Balance of Opportunism, Flexibility and Learning in Firm Governance Decision of Investments under Uncertainty

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Abstract

The literature in strategic management seldom establishes the connection between the factors that influence organizational governance and the effects that such governance choice has on firm-level performance associated with the investments under uncertainty. The failure to integrate the theory related to organizational governance and the theory related to competitive advantage may lead to misleading empirical findings. This paper describes the link between the explanation of organizational governance and firm performance from real options perspective, transaction cost economics, resource-based view, and organizational learning. In particular, the decision on governance choices to achieve competitive advantages is not only to minimize the threats of opportunism and to maximize the organizational flexibility, but also to maximize the ability of a firm to learn about the value of uncertain investments and to invest in this opportunity should it prove to be economically viable in subsequent stages.

Keywords: governance; uncertainty; opportunism; flexibility; learning

1. Introduction

The choices of organizational form are mostly built on transaction cost economics which argues that the optimal form of organizational governance is mainly driven by the maximization of efficiency (Williamson, 1975, 1985). The studies that investigate the performance of specific resource investments, however, are largely built on resource-based view which suggests that sustainable competitive advantages are derived from specific characteristics of resources (Barney, 1986; Rumelt, 1984; Wernerfelt, 1984). Other studies employ real options perspective to link the choices of organizational governance and firm-level performance (Bowman & Hurry, 1993; Kogut, 1991). The literature seldom establishes the connection between the factors that influence organizational governance and the effects that such governance choice has on firm-level performance. Importantly, the failure to integrate the theory related to organizational governance and competitive advantage may lead to misleading empirical findings (Brouthers, Brouthers, & Werner, 2003; Leiblein, Reuer, & Dalsace, 2002; Shaver, 1998). This paper thus describes the link between the explanation of organizational governance and firm performance from real options perspective to transaction cost economics and resource-based view.

Based on transaction cost economics, firm-specific investments create threats of opportunism that

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may be mitigated through governance choices (Williamson, 1975, 1985). However, such specific investments are often essential to create resources and capabilities that potentially generate abnormal economic performance (Barney, 1986; Rumelt, 1984; Wernerfelt, 1984). Transaction cost economics thus emphasizes that firms determine their governance choices in such a way that minimizes the threats of opportunism while resource-based view focuses on the specific resources position that potentially create competitive advantages. Built on real options perspective, firms determine their governance choices in such a way that maximizes the flexibility (Bowman & Hurry, 1993; Kogut, 1991). Under a condition of high uncertainty, therefore, the prediction from transaction cost economics would be that a firm adopts a more hierarchical mode of organizational governance to minimize the threats of opportunism, whereas the prediction from real options perspective would be that a firm adopts a less hierarchical one to maximize the flexibility.

To reconcile the competing predictions from transaction cost economics and real options perspective, the decision on governance choices is essentially not only to minimize the threats of opportunism and to maximize the flexibility respectively, but also to maximize the ability of a firm to learn about the value of uncertain investments and to invest in this opportunity should it prove to be economically viable. To this end, resource-based view (Barney, 1986; Rumelt, 1984; Wernerfelt, 1984) and organizational learning (Cohen & Levinthal, 1990; Hamel, 1991) would provide complementary explanations on such competing predictions. The next sections explains and integrates the arguments from transaction cost economics, real options perspective, resource-based view, and organizational learning to derive a more complete model for the determination of organizational governance choices under uncertain environment.

2. Transaction cost economics versus real options

Transaction cost economics argues that the attributes of the transactional environment determine the governance costs of an exchange agreement between economic actors. Besides, the forms of governance in such exchange also vary in their ability to effectively facilitate the exchange. The theory assumes that individuals within an organization are boundedly rational and meanwhile, their behaviors in an exchange are likely to be opportunistic (Williamson, 1975, 1985). Boundedly rational managers usually find it very costly to negotiate and write a contract that completely describes obligations and rights of each party in the exchange in such a way that covers all future possible contingencies. When circumstances not accounted for in the ex-ante contract arise, ex-post renegotiations are likely to result in one trading partner opportunistically taking advantages from the vulnerabilities of another partner in the exchange.

