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Proactive cooperation with strangers: Enhancing complexity of the ICT firms' alliance portfolio and their innovativeness

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ABSTRACT

This study explores links among firms' cooperation strategies, the complexity of their alliance portfolios, and their innovativeness in the context of the ICT industry in emerging markets. Alliance portfolio formation has been increasingly recognized as a major element influencing firms' performance as well as innovativeness. However, little attention has been focused thus far on methods of alliance portfolio creation and its impact on the complexity of alliance portfolios or firms' innovativeness. This study aims to fill this gap by analyzing the impact of cooperation forming (both market-focused strategy and relationship-focused strategy) as well as managers' proactiveness and trust on the complexity of alliance portfolios and, consequently, on firms' innovativeness. The empirical models are examined using data collected in 146 firms (SME) from the ICT industry and 4006 ties in their alliance portfolios. The results suggest that a proactive, market-focused cooperation strategy (proactively searching for and selecting "strangers" from the market as potential partners) positively affects the complexity of alliance portfolios (specifically: functional, geographic, governance complexity, as well as a number of ties) and might enhance firms' innovativeness. However, relying on friends, acquaintances, and their recommendations in partnership forming might result in decreasing the alliance portfolio complexity. Moreover, managers' trust in existing partners seems not to be of crucial importance when creating diverse and complex alliance portfolios. In other words, existing ties that bind can also blind and might limit the possibility of creating numerous, diverse partnerships and, consequently, reduce firms' innovativeness.

Introduction

One of the implications of growing uncertainty in firms' environment is growing the meaning of interfirm cooperation (Cyert & March, 1963; Hirsch, 1975; Nohira, 1991; Gimeno, 2004). Currently, researchers focus not on single interfirm relationships, but rather on firms' alliance portfolios, including multiple simultaneous relationships with various partners as firms increasingly engage in a wide array of alliances (Goerzen, 2007; Gulati, 1998; Heimeriks, Duysters, & Vanhaverbeke, 2007; Hoffmann, 2007; Wassmer, 2010). Thus, the distinction exists between a single alliance's features (performance, success, or failure) and the outcomes of a firm having alliances in its portfolio – namely, a focal firm in an egocentric network of alliances (Lavie, 2007). Although the studies concerning strategic alliances focus on a single relationship, analyzing it mostly on a dyadic level (Das & Teng, 1999; Dussage, Garrette, & Mitchell, 2000; Dyer & Singh, 1998; Kale & Singh, 2009; Kale, Singh, & Perlmutter, 2000; Khanna, Gulati, & Nohria, 1998; Mohr & Spekman, 1994; Zaheer, McEvily, & Perrone, 1998), the alliance portfolio approach allows for an examination of the impact of all alliances (a firm's alliance portfolio) on a focal firm's outcomes. Existing studies employing this approach indicate that a firm's alliance portfolio has a significant impact on its performance (Lavie, 2007; Lee, Lee, & Pennings, 2001; Rothaermel & Deeds, 2006; Shipilov, 2006; Stuart, 2000), as the firm can create value by using, combining, or leveraging partners' resources (Lavie, 2006, 2007). The importance of a wide variety of structural properties from the alliance portfolio (both the quantity and quality of ties, heterogeneity, and breadth) has been analyzed in previous research (e.g., Rothaermel, 2001; Lavie, 2007; Tao, Santoro, Jiang, & Tang, 2007). The literature also indicates that the alliance portfolio affects a firm's internationalization process as well (Ciravegna, Majano, & Ge, 2014; Low, 2007; Wu & Zhao, 2007; Zhang & Filippov, 2010). As creating alliances allows firms to gain access to external resources (Gulati, 2007; Lavie, 2006), especially knowledge (Contractor & Lorange, 2002; Griffith, Myers, & Harvey, 2006; Gulati, 2007), it can affect and improve a firm's innovativeness, offering possibilities for creating new products, services, or even more complex solutions together with allies (Ahuja & Lampert, 2001; Duysters & Lokshin, 2011).

