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Supplier's involvement and success of radical new product development in new ventures

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Abstract

Supplier involvement is essential to a new venture seeking to develop a radical innovation. Despite this, prior literature has not adequately addressed supplier involvement in radical innovation, nor what the antecedents to increased supplier involvement are. We build and test a conceptual model of the antecedents and new product performance outcomes of supplier involvement in the development of radical innovation by new ventures. Antecedent variables (supplier's specific investments and the new venture's qualification of the supplier's abilities) are drawn from the transaction cost analysis literature. We include new venture's relative power and new venture's level of commitment to the supplier as contingency conditions. We develop a set of hypotheses relating supplier involvement to radical innovation performance, relating the antecedent variables to supplier involvement, and also testing the interaction effects of the two contingency conditions. We gather data from both new ventures and their major suppliers for 173 recent radical innovation projects, and use hierarchical regression analysis to test our hypotheses. We find that the contingency conditions moderate achieved levels of supplier involvement, and also find a direct relationship between achieved level of involvement and performance. We conclude with theoretical contributions and managerial implications.
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Keywords: Innovation; Product development; Questionnaires/surveys/interviews; Supplier involvement; Transaction cost analysis; Power and commitment

1. Introduction

Increasingly, firms are turning to suppliers, researchers, and other partners to access product or technology innovations. Much recent literature has specifically examined the role of the supplier in new product development (e.g., Benton and Maloni, 2005; Chen et al., 2004; Handfield et al., 1999; Petersen et al., 2003, 2005; Prahinski and Benton, 2004; Ragatz et al., 1997), and studies of supplier involvement show that greater supplier involvement benefits the innovation (Afuah, 2000) or the manufacturer's financial performance (Carr and Pearson, 1999).

Most of this existing literature on supplier involvement has focused on larger-scale manufacturers, but supplier involvement may however be even more important in the case of innovation by new ventures. New ventures are often started up with the express objective of commercializing an innovative new product (Lodish et al., 2001, pp. 1–2). Since they usually have only limited financial resources available, the entrepreneur founding the new venture must think

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virtually from the outset of marketing in two directions: upstream to potential investors (venture capitalists, incubators, corporate partners, or institutional investors) (Lodish et al., 2001, pp. 215–217) as well as downstream to potential buying firms and/or end users. ‘‘Entrepreneurial marketing’’ is the term sometimes given to upstream marketing to potential investors, and its role has been described as ‘‘[to] give potential investors a compelling argument to finance the venture... [to] ignite financers’ interest’’ (Buskirk and Lavik, 2004, p. 27).

Increasingly, smaller firms are turning to suppliers as potential investors, who provide investment funding in return for a share of the business or the profits generated. When selecting from among potential suppliers, a new venture typically will qualify them in terms of their skills and abilities, select the best ones as potential partners, conduct ‘‘entrepreneurial marketing’’ as appropriate to get them interested and involved in the innovation, and encourage them to commit financial resources. Indeed, new ventures may be critically dependent on their suppliers for requisite capabilities, and even for their very survival in the marketplace. While some recent research has focused on the role of suppliers in radical innovation (Afuah and Bahram, 1995; Afuah, 2000), relatively little research work has yet established the role of the supplier in the new venture’s pursuit of radical innovation.

The objective of this research is to better understand supplier involvement in radical innovation development by new ventures. While radical innovation is essential to new ventures, and supplier involvement is important for radical innovation, the literature has so far not adequately addressed either the question of supplier involvement in radical innovation, or the antecedents of supplier involvement. We propose a contingency model of supplier involvement in which we model the antecedents of supplier involvement as the specific investments of the supplier, and the new venture’s qualification of the supplier’s abilities. We also model the new venture’s levels of power and commitment to the supplier as moderators of the links between involvement and its antecedents. We use the contingency model to answer the following research questions: (1) What are the effects on supplier involvement with the new venture of the supplier’s specific investments and the new venture’s qualification of supplier’s abilities? (2) How can new ventures use relative power and commitment to the supplier to encourage greater levels of supplier involvement in their radical innovations?

To answer these two important research questions, we develop several hypotheses. First, borrowing from transaction cost analysis (TCA) considerations, we investigate the extent to which supplier asset-specific investments and qualification of the supplier’s abilities affect supplier involvement in a venture as main effect variables. Second, we study the contingency effects of the new venture’s power and commitment to the supplier on each of these main effects. Finally, we study the direct effect of supplier involvement on the attained level of new product performance.

The research is conducted at the project level in new ventures. To test our model empirically, we collect data on 173 radical innovation projects developed by 173 new ventures. Data were collected dyadically: we have 173 matched pairs of responses from new ventures and their major suppliers. All new ventures included in the study are recent (i.e., fewer than 5 years old) and small (fewer than 500 employees) at the time of the innovation project. We find that the new venture can successfully encourage the supplier to increase its involvement level, and we conclude with recommendations for managers of new ventures. To our knowledge, this is the first study examining the antecedents and consequences of supplier involvement in developing radical innovation in new ventures.

We begin by reviewing the literature on radical innovation, supplier involvement, and new venture innovation, and by building a theoretical model and set of hypotheses based on the extant literature. We present our development of our study measures and our methodology and data collection. Finally, we obtain and discuss our results regarding the interrelationships among the variables in our model, and present implications for managers and for future research.

2. Literature review

This research study focuses on the role of supplier involvement in the radical innovation process of new ventures. We first briefly address three main research streams (radical innovation, innovation by new ventures, and transaction cost analysis and supplier involvement), then present more recent literature that has addressed supplier involvement specific to the radical innovation process, and, finally, note what gaps still exist in the literature.

2.1. Radical innovation

We define radical innovations as fundamental changes in new products that represent revolutionary changes in product or process technology. Our definition is consistent with those of Dewar and Dutton