This opportunistic behavior is even more likely in ex-post small numbers bargaining situations where one party in the exchange makes an investment that has only limited usefulness outside such exchange relationship. Such relationship-specific or idiosyncratic investments create their own problems of small numbers bargaining problems that lead to opportunistic behaviors of the parties and strategic vulnerability in the exchange (Klein, Crawford, & Alchian, 1978). The level of uncertainty in the environment with respect to the markets, suppliers, and technologies as well as the complexity in the economic exchange also determines the likelihood and the severity or costs of this opportunistic behavior (Williamson, 1985). In particular, exchanges that are conducted in highly uncertain environments and that involve specialized investments are more likely to encounter unanticipated future contingencies that require renegotiation than exchanges that are conducted in more stable environments and that involve less specialized investments. Therefore, the level of asset specificity and uncertainty are two critical factors that determine the likelihood of the market failure (Williamson, 1985).

Empirical research in transaction cost economics has provided a consistent and strong support for a positive relationship between the level of asset specificity and the adopting of more integrated organizational governance (Anderson, 1985; Anderson & Schmittlein, 1984; Masten, 1984; Monteverde & Teece, 1982a, 1982b; Oxley, 1997). The literature also emphasizes the relationship between environmental uncertainty and organizational governance decisions, however many empirical studies have yielded inconsistent and contradictory results on such relationship (Mahoney, 1992; Sutcliffe & Zaheer, 1998). These contradictions may be due partly to the variation in the sources of uncertainty associated with the behaviors of individuals as well as environments and measurements of variables in the exchange (Sutcliffe & Zaheer, 1998). In particular, certain types of transactional uncertainty may actually lead firms to adopt a less hierarchical form of governance rather than a more hierarchical one in an exchange that are involved with a high level of environmental uncertainty (Walker & Weber, 1987). Indeed, the desire to maintain flexibility can become a priority that leads firms to adopt a less hierarchical form of governance under conditions of high uncertainty rather than a more integrated one to minimize the threats of opportunism according to the transaction cost predictions (Balakrishnan & Wernerfelt, 1986; Kogut, 1991).

To complement the explanation on these mixed empirical findings, real options perspective is introduced to provide the prediction of governance choices under uncertain environment (Balakrishnan & Wernerfelt, 1986; Kogut, 1991). Built on the real options logic, some investment opportunities provide the right but not the obligation for the investors to take a specific decision and operating actions in the future (Kogut, 1991). Such investments create economic value through operational flexibility. Real options perspective recognizes that irreversible investments under uncertainty are associated with opportunity costs and therefore the ability to defer committing resources under the uncertain environment creates values for the firm (McDonald & Siegel, 1986). In particular, built on this logic, many investment projects create values from a growth option via follow-on investment opportunities (Bowman & Hurry, 1993; Kester, 1981). To this end, the real options perspective assumes that managers are able to write a contract that provides them with the implicit or explicit claims on future opportunities and that they are able to specify a probabilistic distribution of returns associated with an investment in the future.

Firms holding real options have a greater opportunity to increase their performance from expanding into markets or technologies that turn to be economically feasible in the future. Holders of such options are able to limit the downside risk of their investments by deferring, abandoning, or expanding such investments (Folta, 1998; Reuer, Zollo, & Singh, 2002). With such flexibility, the firms are able to make appropriate decisions in the future when the uncertainties facing them are resolved in the future. The retention of this flexibility under conditions of high environmental uncertainty is associated with the choices of organizational governance because some forms of governance are more or less flexible than others. In general, in response to the change of the level of uncertainty in an exchange, a more hierarchical form of governance is more costly for firms to alter than a less hierarchical one (Kogut, 1991). To alter a more hierarchical form of governance, one has to change a variety of explicit and implicit contracts that constitute the governance in the exchange (Mahoney, 1992). Changing a less hierarchical forms of governance, on the contrary, usually requires a smaller number of, usually, explicit contracts. Therefore, under conditions of high environmental uncertainty, firms are likely to adopt a less hierarchical form of governance in their exchange instead of a more hierarchical one.

