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Safeguarding SMEs dynamic capabilities in technology innovative SME-large company partnerships in South Africa

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Abstract

This paper focuses on technological collaboration between small and large firms. It is argued that such collaborations can be beneficial for both types of partner, but that small firms often are confronted by the hazards of collaboration as these relationships are typically asymmetric. As a result of this, knowledge embodied in the dynamic (strategic, internal and external) capabilities of SMEs can flow unintentionally to the larger partner. If this occurs, the collaboration would be less successful from the SMEs' point of view. Next, it is proposed that the use of formal and informal safeguards can protect technology innovative SMEs against such knowledge flows. This paper examines to what extent is the number of dynamic capabilities of SMEs associated with partnership success and to what extent is this relationship influenced by the number of safeguards used by the SMEs? A sample of 43 technology innovative SMEs was interviewed by means of a structured questionnaire. Logistic regression analysis was conducted to determine the relationship between the number of dynamic capabilities on the one hand and partnership success on the other. Moreover, the impact of (in)formal safeguards on this relationship was analyzed. The research found that SME's strategic and internal capabilities are negatively associated with partnership success, whereas external capabilities are positively related. The inclusion of safeguards turned out to produce the hypothesized effects. The paper shows, therefore, that unintentional knowledge flows from the SME to the larger partner can be prevented by putting in place formal and informal protection mechanisms.

Keywords: SME-large company partnerships; Inter-organizational relationships; Capabilities; Competencies; Safeguards; Opportunism; Knowledge spillover

1. Introduction

This paper focuses on the cooperation occurring between technology innovating firms. The study, on which the paper is based, looks at technological collaboration between small and large firms. The discussion builds on theoretical arguments about control versus cooperation and the importance of networks for innovation. As the drivers of globalization and internationalization remove barriers that segmented the competitive environments of small and large firms, more and more firms of all sizes are sharing the same competitive space. Collaborative arrangements are evolving through which smaller firms enter the value chains of larger firms (Etemad et al., 2001).

There is a growing body of literature dealing with the collaborative behavior of especially technology-intensive small firms. For example, Keeble et al. (1998) argued that these firms need to internationalize their activities, their sales in particular, because of the limited and global nature of the technological market niche in which they compete. Gomes-Casseres (1997) concluded that small firms often follow one of two collaborative strategies. When firms are small relative to their rivals and market, they tend to use alliances to gain economies of scale and scope. However, when they are large in relative terms, they avoid inter-organizational relationships. He maintained that this

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behavior is consistent with alliance usage by large firms. Although the number of collaborative efforts between small and large firms is growing, they often are problematic, as was observed by Hancké (1998). Based on a study of inter-organizational relationships between small and large firms in France, he concluded that, due to asymmetrical power relationships, it turned out to be very hard to construct trust-based networks between them. The studies mentioned above show that partnerships between small and large firms have both advantages and disadvantages.

Larger firms have a greater variety of options than small firms in terms of resources, capabilities and power, although their activities, too, are constrained by personal and institutional factors. Innovative small firms are generally characterized as being flexible and having the ability to respond faster to changing needs and environments. The increased importance of small firms in networks as leaders in technology has significant implications for industrial innovation. Technology-intensive small firms can be world-class in particular niches. As a consequence of their capabilities, small firms can establish inter-organizational collaborations with suppliers and selected competitors and can construct powerful networks. However, the ability of small firms to compete is constrained by conditions internal (e.g. lack of knowledge, skills, funds, people) and external to the firm (e.g. the market is dominated by a small number of major players or development of distribution channels is onerous). Inter-organizational collaboration for innovation is a way that small firms can overcome some of these bottlenecks.

Both for small and large firms, collaborative efforts can be advantageous. Lawton Smith et al. (1991) maintained that inter-firm collaboration can be beneficial to small firms because it provides, amongst others, the possibility of exploiting new technology; accessing new knowledge, expert users, new markets, and additional funds; and the possibility to improve management skills. From the perspective of the large firms, collaborating with small firms can be profitable too. For example, small firms have people with the right combination of specialized skills to develop new products and enable large firms to monitor the development of new technology and equipment.

When small firms offer specialist, unique competencies and abilities to large firms, collaborative arrangements are more likely to be equal, and small firms may be able to negotiate advantageous contracts with larger firms. Nevertheless, small firms are confronted by hazards of collaboration. Blomqvist et al. (2005, pp. 497–498) maintain that 'collaborative R&D partnerships among asymmetric partners are becoming increasingly common, but given the asymmetry, the R&D context and the dynamic environment, there are inherent challenges. Small firms entering an asymmetric partnership often stake their reputation and future on the large partner's integrity and willingness to find win-win solutions. Large companies may not have as much to lose, and they have better chances of avoiding opportunism in that they have more resources for instituting legal actions, and they can refuse further transactions and find other partners instead'. Note that these authors define asymmetry not only in terms of different size, but also in terms of different power, management, *capabilities* and organizational cultures.

One of the most important reasons for low levels of success in innovative partnerships between small and large firms lies in the danger of unintended knowledge flows from the small to the large firm. Small companies have lost valuable competitive advantages to their partners through intentional and unintentional revelation of technological and commercial secrets. Competitive advantages of (small) innovative firms are grounded in so-called dynamic capabilities (Eisenhardt and Martin, 2000; Teece et al., 1997), which are distinctive processes (ways of coordinating and combining) shaped by the firm's resource positions, such as the firm's portfolio of knowledge and complementary assets. Especially in asymmetric relationships, the protection of these knowledge assets by informal (e.g. trust) and formal safeguards (e.g. contracting) is challenging (Hurmelinna et al., 2005). The above considerations lead to the research question of this paper: To what extent is the number of dynamic capabilities of SMEs (small and medium sized enterprises) negatively associated with perceived partnership success and to what extent is this relationship influenced by the number of safeguards that the SME ensures are in place?

Confirming empirically that with increasing numbers of dynamic capabilities the partnership success rate diminishes, but then confirming that formal and/or informal safeguards influence this relationship positively, would be very valuable insight for a technology innovative SME wishing to partner or already partnering with a large company. This would enable the SME to assess its readiness for the partnership, and ensure that the necessary safeguards were in place, that would lead ultimately to a successful partnership. As partnering with a large company in many cases forms part of the growth strategy of a technology innovative SME, improving the chances of a successful partnership is critically important to the growth and development of SMEs. As SME development is being viewed by governments as an engine of economic growth, successful growth of SMEs will enhance the competitiveness of a country. Improving the SME-large company interface is, therefore, an area of global economic importance, especially for countries, like South Africa, that are in the process of becoming more involved in the world economy and in processes of globalization and are at the same time battling poverty and unemployment. Related to this, Kaplinsky (2004) maintains that is not the question of whether to participate in these processes, but how to do so in a way that generates sustainable growth of income to poor people and countries.

The remainder of this paper is structured as follows. As this paper deals with innovative partnerships between large and small companies, a first question is whether innovative