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Turning social capital into business: A study of the internationalization of biotech SMEs☆

Angelika Lindstrand, Sara Melén *, Emilia Rovira Nordman

Department of Marketing and Strategy, Stockholm School of Economics, P.O. Box 6501, S-113 83 Stockholm, Sweden

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ABSTRACT

This study examines how individuals' social capital and its dimensions affect biotech SMEs' acquisition of foreign market knowledge and financial resources during their internationalization processes. To examine these processes, we conducted a longitudinal cross-case study of 14 Swedish biotech SMEs. The results show not only that all dimensions (structural, relational, and cognitive) of social capital affect the acquisition of foreign market knowledge and financial resources, but also that the usefulness of individuals' social capital often changes during SMEs' internationalization. Social capital use can contribute to a rapid internationalization; however, this may impede a firm's understanding of a foreign market. We thus find that those biotech SMEs that experienced an incremental internationalization process were the most successful.

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1. Introduction

During the past two decades, the number of studies focusing on small and medium-sized enterprises (SMEs) operating in high-tech markets has rapidly grown (Crick & Jones, 2000; Gassmann & Keupp, 2007). The focus has been on the accelerated internationalization of these firms and the challenges concerning resource access that are connected to early and rapid internationalization (McDougall, Shane, & Oviatt, 1994). An emphasis has been placed on the need for two critical resources in particular: foreign market knowledge (FMK), defined as experience gained from foreign market operations (Autio, Sapienza, & Almeida, 2000; Sharma & Blomstermo, 2003), and financial resources (Bell, 1997; Spence, 2003). To acquire these scarce resources, high-tech SMEs use their networks (Coviello, 2006; Coviello & Munro, 1997), especially the personal networks of founders and managers (Crick & Spence, 2005; Liebeskind, Oliver, Zucker, & Brewer, 1996; Moen, Gavlen, & Endresen, 2004). The use of personal networks for resource acquisition has been merged with the concept of social capital when investigating the internationalization processes of high-tech SMEs (Coviello & Cox, 2006; Yli-Renko, Autio, & Sapienza, 2001). We argue that high-tech firms' social capital will affect their acquisition of FMK and financial resources during their internationalization. How this process occurs is unknown. As shown by Maurer and Ebers (2006) in a study of domestic biotech firms, the structural, relational, and cognitive dimensions of social capital can affect a firm's development. Yet, research on individuals' social capital and its effects on high-tech firms' internationalization either has focused on the process but not on the dimensions of social capital (Coviello & Cox, 2006), or has included the dimensions but focused only on the expansion at one point in time (Yli-Renko, Autio, & Tontti, 2002). Despite existing research, our knowledge of the effects of the dimensions of individuals' social capital on high-tech firms' continuous internationalization processes is limited. In agreement with Agndal, Chetty, & Wilson (2008), we argue that it is vital to include the dynamics of social capital so as to

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* Corresponding author. Tel.: +46 8 7369537; fax: +46 8 33 43 22.
E-mail address: sara.melen@hhs.se (S. Melén).

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describe accurately the internationalization processes of high-tech firms. Studies have recently highlighted the importance of not only examining the initial stage of expansion of these firms but also following them during their internationalization processes (Schwens & Kabst, 2010; Zou & Ghauri, 2010). Accordingly, the purpose of this study is to investigate how individuals' social capital and its dimensions affect biotech SMEs' acquisition of FMK and financial resources during their internationalization processes. We perform a longitudinal case study to investigate the social capital that is available and used by 14 biotech SMEs and how it affects both the initial and continued internationalization of these firms. Our study contributes to the knowledge of high-tech SMEs' internationalization by investigating the internationalization processes themselves, as the firms expand into foreign markets. We also contribute to the understanding of the dynamics of social capital by showing its evolution and continuous effect on the acquisition of FMK and financial resources. Our study describes an internationalization process that more accurately captures the internationalization of high-tech SMEs. Conversely, by conducting a case study, we limit the generalizability of our results.

