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# What and how do SMEs gain by going international? A longitudinal investigation of financial and intellectual resource growth

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## ABSTRACT

This study examines the accumulation of financial and intellectual resources of U.S.-based biopharmaceutical SMEs. We find that internationalized SMEs experience better financial resource growth than domestic market-focused SMEs only in the long run. While international expansion *per se* does not enable SMEs to accumulate more intellectual resources than via domestic expansion, it exerts a positive impact over time for SMEs with strong alliance capabilities. Moreover, we show that alliance capabilities are more important than in-house technological capabilities for key resource accumulation of internationalized SMEs over time. Our results infer that SMEs gain the benefits of resource exploration via international expansion.

## 1. Introduction

International expansion has become an increasingly common strategic option for small and medium-sized enterprises (SMEs), even those based in large domestic markets, despite the conventional belief that they are particularly vulnerable in foreign markets due to their inherent resource constraints (Knight & Cavusgil, 2004; Love & Roper, 2015). Extant literature indicates that SMEs could exploit their limited resources and capabilities such as marketing skills, technological competencies, and partnering capabilities to perform successfully in the international arena (Dhanaraj & Beamish, 2003; Hessels & Parker, 2013; Lu & Beamish, 2001; Sui & Baum, 2014). SMEs could also explore new resources and capabilities such as foreign market-specific knowledge and innovative product development routines to strive for long-term growth (Eriksson, Fjeldstad, & Jonsson, 2017; Zhou & Wu, 2014; Zhou, Barnes, & Lu, 2010).

In light of Penrose's (1959) theory of the growth of the firm (TGF), however, both international business and strategy scholars tend to agree that SMEs' growth options are constrained in large part due to their small size (Cavusgil & Knight, 2015; Knight & Cavusgil, 2004; Verwaal & Donkers, 2002; Zollo & Winter, 2002). Ideally, SMEs would expand their operations both at home and abroad; in reality, however, SMEs—especially those operating in sizable home markets—tend to be

wary of the latter approach due to the anticipated joint liabilities of smallness and foreignness (Kirca et al., 2011) or the potential disruption to internal consistency of their domestic organization resulting from the need to adapt to foreign environments (Lampel & Bhalla, 2011).<sup>1</sup> Further, SMEs may try to exploit and explore their resources and capabilities to survive and grow over time. In practice, however, SMEs typically have to focus either on exploitation or exploration within a particular period of time given their limited managerial resources (Zollo & Winter, 2002).

The argument above raises two important questions: first, if some SMEs still choose to go international despite the anticipated liabilities of operating in the international arena, what do they gain through international expansion (as opposed to domestic expansion) over time? Second, how do internationalized SMEs gain considering that they are small and tend to face the trade-off between resource exploitation and exploration?

To address these questions, we focus on a research-intensive industry (i.e., the biopharmaceutical industry) to investigate longitudinally the accumulation of financial and intellectual (i.e., knowledge-based) resources, both of which are critical for SMEs in such an industry in light of resource exploitation and exploration (Mangematin, Lemarie, Boissin, Catherine, Corolleur, Coronini, & Trommetter, 2003). Our emphasis on the temporal or longitudinal effect (Shi, Sun, &

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<sup>1</sup> It should be noted that SMEs from small and open economies may struggle for survival without international markets. For them, international expansion may be a necessity instead of an option.

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Prescott, 2012) on key resource development departs from the extant literature which largely pays attention to internationalization speed, timing, and performance implications thereof (Chetty, Johanson, & Martín, 2014; Hilmersson & Johanson, 2016; Jiang, Beamish, & Makino, 2014; Vermeulen & Barkema, 2002; Zhou & Wu, 2014). Moreover, we suggest that the recent advance of the dynamic capabilities-based perspective in the IB literature indicates clearly that young and internationalized SMEs need to develop new capabilities to identify and respond quickly to opportunities to accelerate their expansion and enhance competitiveness (Teece, 2014; Weerawardena, Mort, Liesch, & Knight, 2007; Zhou et al., 2010). Thus, we anticipate that internationalized SMEs in research-intensive industries may seek to explore new resources (or acquire new knowledge) in the short to medium run in their international expansion as they face a dynamic and complex global environment (Zahra, Ireland, & Hitt, 2000).

For SMEs in research-intensive industries, the importance of both in-house technological capabilities (i.e., R&D) and alliance capabilities has been stressed (Love & Roper, 2015; Partanen, Moller, Westerlund, Rajala, & Rajala, 2008; Weerawardena et al., 2007). Both capabilities are delineated as innovative capabilities within the framework of dynamic capabilities articulated by Teece (2014). However, since one is internally while the other externally focused on growing and augmenting firm resources, their roles must be different. This is especially relevant for internationalized SMEs that have to cope with environmental diversity and organizational complexity (Verbeke, Li, & Goerzen, 2009). Thus, this study examines specifically *whether SMEs accumulate effectively financial and intellectual resources through international expansion as opposed to domestic expansion and how they grow these resources by leveraging in-house technological and alliance capabilities over time.*

