International Business Review xxx (2013) xxx–xxx

Contents lists available at SciVerse ScienceDirect

International Business Review

journal homepage: www.elsevier.com/locate/ibusrev

Upstream internationalization process: Roles of social capital in creating exploratory capability and market performance

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ARTICLE INFO

Article history:
Received 30 December 2011
Received in revised form 28 February 2013
Accepted 4 March 2013
Available online xxx

Keywords:
Exploratory capability
Market performance
Network tie
Social capital
Trust
Upstream internationalization

ABSTRACT

This paper investigates to what extent resource governance of international ventures affects dynamic capability and market performance in the high-tech firms' internationalization process. We examine the non-equity-based international network collaborations of high-tech firms as forms of strategic resource seeking within the internationalization process. Within the context of upstream technology collaborations by international software and hardware firms, this paper proposes and empirically examines the impact of resource governance mechanisms (i.e. trust-building and behavioral monitoring) on the exploratory capabilities of firms. The findings indicate that building trust in the internationalization process of network ventures contributes to the firm-level exploratory capabilities and, in turn, market performance. Furthermore, this paper tests the moderating effects of structural capital on the capability–performance relationship. The relationship is stronger when network relationships existed before the inception of the international technology alliance. We also find a negative moderating effect from the existence of an actual alliance and from network duration on the relationship between exploratory capability and market performance. To this end, the longevity of the alliance may not always be something firms should aim for. The paper highlights the criticality of relational and structural capital in the internationalization process and the importance of exploratory capability for creating radical innovation in high-tech industries.

1. Introduction

To what extent does resource governance of international ventures affect dynamic capability and market performance in the internationalization process of high-tech firms? Does structural capital moderate the relationship between dynamic capability and market performance? Tackling these questions are critically important as the imperatives of the high-velocity market prompt geographically and culturally isolated firms to form international technological collaborations and network relationships. Resource exchange governance (which can include mechanisms such as trust-building and behavioral monitoring) in international network collaborations are of crucial importance as resource acquisition and protection is a double-edged sword in the internationalization process of firms. International network collaborations such as international

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http://dx.doi.org/10.1016/j.ibusrev.2013.03.001

technology alliances (ITAs) are frequently used governance structures, and individual participants (i.e. firms) in the network ventures should develop technology resource exchange governance in their international business (Yilmaz & Kabadayi, 2006). Technological interactions between these firms within the international networks enable the exchange of complementary technology resources, facilitating innovation-creating dynamic capabilities (see e.g. Buckley & Casson, 2009; Eisenhardt & Martin, 2000; Griffith & Harvey, 2001; Sapienza, Autio, George, & Zahra, 2006; Teece, 2007; Teece, Pisano, & Shuen, 1997).

The business network internationalization process model emphasizes the role of social capital such as trust-building from the relational network perspective (Johanson & Vahlne, 2006, 2009; Vahlne, Ivarsson, & Johanson, 2011). Particularly, from a value chain perspective, the recent paper of Johanson and Vahlne (2009, p. 1427) points out: '*while there is considerable research on global supply chain development, little of it appears in international business (IB) journals compared with the number of studies on market-seeking internationalization*'. However, to date, the majority of interfirm studies in IB have focused on vertical relationships in downstream value chains. Although the idea of relationship building through social capital (e.g. trust) is relatively well established in the literature, this type of research deals with international manufacturer-distributor or exporting manufacturer–importing distributor relationships from a downstream relationship perspective. A large amount of value is generated through the technology-related activities of firms at the upstream end (e.g. design, basic and applied research and development (R&D) and commercialization efforts) (Ahuja & Katila, 2001; Mudambi, 2007; Teece, 1996). Indeed, considering the importance of technology and complementary resources that endow firms with their strategic position (Teece & Pisano, 1994), studies on the behavior of technology-based and innovative firms are not as common in the IB literature as would be expected (Cheng & Bolon, 1993; Griffith, Cavusgil, & Xu, 2008; Tsang et al., 2008).

Nevertheless, recent empirical research on the internationalization process has primarily focused on the market growth of multinational (Buckley & Casson, 2009) and small and medium sized enterprises (Heide, 1994); incremental behavior of firms for exploiting market opportunity (Johanson & Vahlne, 2006); incremental internationalization paths taken by firms such as exports, licensing, subsidiaries, and wholly owned ventures (Malhotra & Hinings, 2010); and downstream activities (Mudambi & Navarra, 2004). Work focusing on market-seeking activities fails to uncover firms' technology-resource-seeking and upstream internationalization behavior (Johanson & Vahlne, 2009).

This paper develops an integrative model, drawing from internationalization, social capital, and dynamic capability theories. Then, it empirically examines to what extent resource governance of international ventures affects dynamic capability and market performance in the high-tech firms' internationalization process. Particularly, we focus on the roles of social capital in creating dynamic capability in the internationalization process and achieving market performance. Within the research context of technological network collaborations in upstream value chains, we select key software and hardware companies in the rapidly growing mobile computing market (see Appendix A). Within short time periods, internationalization via ITAs allows software and hardware firms in the upstream value chain to complement each other by combining unique resources and developing innovation-creating capabilities (Harrison, Hitt, Hoskisson, & Ireland, 2001; Jaworski, Kohli, & Sahay, 2000; Kotabe & Swan, 1995; Shapiro & Varian, 1999; Teece, 1996). We test our hypotheses by using partial least squares (PLS) structural equation modeling (SEM) based on the up-to-date survey data from 110 high-tech firms forming international network ventures.

Overall, our contribution to the existing literature is threefold. Firstly, this paper contributes to an empirical explanation of the extent to which resource governance mechanisms affect heterogeneous firms' own dynamic capabilities within the upstream internationalization process and as a result, market performance. Secondly, this paper extends the recent theory of business network internationalization process (see e.g. Santangelo & Meyer, 2011) by introducing the resource-protective mechanism and dynamic capabilities into the internationalization process model. Particularly, in the context of the explosively growing mobile computing industries (see Appendix A), we find that relational capital (i.e. trust building) has a positive effect on exploratory capability. Our findings provide a deep understanding of how strategic resource-seeking firms' relational capital is of critical importance to network ventures' upstream internationalization process. Finally, we also find that structural capital (i.e. network specific experience) has a significant moderating effect on the relationship between exploratory capability and market performance. Thus, this paper affirms the importance of social capital and when using business network terms, network insidership, for the upstream internationalization of network ventures, thereby supporting the recently theorized business network internationalization process model of Johanson and Vahlne (2009).

2. Conceptual background

2.1. Business network internationalization process

The internationalization process model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), widely known as Uppsala model, is characterized as a firm's dynamism of market commitment by means of the gradual market knowledge acquisition and learning. Particularly, a firm prefers entering a foreign market which has shorter psychic distance from its home country in the internationalization process as the distance is a kind of a manifestation of uncertainty. For this reason, the initial internationalization process model focuses on market opportunity seeking firms' incremental behaviors in the internationalization process (Johanson & Vahlne, 1990). Nevertheless, the liability of foreignness (e.g. entry to a greater psychic distance market) could be overcome by closely collaborating with local network participants (Johanson & Wiedersheim-Paul, 1975). In a similar vein, Johanson and Vahlne's (2006) paper highlights the network perspective in that