The empirical studies of the real options logic also demonstrate mixed findings. Some studies are consistent with the real options logic that under high levels of uncertainty, firms adopt a less hierarchical form of governance rather than a more hierarchical one (e.g., Balakrishnan & Wernerfelt, 1986; Hurry, Miller, & Bowman, 1992; Kogut, 1991). However, other studies are consistent with the transaction costs logic that under high levels of uncertainty, firms opt for a more hierarchical form of governance rather than a less hierarchical one (e.g., Anderson & Schmittlein, 1984; Helfat & Teece, 1987; John & Weitz, 1988; Masten, 1984). Given these competing explanations between the two theoretical perspectives, several contingencies will be required to determine the applicability of each perspective.

3. Transaction specific investment and governance choices

The level of uncertainty about the sources of opportunism and the level of transaction specific investment, according to transaction cost economics, mainly determine the threats of opportunism in an exchange relationship (Williamson, 1975, 1985). The literature has also suggested that the level of transaction specific investment in an exchange is a more important determinant of the threats of opportunism than the level of uncertainty (Williamson, 1985; Riodan & Williamson, 1985). Therefore, under conditions of low and moderate levels of uncertainty, firms are likely to adopt a more hierarchical form of governance in such a way that is consistent with transaction costs logic in order to minimizing the threats of opportunism (Folta, 1998). However, under conditions of high levels of uncertainty, firms adopt a less hierarchical form of governance in such a way that is consistent with real options logic to maximize the flexibility (Folta, 1998). Therefore, the governance forms of firms making a highly specific investment under a level of uncertainty would be determined mainly by the likelihood of opportunistic behaviors arisen from the investment's specificity.

Proposition 1 a: Firms making an investment of high specificity under a level of uncertainty are likely to adopt more hierarchical forms of governance to minimize the threat of opportunism.

The governance forms of firms making a low to moderate level of specific investment under a low to moderate level of uncertainty would also be determined mainly by the likelihood of opportunistic behaviors arisen from the investment's specificity.

Proposition 1 b: Firms making an investment of low or moderate level of specificity under a low or moderate level of uncertainty are likely to adopt more hierarchical forms of governance to minimize the threat of opportunism.

By these logics, the governance forms of firms making a low to moderate level of specific investment under a high level of uncertainty would be determined largely by the flexibility arisen from the uncertain outcomes of the investment.

Proposition 1 c: Firms making an investment of low or moderate specificity under a high level of uncertainty are likely to adopt less hierarchical forms of governance to maximize the flexibility.

4. Types of uncertainty and governance choices

Uncertainties in the exchange relationship can be about the sources of opportunism or about the economic values of the exchange. Firms that invest in a particular type of opportunity for the very first time would be unsure about the economic viability of their investment. Given the lack of knowledge and experience in making such investment, based on transaction costs logic, the firms would not be fully aware of different ways that their exchange partners could engage in opportunistic behaviors. However, when having a great deal of knowledge and experience in making a particular type of investment, they may not be so concerned about the potential sources of opportunism associated with that investment, but, based on real options logic, they would rather be more cautious about the substantial uncertainty about the economic viability of such investment. Therefore, the governance forms of firms making an investment under relatively high levels of uncertainty about the economic value are likely to be determined mainly by the flexibility arisen from the uncertain investment.

Proposition 2a: Firms making an investment where uncertainty about economic value is high but uncertainty about sources of opportunism is low are likely to adopt less hierarchical forms of governance to maximize the flexibility.

However, the governance forms of firms making an investment under both high levels of uncertainty about the economic value and sources of opportunistic behaviors are likely to be determined mainly by the threats of opportunistic behaviors.

Proposition 2b: Firms making an investment where both uncertainty about economic value and uncertainty about sources of opportunism are high are likely to adopt more hierarchical forms of governance to minimize the threat of opportunism.

