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Radical innovation in strategic partnerships: A framework for analysis☆

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ABSTRACT

The study proposes a conceptual model of the phenomenon of a radical innovation partnership and examines particular partner attributes affecting its performance. Borrowing from the paradox perspective in organizational studies, the model argues that a radical innovation partnership features several paradoxes—the paradox of a partnership structure, the paradox of partnership resources, and the paradox of partnership processes—and that particular partner attributes affect the competing demands within each paradox. The study further argues that contribution of each partner attribute is specific and differentiated. Deficiency in any attribute leads to imbalances across the paradoxes and less than optimal performance.

1. Introduction

Disruptive, radically innovative products often become a source of long-term competitive advantage for organizations, resulting in dramatic improvements in firm performance, superior customer value, and/or substantial cost reductions (Leifer et al., 2000; Woodside & Biemans, 2005). Nevertheless, radical innovation represents a substantial challenge to organizations, and firms actively collaborate to pursue those ambitious projects (Sampson, 2007). The decision to select partners represents an essential strategic choice that directly affects the performance of technology-intensive partnerships (Hoang & Rothaermel, 2005). Yet, innovation literature still lacks in understanding the process of value creation in radical innovation partnerships and the role of partner attributes in this process (Schoenmakers & Duyster, 2010).

This study proposes a conceptual model structuring the phenomenon of a radical innovation (RI) partnership and examining partner attributes regarding its performance. The study defines radical innovation as a technology that is absolutely new to a firm, represents a substantial challenge to existing organizational knowledge and practices, and requires substantial financial investments (Green, Gavin, & Aiman-Smith, 1995). The model uses the paradox perspective that organizational studies adopt (Smith & Lewis, 2011) and argues that a RI partnership features three paradoxes—the paradox of partnership structure, the paradox of partnership resources, and the paradox of partnership processes. Partner attributes affect the demands within those paradoxes, specifically and differently. A deficiency in any partner attribute leads to imbalances across the paradoxes and less than optimal performance. (See Fig. 1).

2. Paradoxes in RI partnership

Literature suggests that paradox lenses can be a fruitful approach to study firm innovation. Organizational theories define paradox as a set of conflicting, yet interwoven statements, which are logical in isolation, but irrational when appearing simultaneously (Poole & Van de Ven, 1989). Nevertheless, the opposing trends are equally necessary to provide a richer insight into the phenomenon under study. Paradox logic is based on 'both/and', rather than 'either/or' thinking, which becomes a source of novel opportunities and an approach that intuitively relates to innovation. For example, March in his seminal work (1991) discusses innovation as a tension between the exploitation and exploration. Leonard-Barton (1992) analyzes a paradox of core capabilities and core rigidities in innovation management. Ritala and Hurmelinna-Laukkanen (2012) refer to cooperation-competition tendencies in organizational innovation.

Radical innovation represents a remarkable departure from existing practices and requires dramatic change in organizational thinking (Leifer et al., 2000). Firms increasingly collaborate to pursue RI projects. Partners get the access to valuable resources of each other and can share risks and developmental costs (Suseno & Ratten, 2007). Inter-organizational literature suggests that the factors of partnership structure (Das & Teng, 1999), partnership resources (Sampson, 2007), and partnership processes (Hoang & Rothaermel, 2005) relate directly to partnership performance. Next section proposes the paradox of RI partnership structure, the paradox of RI partnership resources, and the

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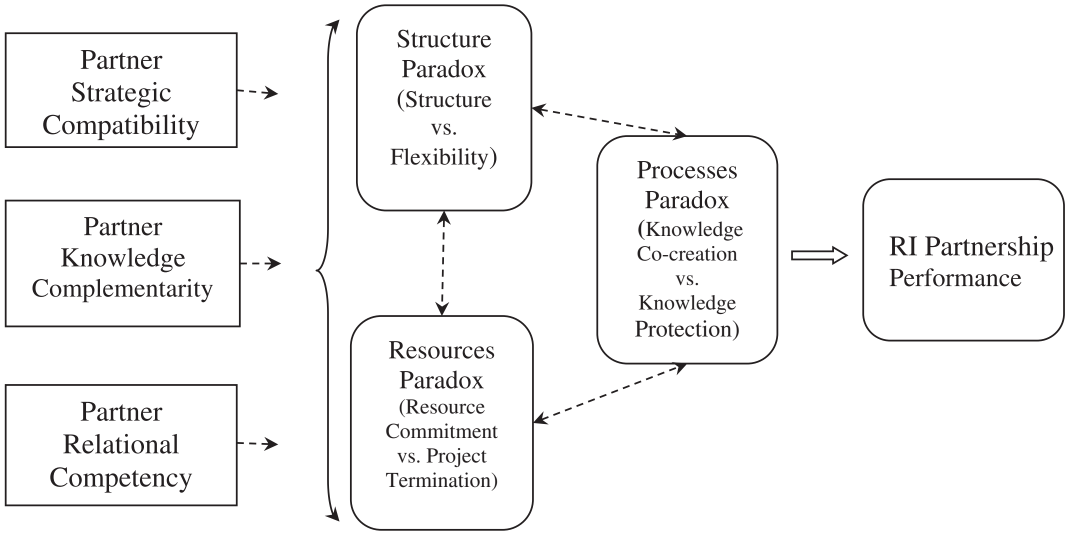

