocal obligations between the organizational members. Such perceptions of obligations may also include or be the result of obligations formed through explicit and implied contracts [20] and focus on performance terms and/or activities. We apply this conceptual understanding to alliances: Partners in such relationships form a sense of obligation that reflects their conceptual understanding to alliances: Partners in such performance terms and/or activities. We apply this through explicit and implied contracts [20] and focus on may also include or be the result of obligations formed

Prop. 3a: The greater the use of formal collaborative arrangements, the higher the sense of obligation, sense of accountability and trust.

Prop. 3b: The greater the use of informal collaborative arrangements, the higher the sense of obligation, sense of accountability and trust.

Partners forming a sense of obligations and/or accountability in alliances are more inclined to comply with elements of the agreement. While this results in partners devoting appropriate levels of effort to the partnership, it also increases their confidence in that the other partner devotes relevant effort. This reduces their perceived risk and, in turn, results in them devoting more effort to the partnership. It is through these linkages that collaborative arrangements positively influence partnership performance.

Prop. 4a: The greater the sense of obligation or sense of accountability, the greater the partner’s compliance tendency.

Prop. 4b: The greater the partner’s compliance tendency, the greater the partner’s effort.

Formal arrangements specifying each partner’s activities a priori and in writing have less relevance in unsteady environments, as both their specifications and resultant implicit understandings are, to some extent at least, inappropriate and potentially disadvantageous. Adapting formal arrangements to changing environments requires re-negotiating and re-writing terms. This can be costly and time-consuming. It is this inherent inflexibility of formal arrangements to adapt efficiently to changing environments that constrains the effective implementation of business strategies in interorganizational relationships.

Prop. 5: The greater the use of formal collaborative...
arrangements, the lower the adaptability of effort.

Alliances are embedded in judiciary systems which determine the extent to which arrangements can be enforced. Low levels of enforceability are associated with lower levels of formal arrangements and higher levels of informal arrangements. Moreover, the level of enforceability influences a partner’s sense of de jure accountability.

Prop. 6a: The lower the level of enforceability, the lower the use of formal arrangements and the greater the use of informal arrangements.

Prop. 6b: The lower the level of enforceability, the greater the sense of accountability.

Moreover, the initial collaborative arrangements are influenced by the partners’ commitment to each other’s commitment to the alliance. Low levels of confidence are associated with higher levels of formal arrangements and lower levels of informal arrangements.

Prop. 7: The lower the trust, the lower the initial use of informal arrangements and the greater the use of formal arrangements.

In addition, partners tend to lose some confidence in their partner’s ability or motivation to devote appropriate amounts of effort, if the overall performance is low. Hence, they have lower levels of trust.

Prop. 8: The lower the level of partnership effectiveness, the lower the trust.

It is specifically the effects of propositions 7 and 8 in combination with the propositions 1 to 6 that demonstrate the need to examine such influences simultaneously. Propositions 7 and 8 illustrate re-enforcing and balancing loops and delayed impacts in our model structure. By highlighting these effects in a comprehensive fashion, it is possible to delineate the distinct dynamic conditions under which the use of particular informal and formal collaborative arrangements impacts upon alliance performance.

3. Theoretical contributions of this paper

This paper makes the following substantive contributions. First, a coherent and internally consistent effectiveness model of alliance performance is developed and tested. This framework constitutes a contribution to the understanding of the antecedents of partnership effectiveness.

Second, a coherent and internally consistent compliance-risk model of partner effort in alliances is developed and tested. This behavioral framework constitutes a contribution to the understanding of the antecedents of partner effort. It is superior to UT-based models through accounting for both political and social interaction processes, and behavioral decision-making processes in explaining dynamic decision-making in collaborative relationships.

Third, a coherent and internally consistent model of collaborative arrangements in alliances is developed and tested. This framework constitutes a contribution to the understanding of the linkages between informal/formal collaborative arrangements and antecedent factors of partner effort and of partnership effectiveness. It is superior to models, which are purely based on either the microeconomic or behavioral paradigms, through substantiating the effects of informal and formal arrangements accounting for exogenous factors, as well as for political and social interaction processes, and behavioral decision-making processes.

Finally, resulting from this research the external validity and explanatory completeness of agency and transaction cost theoretic modifications will be enhanced. We extend microeconomic theory by integrating social mechanisms and by taking a dynamic system perspective accounting for the exogenous alliance setting. This will substantiate the contributions of microeconomic and behavioral theories in explaining alliance performance. These advances will constitute a contribution to economic theory relating to exchange relationships in general.

4. Research methodology

The framework is tested incorporating two steps. First, a 16-page questionnaire with formative and reflective multi-item scales for the model constructs was developed to test the validity of the framework presented in Figure 1. Two cross-sectional surveys were conducted in 2000. The first one was sent to a random sample of 2,000 large and medium sized businesses in Australia and the second one to 292 member organizations of the Australian-German Chamber of Industry and Commerce. Both surveys were addressed to the marketing executive, as marketing issues are the prime drivers for non-equity business partnerships. The responses showed that approximately 25% of the organizations sampled were not involved in any non-equity alliances and resulted in 146 usable responses for a response rate of 10.0% in the first survey and 46 for a response rate of 22% in the second survey. Moreover, supporting in-depth case research on 25 business partnerships of a global financial services company has been completed recently providing additional in-depth descriptive insights.

Given that our study is a test of theory, the proper criterion to establish non-response bias is to judge whether self-selection by respondents interacts with the hypothesized relationships. We compared characteristics of “relatively early” and “relatively late” respondents for both surveys. No significant differences were identified between the two groups in each survey. Based on this comparison, non-response bias appears minimal.

Subsequently, the data analysis has been undertaken based on the partial least squares (PLS) method to test the
complex and dynamic models and hypothesis developed accounting for both formative and reflective measures as well as the exploratory nature of the models and measures.

Finally, based on our framework and the empirical findings we have developed a causal dynamic model (CLD) delineating the various collaborative aspects in alliances and the concurrent dynamics of the decision-making and implementation processes. Our model incorporates various causal and feedback loops in the overall structure for alliance collaboration and performance and related dynamic decision-making processes. According to this structure, partnership performance is driven mainly by the nature of the decision-making and implementation processes of the partners. These, in turn, are affected by two external influences, the setting in which the alliance is occurring (partnership setting) and the dynamic characteristics of the alliance itself (informal and formal collaborative arrangement). However, while we model these relationships explicitly, we also portray, in turn, how partnership performance aspects and the implementation processes influence in a dynamic fashion the decision-making processes and collaborative arrangements.

While the model is based on theoretical and empirical findings, validation of the process structures which have been portrayed require some additional direct structure tests [22] (Barlas 1989; Forrester and Senge 1980) and—to some extent—behavior-reproduction tests [23] (Forrester and Senge 1980).

5. References