2. Theoretical framework: The internationalization process

A firm's ability to conduct international business is based on its experience in foreign markets and operations–its FMK. This type of knowledge reduces uncertainties and makes business opportunities visible for SMEs (Blomstermo, Eriksson, Lindstrand, & Sharma, 2004). The importance of FMK is evident in the internationalization of manufacturing and services SMEs (Lindstrand, Eriksson, & Sharma, 2009) and high-tech firms (Autio et al., 2000; Schwens & Kabst, 2010; Zou & Ghauri, 2010). The concept of FMK stems from the internationalization process model (IP model) in which firms gradually increase their international involvement, based on their existing FMK (Johanson & Vahlne, 1977). The concept of FMK has later been developed to depict knowledge about a specific foreign market and counterparts in that market, as well as a more general experience of how to expand internationally (Eriksson & Chetty, 2003; Eriksson, Johanson, Majkgård, & Sharma, 1997).

Internationalization is an incremental process because existing FMK influences decision making. Hence, FMK influences SMEs' internationalization and performance (Blomstermo et al., 2004). Increased FMK can lead to higher commitment to a foreign market, such as moving from direct exporting to the establishment of a subsidiary (Johanson & Widersheim-Paul, 1975). In addition, FMK affects SMEs' investments in international business relationships, which in turn improve the firms' performance (Jonsson & Lindbergh, 2010). In so doing, FMK guides managers to perform better under highly demanding international business conditions, ultimately leading to export success (Stoian, Rialp, & Rialp, 2011).

In studies of SMEs that deviate from the IP model and show an accelerated internationalization process, FMK is also of importance(Freeman, Hutchings, Lazaris, & Zyngier, 2010; Sapienza, Autio, George, & Zahra, 2006). The accelerated internationalization of SMEs occurs in a wide spectrum of sectors and markets, such as manufacturing and services (Rialp, Rialp, & Knight, 2005), but is particularly evident in fast-growing and highly technological sectors. For high-tech SMEs, the speed of internationalization is a factor that influences high performance in dynamic markets (Crick & Spence, 2005; McDougall et al., 1994). The accelerated internationalization process starts early for these SMEs because they are able to perceive and exploit business opportunities in multiple markets from inception. Therefore, high-tech SMEs demonstrate a proactive, risk-seeking behavior with increased international involvement at a fast pace (Casillas, Moreno, Acedo, Gallego, & Ramos, 2009) and entry into several foreign markets using a variety of modes (Andersson & Wictor, 2003; Crick & Jones, 2000; Melén & RoviraNordman, 2009). Even though proactive, risk-seeking behavior is not exclusive to rapidly internationalizing SMEs in high-technology sectors (Dimitratos, Plakoyiannaki, Pitsoulaki, & Tuselmann, 2010), this behavior has often been associated with them. Schwens and Kabst (2010) demonstrated that although technology firms proactively internationalize, they do so systematically and reflectively, which is more in line with the IP model.

Jones and Coviello (2005) suggested that the difference in pace between the two models lies in the gap time between the establishment of different forms of international activity. Autio et al. (2000) also proposed that although small high-tech firms take small, incremental steps in their internationalization processes, they are able to do so more rapidly than established firms. One specific type of firm that seems to follow the accelerated internationalization process is the biotech SME. The biotech[1] industry is a high-tech industry, which is characterized as entrepreneurial, innovative, and rapidly changing (Brännback, Carsrud, & Renko, 2007). Moreover, the markets of biotechnology products, as well as the science base, are increasingly global. On the one hand, these challenges force biotech firms into an accelerated internationalization. On the other hand, biotech SMEs, which have been shown to be driven by a scientific and technological focus, often lack sufficient market knowledge (Renko, Carsrud, Brännback, & Jalkanen, 2005). These firms neither proactively seek out opportunities in foreign markets nor apply proactive internationalization strategies (Brännback et al., 2007), which deviate from an accelerated internationalization process. The competitive advantage of biotech firms is their profound knowledge of biochemical processes and their innovativeness (Gassmann & Keupp, 2007). Thus, the challenge for these firms is to develop the necessary FMK that enables them to market and commercialize the research in global markets.

[1] We use the definition of *biotech* provided by the Organisation for Economic Co-operation and Development (OECD, 2005). The word *biotech* is defined as "the application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services."

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