Transaction cost economics has been largely criticized for its overly focus on the threats of opportunism in making the governance choices (Ghoshal & Moran, 1996; Hill, 1990). Real options perspective, however, focuses on making governance choices most flexible to contain the downside risk and to create values from such uncertainty (Balakrishnan & Wernerfelt, 1986; Folta, 1998; Kogut, 1991; Reuer, Zollo, & Singh, 2002). While the combined explanation of transaction costs and real options resolves some complexity of the governance decision under uncertainty, firms should not only choose the choices of organizational governance under uncertainty to minimize the threats of opportunism and to maximize the flexibility, but they should also take into account the opportunity to learn about the value of the investments under high levels of uncertainty to acquire necessary knowledge and experience for a better investment decision in the future.

5. Resource-based view and learning perspective

Resource-based view emphasizes the ability of firms to acquire and defend their advantageous resources position in order to create and sustain competitive advantage. The competitive advantages of firms are based on their superior resources or their resource heterogeneity within an industry (Peteraf, 1993). These resources are likely to be intangible assets involving technology and marketing such as brand name or distribution networks which are more difficult to accumulate than other typical tangible assets and factors of production. The managers of firms holding such resources are assumed to be bounded rational that try to maximize the profit potentials from these resources. These managers are likely to make investments for the uncertain opportunity to create new resources whose eventual value is inherently ambiguous (Conner, 1991; Lippman & Rumelt, 1982; Rumelt, 1984). Therefore, the organizational forms are largely determined by unique strengths and weaknesses of firms in their resources position. Firms are more likely to internalize activities that are complementary to their unique and valuable productive resources and capability (Argyres, 1996; Barney, 1999; Leiblein & Miller, 2003; Quinn & Hilmer, 1994).

The organizational learning perspective suggests that firms exist because they are better than markets in creating, recombining, and transferring certain types of knowledge internally within the organization rather than externally through the market (Kogut & Zander, 1992). This learning logic however is developed independent of the assumptions in transaction cost economics that actors in the exchange are likely to be opportunistic. Empirical studies in the resource-based view have also examined the performance implications of valuable, rare, as well as costly-to-imitate and costly-to-substitute resources and the relationship between the possession of particular types of resources and organizational governance. Highly specific resources and activities are most efficiently coordinated within firm hierarchies to maximize the effectiveness of transfer and learning. In particular, firms are able to transfer knowledge that is difficult to understand and codify at a lower cost to wholly owned subsidiaries rather than to third parties (Kogut & Zander, 1993).

6. Types of learning over time and governance choices

Knowledge may be classified by the mechanisms of endogenous and exogenous learning. Endogenous learning is learning about the value of an uncertain investment through the governance device, such as learning by doing. Exogenous learning, on the other hand, is learning about the value of an uncertain investment from sources external to the governance mechanism, such as learning from changes in the government policy. If the type of learning to evaluate the value of an uncertain investment is exogenous learning, a less hierarchical form of governance should be adopted because it is less costly than a more hierarchical one. On the contrary, if the type of learning to evaluate the value of an uncertain investment is endogenous leaning, a more hierarchical form of governance should be adopted even though it incurs additional costs of integration and hierarchy. Essentially, built on knowledge-based theory of the firm, a more hierarchical form of governance better facilitates the transfer of tacit and subtle knowledge than a less hierarchical form of governance (Conner & Prahalad, 1996; Kogut & Zander, 1992; Spender, 1996).

A firm making governance choices on the basis of facilitating endogenous learning about the value of an uncertain investment would adopt a more hierarchical form of governance. Particularly, in a highly competitive environment, the firm has a strong incentive to learn as quickly as possible to obtain first mover advantages associated with the investment (Lieberman & Montgomery, 1988). The right to subsequently invest in this opportunity could be further enhanced and secured by such endogenous learning developed in the earlier hierarchical form of governance. In other words, only firms that have experienced this endogenous learning before would be more able to exploit the associated information in valuing a subsequent investment opportunity. Therefore, to minimize the cost of governance, a more hierarchical form of governance in the early stage would be replaced by a less hierarchical form of governance in subsequent stages. The evolution of the pattern of governance choices over time may be called a learning race (Hamel, 1991). Especially, the more hierarchical forms of governance that facilitate endogenous learning are likely to be abandoned and replaced by the less hierarchical ones after one or more of these firms learn all they need from the joint relationship. Therefore, the endogenous learning that the firm has experienced in the earlier period warrants the right for the subsequent investment opportunity without having to incur additional cost of hierarchical governance.