Several studies have focused on configuration or the structure of a firm's alliance portfolio in relation to its innovativeness (Baum,

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Rowley, Shipilov, & Chuang, 2005; Duysters & Lokshin, 2011; Faems, Janssens, & Neyens, 2012; Faems, Looy, & Debackere, 2005; Gonçalves & Gonçalves, 2008; Laursen & Salter, 2005; Rothaermel & Deeds, 2006). Faems et al. (2012) analyzed the impact of alliance portfolio management on a firm's innovation performance by connecting two different research perspectives: managerial (portfolio management) and structural (portfolio characteristics). However, existing studies remain silent on antecedents of alliance portfolio complexity. Theoretically, this study aims to contribute to the literature in alliance portfolio by providing an understanding of both determinants and outcomes of alliance portfolio complexity. This has been achieved by incorporating both managerial and structural research perspectives. The managerial perspective focuses on the main alliance portfolio processes, including alliance creation (Wassmer, 2010). Significant evidence exists to explain the motivations for creating alliances (e.g., Chung, Singh, & Lee, 2000; Kogut, 1988; Ahuja, 2000) and the reasons for the alliance portfolios' formation (Hoffmann, 2007; Lavie, 2006). Creating alliances – namely, searching for and selecting partners for cooperation – is perceived in the literature as a source of additional uncertainty (e.g., Child & Faulkner, 1998; Kogut, 1988; Mitsuhashi, 2002; Pfeffer & Salancik, 1978; Oxley, 1997; Williamson, 1975). Researchers argue that managers tend to follow a pattern of reducing uncertainty by forming new alliances with previous partners or with partners' partners based on recommendations (Baum et al., 2005; Gulati, 1995a; Li & Rowley, 2002; Mitsuhashi, 2002; Podolny, 1994; Uzzi, 1997). Moreover, researchers such as Walker, Kogut, and Shan (1997), Gulati and Gargiulo (1999), and Baum et al. (2005) believe that such a preference leads to embedded, stable, and dense networks of ties based on relational trust (Das & Teng, 1998; Das & Rahman, 2001; Doney, Cannon, & Mullen, 1998; Gulati, 1995b; Ibrahim & Ribbers, 2009; Koza & Lewin, 1998; Monczka, Petersen, Handfield, & Ragatz, 1998; Ring & van de Ven, 1992) and a focus on reducing uncertainty. On the other hand, an extended, differentiated, complex portfolio consisting of different alliances with various partners is "well equipped" in useful resources (Dyer & Singh, 1998; Lavie, 2007; Stuart, 2000) and might enhance a firm's innovativeness (Duysters & Lokshin, 2011; Gonçalves & Gonçalves, 2008; Hagedoorn & Schakenraad, 1994; Rothaermel & Deeds, 2006; Shan, Walker, & Kogut, 1994). Moreover, according to Powell and Smith-Doerr (1994) "*the ties that bind may also turn into ties that blind*" (p. 393) and consequently reduce firms' market activities (Field, 2003; Schuller, Baron, & Field, 2000). A number of recent contributions provide evidence on different strategies of interfirm ties formation – namely, a relationship-focused strategy and a market-focused strategy (Gulati & Gargiulo, 1999; Uzzi, 1997; Xie, Peng, & Wenhong, 2013) – as well as the role of top managers in alliance activities (Ciravegna et al., 2014; Harris & Wheeler, 2005; Nijssen, Douglas, & Calis, 1999; Ozgen & Baron, 2007). Additionally, in the literature a trust is perceived as a necessary construct in creating and managing alliances (Bianchi & Saleh, 2010; Child, 2001; Fink & Kraus, 2007; Rampersad, Quester, & Troshani, 2010; Ventures, 2005). Therefore, three major constructs shaping alliance portfolio characteristics have been incorporated to this study: alliance portfolio formation strategy, managers' role in this process, as well as trust.