Fig. 1. Partner attributes and the paradoxes in RI partnership.

paradox of RI partnership processes and presents an analysis of these paradoxes' with respect to RI partnership performance.

2.1. Paradox of partnership structure: strong formal administrative structure vs. managerial flexibility.

Classical management theories often depict organizations as control systems that organize and coordinate members' actions to achieve organizational goals (Bouchikhi, 1998). The recent trend in innovation research proposes that a strong administrative control is key in the success of highly innovative partnerships and helps manage multiple uncertainties originating from the hard-to-estimate potential of discoveries. A strong administrative structure in RI partnership helps to reduce partner confusion, reduce role ambiguity, and streamline the process of identifying research priorities (Lambe, Morgan, Sheng, & Kutwaroo, 2009). Having definite research goals and explicit guidelines, partners feel more confident about the future and are more willing to commit to the partnership. Strong administrative mechanisms speed up the development of new communication channels and facilitate information exchanges, thus improving the quality of knowledge sharing among the partners and enhancing the RI partnership' creative potential (Sivadas & Dwyer, 2000).

The alternative perspective in organizational studies focuses on organic versus mechanistic organizations and emphasizes the importance of organizational flexibility (Moon, 2013). The innovation literature shows a consensus on the importance of flexibility. For example, Kandemir and Acur (2012) contend that knowledge development requires ongoing transformations and adaptations and firms' strategic flexibility in decision-making can facilitate the process. Lambe and Spekman (1997) argue that in the context of innovative partnerships, strategic decisions often require continuous reconsiderations to respond to emerging changes in project directions and timelines. Organizational decision-making often happens in complex and uncertain environments and involves multiple stages, where prior decisions affect strategic choices at the later stages (Wood & Bandura, 1989). In the face of uncertainties, greater flexibility allows for smoother coordination and a more efficient use of resources, and leads to greater spontaneity and improvisation in what Aulakh and Madhok (2002) call unsystematic and non-linear process of discovery. Organizational flexibility enables partners to position for a greater number of emerging strategic alternatives, mitigates unanticipated hazards, and capitalizes on lucky chance of exploration into the unknown.

In the context of a RI partnership, a balanced combination of managerial flexibility and a strong formal administrative structure creates an environment conducive to breakthrough innovations. The former allows partners to continuously recalibrate the research directions and refocus resources through the successive stages of a project to maximize its innovative potential. The latter clarifies directions and ensures the effective organization and smooth incorporation of new knowledge into the fabric of the partnership.

2.2. Paradox of partnership resources: long-term resource commitment versus timely termination of failing projects

RI is a function of discovery and learning (March, 1991). The objective of expanding and deepening firm knowledge necessitates broad, "probing" scientific search, with no immediate economic gains (Wu & Cavusgil, 2006). Additionally, costs of inter-firm projects are more difficult to control, and thus, they tend to be higher than costs of in-house developments (Bidault & Cummings, 1994). Partners in RI partnerships have to prepare themselves to commit substantial resources with long-term outlook and no immediate returns.

At the same time, firms possess limited organizational resources and have to allocate those resources to the most promising projects. In the case of RI, identifying the "right" projects often becomes a daunting task. Clear metrics to estimate the commercial potential of RI are mostly unavailable because of RI's great novelty (Shah & Swaminathan, 2008). The uncertainty about the market value of the research hinders partners' ability to assess accurately the partnership performance. As investments into research increase, partners may find terminating unsuccessful projects a difficult task. Sunk costs of previous investments motivate firms to continue with their commitment even in the face of escalating losses (Sandberg, 2007). To avoid deadweight losses, partners should be able to recognize and react promptly when the direction of the research requires a change or failing ideas need to end.

The explorative nature of RI research necessitates firms to afford long-term resource commitment, while simultaneously recognizing and terminating unsuccessful projects early on. Any imbalance of the two would result in the waste of valuable resources and unsatisfactory performance.

2.3. Paradox of partnership processes: knowledge co-creation versus proprietary knowledge protection

In RI partnership, partners creatively combine and synthesize their knowledge resources to generate original insights. In this context,

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