Proposition 3a: Firms making an investment under conditions of uncertainty are likely to adopt more hierarchical forms of governance to facilitate the endogenous learning about the value of an uncertain investment in the early stages and are likely to adopt less hierarchical forms of governance to invest in this opportunity should it turn out to be economically viable in the later stages.

A firm is likely to adopt a less hierarchical form of governance if the learning about the value of an uncertain investment is exogenous to minimize the cost of learning. However, nonhierarchical forms of governance through market may not allow the firm to secure the right to invest in the subsequent opportunity should it turn out to be economically viable. Besides, because all interested firms including the competitors could access the information gained from exogenous learning, the exogenous learning itself may not be able to secure this right for subsequent investment opportunity. Therefore, the focal firm would need to adopt a more costly hierarchical form of governance rather than a less hierarchical one in the early stages and implement an even more hierarchical form of governance to secure its rights to invest in the subsequent opportunity in the subsequent stages (Kogut, 1991).

Proposition 3b: Firms making an investment under conditions of uncertainty are likely to adopt more hierarchical forms of governance to facilitate the exogenous learning about the value of an uncertain investment in the early stages and are likely to adopt even more hierarchical forms of governance to secure the right to invest in this opportunity should it turn out to be economically viable in the later stages.

The ability of a firm to learn relies on its absorptive capacity (Cohen & Levinthal, 1990). When learning about the value of an uncertain investment could be either endogenous or exogenous, governance decisions are likely to be determined by the firm's ability to learn rather than by the endogenous or exogenous type of learning itself. If a firm has developed an endogenous type of learning capabilities, it is likely to adopt the learning race to govern this investment.

Proposition 3c: When learning about the value of an investment under conditions of uncertainty could be either endogenous or exogenous, firms that have developed the capability in endogenous learning are likely to adopt more hierarchical forms of governance in the earlier stages and less hierarchical forms of governance in the later stages.

In contrast, if a firm has developed an exogenous type of learning capabilities, it is likely to adopt a form of governance with a level of hierarchy such as joint venture in the early stages and an even more hierarchical form of governance such as acquisitions to govern this investment in the subsequent stages.

Proposition 3d: When learning about the value of an investment under conditions of uncertainty could be either endogenous or exogenous, firms that have developed the capability in exogenous learning are likely to adopt more hierarchical forms of governance in the earlier stages and even more hier-

archical forms of governance in the later stages.

7. Governance choices and performance implications

If a firm makes a highly specific investment under conditions of uncertainty, but it employs a market-like governance mechanism rather than a firm-like governance mechanism, this firm would be likely to expose to significant threats of opportunism that eventually make such investment become unsuccessful. Besides, if a firm makes a highly uncertain investment of moderate specificity, but it employs a firm-like governance mechanism rather than a market-like mechanism, this firm would be likely to incur opportunity costs that make such investment disadvantageous.

When the main sources of uncertainty in an investment are from the economic environment, firms adopting a firm-like governance mechanism are likely to be more vulnerable from the irreversible commitment than those adopting a market-like governance mechanism if the investment turns out to be unfavorable. Particularly, a firm-like governance mechanism provides an upside opportunity of investment gains but does not protect against a downside possibility of investment losses, whereas a market-like governance mechanism provides both an upside gain opportunity and protection against a downside loss possibility (Reuer, Zollo, & Singh, 2002). If the uncertainty is from both economic environment and sources of opportunism, in a situation where a firm has not developed any prior business relationship with its trading partners before, but it adopts a market-like governance mechanism, this firm would expose to significant threats of opportunism that potentially make its investment become unsuccessful.

