

Motivating proactive subsidiary innovation: Agent-based theory and socialization models in global R&D

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Abstract

An integration of agency theory and socialization models is developed and used to explain the types of governance and organizational structures associated with self-initiated subsidiary innovation. This theorizing suggests that: 1) The hub structure is the greatest user of behavior-based contracting and engenders the fewest self-initiated innovations; 2) The federation structure is the greatest user of outcome-based contracting and engenders the most self-initiated innovations, but these are primarily oriented to business level strategy rather than corporate; and, 3) The network structure is the greatest user of goal internalization and is the strongest generator of self-initiated innovations which are oriented to corporate-level strategy. The empirical evidence from extant studies of other researchers in the field is consistent with these propositions. Implications for management practice, research and theory are discussed in the paper. © 2007 Published by Elsevier Inc.

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1. Introduction

Empirical research shows that self-initiated, proactive innovation by subsidiaries is an important capability of competitive global firms (Bartlett and Ghoshal, 1998; Birkinshaw and Hood, 1998a,b) and that research and development (R&D) is an important source of such innovations (Bartlett and Ghoshal, 1998; Boutellier et al., 2000; Chiesa, 1996, 1999; Gassmann

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and von Zedtwitz, 1999; Medcof, 2001). Further, a major intent of many subsidiary-based innovations is to enhance the technical capabilities of the firm (Chung, 2001; Moore, 2001; Pearce, 1989; Peng and Wang, 2000). However, theory explaining the conditions under which the subsidiaries of large global firms will take the initiative to innovate is still in its infancy. This paper attempts to develop a better understanding of this phenomenon.

Subsidiary technology initiatives (STIs) are defined as discrete, proactive undertakings by subsidiaries that advance new ways for companies to use or expand their technologies and are a particular type of innovation, which may be included under Birkinshaw's (1997) general definition of subsidiary initiative. STIs are of two types, which have different effects on the firm's global strategic positioning. Business Strategy STIs (abbreviated as BSSTIs) are initiated by the subsidiary but not shared globally. They constitute the business-unit strategy of the subsidiary, are developed locally, and are oriented to regional business objectives only. The second category, Corporate Strategy STIs (abbreviated as CSSTIs), are initiated first by the subsidiary but are then shared and developed globally. They are therefore strategic at the global level.

STIs in general are one form in which strategic initiative can manifest itself in the global firm (Birkinshaw, 1996; Birkinshaw and Hood, 1997, 1998a,b; Coughlan and Brady, 1996; Hood and Taggart, 1999; Howells, 1990, 2000). They require investment by the subsidiary and/or parent and, if successful, result in an improvement in the economic condition and/or technological capabilities of the subsidiary and/or global company. An example of an STI would include a subsidiary conceiving a new method of manufacturing based on one of its own technological innovations. STIs, although driven by technology at the core, also involve non-technical capabilities in areas such as manufacturing, marketing, leadership and management.

Subsidiary initiatives, and specifically STIs, have been of interest recently because they are potential sources of strategic advantage based upon capabilities that are not found at headquarters (HQ). For example, multinational companies (MNCs) are discovering that intellectual capital dispersed globally across their various subsidiaries can give them significant advantage if effectively mobilized. But that mobilization often requires technical and market knowledge, and entrepreneurial savvy that are not found at the global HQ. Firms must learn to leverage their internationally dispersed resources through STIs if they are to remain competitive. Research and theory which improve our understanding of STIs should help them with that learning.

Organizational structure can be an important factor in determining whether or not STIs occur in a firm (Chiesa, 1996; Gassman and von Zedtwitz, 1999) and the study of international technology management has been a source of many insights into how best to structure firms for that purpose. This line of research includes a number of very good empirical studies which have been leveraged into insightful, induction-based models which help us to organize and understand a great deal of data (e.g. Boutellier et al., 2000; Chiesa, 1996, 1999; Gassmann and von Zedtwitz, 1999; Gerybadze and Reger, 1999; Kuemmerle, 1997; von Zedtwitz and Gassmann, 2002). But, although these studies do call upon established theories such as transaction cost economics and agency theory in their formulations (see Gassmann and von Zedtwitz, 1999, for a particularly good example), none of them has yet attempted a theory-based explanation of how organizational structure affects STIs, and the best practices for motivating STIs.

In this paper we propose a general theoretical model which explains the structural, governance and cultural conditions under which subsidiary-initiated innovations are most likely to occur. Our theoretical model is based upon an integration of agency theory and socialization models of organizational control. We go on to apply this theoretical model to Gassman and von Zedtwitz's (1999) integrative model of international R&D structures, which leads to an explanation of why some structures foster more STIs than others. At a theoretical level, our analysis provides new

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