In this study alliance portfolio complexity consists of several dimensions: the geographic scope of alliance portfolio (international and local partners), functional scope (the variety of types of ties), governance scope (equity and non-equity alliances), and a number of ties in alliance portfolio. Following previous research (e.g., Duysters & Lokshin, 2011; Marino, Strandholm, Steensma, & Weaver, 2002; Powell, Koput, & Smith-Doerr, 1996), this study considers alliance portfolio complexity in terms of diversity, arguing that an innovative firm's alliance portfolio is more diverse, complex, and thus beneficial. As Duysters and Lokshin (2011) pointed out, a very limited conception of complexity has been used in most studies (e.g., the size, the international nature, and the type of alliances); thus, there is a need to include additional aspects, such as governance structures. This study expands alliance portfolio complexity by using governance structures (equity or non-equity) as well. Furthermore, in this paper, alliance – following Contractor and Lorange (2002) – refers to any type of interfirm relationship, from ad hoc cooperation to capital joint venture. In order to deal with rapidly changing and uncertain environments, firms no longer rely on only traditional alliances. Researchers have noticed a growing meaning of short-lived alliances that usually focus on completing narrowly defined projects or tasks, often created ad hoc, and for a short time (Duysters & De Man, 2003; Spekman & Isabella, 2000).

According to Peng (2009), in emerging economies, alliance formation characterizes a gradual transition from a relationship-focused strategy to a market-focused strategy. Thus, the use of both strategies most likely occurs in emerging markets (Xie et al., 2013; Zhou, Li, Zhao, & Cai, 2003). Moreover, based on the research of Hitt et al. (Hitt, Dancin, Levitas, Arregle, & Borza, 2000; Hitt, Ahlstrom, Dacin, Levitas, & Svobodina, 2004; Hitt, Ireland, & Santoro, 2004), firms in developed and emerging markets have conducted different alliance formation strategies. Responding to calls for more research on alliance portfolio in different settings, contexts, and institutional environment (Deeds & Rothaermel, 2003; Delbufalo, 2012; Goerzen, 2007; Wassmer, 2010), this study empirically tests a set of hypotheses using data collected from small and medium enterprises from the ICT industry in an emerging market.

The next section of this paper presents the theory and the hypotheses. The research methods and techniques used in the study are then described, and the results of the analysis are discussed. Finally, the conclusions are presented as well as the major limitations and recommendations for future research directions.

Strategies for forming cooperation

Firms use different cooperation strategies – namely, strategies to search for and select their partners. Several researchers have suggested that the strategy can be determined by external uncertainty (Baum et al., 2005; Podolny, 1994; Xie et al., 2013). In this approach, firms establish relationships with reliable, trustworthy partners in order to minimize the uncertainty that forming interfirm cooperation implies (Anand & Khanna, 2000; Baum et al., 2005; Das & Rahman, 2001; Das & Teng, 1998; Doney et al., 1998; Gulati, 1995a; Ibrahim & Ribbers, 2009; Koza & Lewin, 1998; Mitsuhashi, 2002; Monczka et al., 1998; Ring & van de Ven, 1992; Young-Ybarra & Wiersema, 1999; Zaheer et al., 1998). This is reflected in uncertainty-reduction mechanisms applied by firms (Mitsuhashi, 2002), such as forming alliances with friends, acquaintances, or recommended partners. Moreover, others (e.g., Asanuma, 1985; Gerlach, 1992, based on Japanese automotive industry) have asserted that interfirm relationships based on trust, and even personal ties, can reduce the costs of coordinating the cooperation. Walker et al. (1997), Uzzi (1997), Gulati and Gargiulo, (1999) and Baum et al. (2005) argued that the consequence of this strategy is an evolution of interfirm relationships into embedded, stable, and dense networks of ties. Yet from the resource-based view of the firm, firms' resources are a major factor influencing the search for and selection of partners for cooperation (Barney, 2001; Hitt et al., 2000; Hitt, Ahlstrom et al., 2004; Hitt, Ireland, et al., 2004; Rothaermel & Boeker, 2008; Xie et al., 2013), determining the possibilities of leveraging its internal resources by acquiring external network resources (Gulati, 2007). From this perspective, resource-related criteria are the main drivers for partners search and selection (Li et al., 2008; Luo, 2002; Hitt et al., 2000), and the likelihood of alliance formation is positively related to the complementarity of firms' capabilities, resources, and status similarity (Bucklin and Sengupta, 1993; Chung et al., 2000; Hitt et al., 2000; Hitt, Ahlstrom, et al., 2004; Hitt, Ireland, et al., 2004; Luo, 2002;