Firms have to adjust their governance choices over time as they learn from the investment under uncertainty to minimize the cost of governance. If a firm makes an investment of a learning-by-doing type, but it adopts a market-like governance to minimize the cost of governance, this firm would be in a difficult position to learn from the investment and most importantly would be in a disadvantage position to make a subsequent investment once it turns out to be economically feasible. Besides, if the information from such investment is obtainable from public sources or external to the firm, but it adopts a market-like governance, this firm would be in a competitive disadvantageous position because it would not be able to secure the right to invest in subsequent opportunity should it turn out to be economically viable.

If a firm has developed endogenous learning capabilities, but the type of needed learning in a particular investment under uncertainty is exogenous learning, this firm would be in a competitive disadvantageous position compared with a firm that has developed exogenous learning capabilities. Besides, if a firm has developed exogenous learning capabilities but the type of needed learning in such investment is endogenous learning, this firm would be in a competitive disadvantageous position as well.

Proposition 4: Firms adopting forms of governance that are consistent with those in the foregoing propositions are likely to perform better than firms adopting forms of governance that are inconsistent with those in the foregoing proposition.

8. Conclusion and discussion

The predictions from transaction cost economics and real options receive mixed empirical supports. While the former focuses on minimizing the threat of opportunism, the latter emphasizes on maximizing the flexibility. Therefore, firms investing under uncertain conditions should adopt the governance choices not only to minimize the opportunism and to maximize the flexibility, but also to maximize the ability to learn about the value of the uncertain investment and to invest in this opportunity should it prove to be economically feasible. Besides, the classification of learning into endogenous and exogenous learning could resolve the conflicting decisions on the governance choices over time. Importantly, only when firms adopt governance forms that align with different objectives over time, are they able to achieve competitive advantages and superior performance.

When the level of transaction specific investment is high, along with a level of uncertainty, minimizing the threats of opportunism would be a relatively more important determinant of governance choices. When the level of transaction specific investment is low or moderate, the level of uncertainty would determine whether minimizing the threat of opportunism or maximize the flexibility is more important. When the uncertainty is mainly driven by the economic value, maximizing the flexibility would be relatively more important than minimizing the threat of opportunism. However, as the uncertainty is driven by both the economic value and the sources of opportunism, minimizing the threat of opportunism would be a more important determinant of governance choices.

The governance choices could vary over time depending on the type of learning and the opportunity to secure the investment expansion should the investment turns out to be economically viable. When the learning in an uncertain investment is likely to be endogenous, firms would treat this investment as a learning race and would adopt more hierarchical forms of governance before the learning occurs and would adopt less hierarchical forms of governance after the learning has occurred. When the learning in an uncertain investment is likely to be exogenous, firms would treat this investment as a prelude to acquisition, and would adopt more hierarchical forms of governance before the learning occurs, and would adopt even more hierarchical forms of governance after the learning has occurred. Governance choices are not only dependent on the types of learning needed for a particular investment, they also vary according to the learning capabilities that a firm possesses or has developed. If a firm is skillful in endogenous learning, it could achieve competitive advantage in investments where endogenous learning is required. If a firm is skillful in exogenous learning, it could obtain competitive advantage in investments where exogenous learning is required.

Future research should extend competing and complementing predictions of organizational governance from transaction cost economics, real options, resource-based view, and organizational learning. Relational contracting may lead to a level of trust that reduces the propensity for opportunistic behaviors and may act as a substitute for more formal governance mechanisms (Dyer & Singh, 1998; Ring & Van de Ven, 1992). Therefore, future research may investigate the extent to which the threats of opportunism are concerned in the governance decisions when prior relationships provide a level of trust that reduces the need for more protective governance provisions or when such relationships provide learning opportunities that allow transacting partners to improve their bilateral coordination through more refined contractual provisions. Further, firms with management teams that are able to analyze complex environments may be able to better anticipate contractual hazards and therefore more likely to utilize market-like forms of governance than their less well-endowed competitors. Also, prior interactions could create the contracting skills necessary for crafting more complete contracts, negotiating market-based exchanges, and improving monitoring and enforcement of contractual compliance (Reuer, Zollo, & Singh, 2002).

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