Overall, the temporal approach we adopt for this study sheds new light on the value of multinationality (i.e., what is to be gained) for SMEs that face the joint liabilities of smallness and foreignness thereby enabling relevant inferences on why some SMEs are motivated to go international. Moreover, our investigation generates insight into how SMEs benefit from international expansion. Specifically, we make three contributions to the literature; first, we theorize and empirically demonstrate that internationalized SMEs face a prolonged liability of foreignness when it comes to augmenting their resources and capabilities despite the intrinsic value of multinationality. Our findings show that international expansion is not superior to domestic expansion in terms of financial resource accumulation in the short to medium run. Only in the long run, internationalized SMEs experience better financial resources growth than their domestic counterparts. Our findings are robust even after accounting for the roles of in-house technological and alliance capabilities. This is a novel finding given that prior studies are either cross-sectional or exclude comparison with domestic firms (Verbeke & Forootan, 2012) enriching, therefore, the existing literature on motivation, processes, and consequences of international expansion.

Second, our examination of SMEs' intellectual resource growth qualifies and extends Penrose's TGF in the context of international versus domestic expansion. At first glance, our findings reinforce Penrose's argument that firm growth in the domestic market could be equally (if not more) effective in accruing intellectual resources over time as compared to international growth for SMEs based in a large and advanced economy (Penrose, 1995). However, further examination of the temporal differences of resource accumulation along the international and domestic growth paths indicates that alliance capabilities enable superior long-term intellectual resource accumulation by internationalized SMEs as compared to domestic ones whereas in-house technological capabilities exert a positive impact only in the short run. This infers that international expansion of SMEs in research-intensive industries benefits SMEs' resource exploration more than exploitation over time and that alliance capabilities facilitate that process.

Third, we refine and advance the dynamic capabilities-based perspective of the multinational enterprise (MNE). Teece (2014, p.26)

argues that "asset augmentation comes fundamentally from R&D and learning process, whether internal or from partners..." Our study reveals that alliance capabilities are more potent over time as compared to in-house technological capabilities in accruing intellectual resources and, to a lesser extent, financial resources for internationalized SMEs. In line with Zollo and Winter's (2002) reasoning, alliance capabilities are arguably more representative of dynamic capabilities than in-house technological capabilities considering the need for firms to keep adapting to different partners in a dynamic and complex global environment.

## 2. Theoretical underpinnings

In the preface to the 1995 edition of her seminal book "Theory of the Growth of the Firm", Penrose indicates that the *raison d'être* of MNEs applies equally to domestic firms expanding within the U.S. or other large countries. This implies that international and domestic expansion strategies of SMEs may be comparable as well if these firms are based in large domestic markets. Yet, previous studies are most often concerned with possible SME internationalization paths and short-term profitability while ignoring domestic growth and long-term performance (Kuivalainen, Sundqvist, & Servais, 2007; Sui & Baum, 2014). In our discussions with a number of senior executives of U.S. biopharmaceutical SMEs conducted in preparation for this study, however, it was stressed repeatedly that internationalization is not always the preferred resource growth path if the SME is based in a large, domestic economy where attractive alternatives exist, especially given the liabilities of operating in the international arena. This indicates that scholars and practitioners may be overlooking or downplaying the roles of international scope and diversity in firm growth. In addition, whether through domestic or international growth paths, it is innovative capabilities in the sense of discovering productive opportunities and creating knowledge that are essential for SMEs to accumulate financial and intellectual resources (Penrose, 1995; Pitelis, 2002).

We contend that innovative capabilities, as expressed by Teece (2014), refer to a combination of internal organization-based capabilities (Teece, Pisano, & Shuen, 1997) and externally oriented alliance capabilities (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Simonin, 2004). More specifically, internal capabilities are mainly in-house technological capabilities relating to R&D activities (Buckley & Casson, 2007) which are critical for firm growth in research-intensive industries because they direct firms to new products and markets thereby enhancing their financial and intellectual resources. It is particularly so when competition focused on innovation through R&D is intense, as in the biopharmaceutical industry. This suggests that SMEs with stronger in-house technological capabilities are more likely to accrue key productive resources such as financial and intellectual resources.

Alliance capability, a firm's skill in getting access to external resources owned or controlled by other firms, is an essential capability in research-intensive industries (Mangematin et al., 2003; Partanen et al., 2008). Schilke and Goerzen (2010) define alliance capability as a distinct dynamic capability, emphasizing learning routines that generate new knowledge and build new thinking. In fact, the literature shows ample evidence that alliances are critical for enhancing organizational learning (Eisenhardt & Schoonhoven, 1996; Mowery, Oxley, & Silverman, 1996) and have become an "admission ticket to new innovations" (Oliver, 2001, p.470). In addition, alliance capabilities provide positive signals to investors in research-intensive industries such as the biopharmaceutical industry (Mangematin et al., 2003).

In the international arena, alliance capabilities are especially important for SMEs in research-intensive industries to attract and grow financial and intellectual resources for several reasons (Barkema, Shenkar, Vermeulen, & Bell, 1997; Eisenhardt & Schoonhoven, 1996). First, SMEs with strong alliance capabilities typically have developed learning mechanisms and routines which are embodied in their functional and business processes and are particularly useful during firm

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