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Dual embeddedness, influence and performance of innovating subsidiaries in the multinational corporation

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ABSTRACT

This study adopts a business network view to study the effects of subsidiary embeddedness on both subsidiary influence within the MNC and innovation-related business performance. Through Structural Equation Modeling we analyze subsidiary relationships connected to 85 innovation projects. The results show that external and corporate embeddedness are complementary contexts, although they affect subsidiary influence and performance differently. Whereas external embeddedness directly affects innovation-related business performance, corporate embeddedness strengthens the subsidiary's influence within the MNC, which in turn positively relates to performance. Moreover, as the study also finds that external and corporate embeddedness are positively associated, it stresses the issue of simultaneously balancing both external and corporate relationships (i.e., dual embeddedness) to nurture innovation projects.

1. Introduction

It is frequently argued that the ability to innovate is a source of competitive advantage, particularly in multinational corporations (MNCs), where innovation often occurs at the subsidiary level (Birkinshaw & Hood, 1998; Pearce, 1999; Schmid & Schurig, 2003). Subsidiary innovation has been associated with a variety of driving factors, such as autonomy (Cantwell & Mudambi, 2005; Ghoshal & Bartlett, 1988), geographic factors or distance from headquarters (Frost, 2001; Porter & Sölvell, 1998; Prahalad & Doz, 1981), communication (e.g., Schulz, 2003), dynamics in the business environment (Porter, 1990), and embeddedness in network relationships (Andersson, Forsgren, & Holm, 2002; Hallin, Holm, & Sharma, 2011). Our study is related to the latter stream of research and explores how the embeddedness of subsidiaries, during innovation development, affects the performance of innovations.

The direct relation between embeddedness and performance is extensively discussed in the literature on innovation, which essentially suggests that the strength of relationships provides a capability for learning that enhances the ability to evaluate innovation requirements among business actors (Cho & Pucik, 2005; Dyer & Singh, 1998; Echols & Tsai, 2005; Moran, 2005; Uzzi, 1996). Departing from the argument that subsidiaries often retain corporate as well as external relationships (Almeida & Phene, 2004; Bouquet & Birkinshaw, 2008; Forsgren, Holm, & Johanson, 2005), we move forward by investigating the relation between the corporate and external embeddedness of those relationships and their concurrent effects on innovation-related business performance. We thereby explore the effects of embeddedness in a "dual" business context of subsidiaries, which is an increasingly addressed distinction in the MNC literature. For instance, Achcaoucaou, Miravitlles, and Leon-Darder (2013), recently proposed an analytical framework centered on dual embeddedness for the analysis of subsidiary competence-creation mandates. However, as Meyer, Mudambi, and Narula (2011) noted, there has been hardly any empirical research into the simultaneous impact of corporate and external embeddedness. In fact, most research has either analyzed the impact of the external network or the corporate network, and it is, therefore, unclear how innovations within the respective contexts relate to the business performance of subsidiaries. Although there seems to be a belief that embeddedness is positively associated with innovation performance, corporate and external relationships may pull subsidiary innovations in different directions, creating a 'trade-off' between the two contexts whereby the subsidiary must balance its corporate embeddedness with its local external embeddedness (*ibid.*).

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In this study, we also propose that subsidiary influence within the MNC is a mediating mechanism in the embeddedness–performance relationship. One side of this mechanism concerns the fact that surprisingly few studies have dealt with the association between embeddedness and the ability of subsidiaries to influence decisions on the internal resource distribution. Hence, embeddedness for innovation can be viewed as a critical resource controlled by the subsidiary, which provides a favorable position from which the subsidiary can exercise its influence on corporate decisions (Andersson, Forsgren, & Holm, 2007; Bouquet & Birkinshaw, 2008; Ghoshal & Bartlett, 1990; Medcof, 2001). In fact, the need to generate corporate resources may be essential as various types of costs occur when innovations are incorporated in business activities. Then again, these resources and costs may be conducive to the subsequent business performance.

Thus, the purpose is to investigate the described gaps above by testing a structural model including the relation between corporate and external embeddedness of subsidiaries, and the direct and indirect (via subsidiary corporate influence) effects of the two types of embeddedness on innovation-related business performance. Our study contributes to the field of embeddedness and performance: by analyzing and comparing embeddedness of innovations in the corporate and external contexts of subsidiaries, this research sheds light on the respective importance of these contexts. This is of particular relevance also to the field of subsidiary development and the literature on subsidiary roles for competence creation and influence (Birkinshaw, Hood, & Young, 2005; Cantwell & Mudambi, 2005; Foss & Pedersen, 2002; Holm & Pedersen, 2000). Our analysis particularly brings to the fore subsidiary influence as a mediating factor between the embeddedness and performance of innovation, which, to the best of our knowledge, has not been done extensively before.

The results show that corporate and external embeddedness are complementary contexts, although they affect performance differently. Whereas external embeddedness directly affects innovation-related business performance, corporate embeddedness strengthens the subsidiary's influence within the MNC, which positively relates to performance. The research presented here outlines the difficulty and importance of simultaneously balancing both external and corporate relationships, i.e., dual embeddedness, to nurture subsidiaries' innovation projects and capabilities. This has implications for managers' strategic choices for investment in long-term collaboration for innovation in corporate versus external contexts.

The study starts by discussing the theme of innovation and subsidiary embeddedness in the MNC. We then develop a set of hypotheses to explain the relations between corporate and external embeddedness, subsidiary influence over innovation-related investments, and business performance of innovation usage. These hypotheses are tested in a structural model based on a sample of 85 innovation projects taking place in 23 MNCs. The investigation ends by drawing conclusions and discussing the managerial implications, together with issues for future research.

2. Innovation and subsidiary embeddedness

This study conceptualizes 'innovation development' as the process of transforming an idea into a completed form that is acceptable to potential adopters, such as customers and corporate sister units. The 'completed form' may be manifested as the change in a process and in the outcome of a process, related to industrial production and/or exchange (Zander, 1991). Innovations can be classified according to many dimensions. The most common typology distinguishes between product, process, and service innovations (Von Hippel, 1994). Innovations lead to change or deviation from a firm's existing competencies, which may be described as incremental or radical (e.g., Anderson & Tushman, 1990; Garcia & Calantone, 2002). These changes represent novelty in relation to users and are often believed to lie at the heart of competition, economic development, and firms' competitiveness. Hence, there is a relationship between innovation and performance (Cho & Pucik, 2005; Figueiredo & Brito, 2011; Fiol & Lyles, 1985; Hertenstein, Platt, & Veryzer, 2005). In business terms, the success of an innovation could be manifested as profits, sales, market share, and positioning (e.g., Kessler, Bierly, & Gopalakrishnan, 2000). For instance, a product innovation could be evaluated through its ability to retain existing customers or attract new ones, because an increase in the quality of a product, or the adoption of a new design or function, is often a determinant in capturing customers. Likewise, an innovation may reduce the costs of a production process and improve a company's competitive ability through better margins.

Innovation and, increasingly, the management of the innovation process are being recognized as core elements in shaping the competitive advantage of an MNC. A considerable amount of research has been devoted to the study of the managerial side of processes that may lead to innovation. In particular, since innovation is considered a highly strategic tool, many scholars have investigated how specific factors in the context surrounding innovation may shape an innovation and enhance subsidiary innovativeness (e.g., Brown & Eisenhardt, 1995; Ghoshal & Bartlett, 1988). MNC researchers often argue that innovative activity increasingly resides in operative subsidiaries, and they also stress the particular importance of the external environment (e.g., Andersson et al., 2002; Frost, Birkinshaw, & Ensign, 2002; Ghoshal & Bartlett, 1990). In connection with this, it has been argued that interaction and tight cooperation in the network relationships are fundamental for innovations (Von Hippel, 1988). Therefore, a subsidiary's ability to innovate is largely based on the quality of interaction and, consequently, on the depth of its relationships with its counterparts.

The importance of relationships has been discussed in the literature on social networks, which assumes that economic exchange is affected by the history of exchange and the expectations of future exchange (e.g., Granovetter, 1985). Such contextualization of business exchange has been termed embeddedness, which is frequently described as a strategic resource that is important for information, innovation, and power, among other things, and is often separated into the dimensions of structural and relational embeddedness. Whereas structural embeddedness reflects how a firm's relationships are connected in the architecture of the overall network structure (Granovetter, 1985; Simsek, Lubatkin, & Floyd, 2003; Uzzi, 1997), relational embeddedness emphasizes the quality of the firm's dyadic relationships (Fjeldstad & Sasson, 2010). In this distinction, research on structural embeddedness often considers the brokering and diffusion of innovations, and the advantage of a position in the network rather than the advantage from exchange in individual relationships (Granovetter, 1992; Moran, 2005).

In line with Granovetter (1985), we adopt a relational understanding of embeddedness, emphasizing that economic behavior is closely embedded in networks of interorganizational relations. As argued above, relational embeddedness is critical for learning processes that are characterized by the exchange of less tangible resources and the development of a shared understanding of innovation usage (Gulati, 1998). This is particularly important for entrepreneurial behavior and for explaining innovation-oriented tasks (Brown & Eisenhardt, 1995; Hansen, 1999; Takeishi, 2001). Embeddedness in relationships, therefore, comprises the development of new knowledge with the potential to create value for the subsidiary, but potentially also for the MNC as a whole, too. In accordance with this view, research on innovation has commonly adopted embeddedness as an explanatory factor in the analysis of innovation development and performance (Bonner,