Alliance Management Capabilities and Internationalization Performance of SMEs: The Mediating Role of Strategic Activity

ABSTRACT

How to use the collaboration for innovation and internationalization benefits of small and medium-sized enterprises (SMEs) has become one of the most important topic in the strategy literature. However, the alliance management capabilities (AMC) as a key resource to enable the collaboration relationship have not been at the core of research in this area. Thus, we hypothesized that AMC enhance the strategic activity (radical and incremental co-innovation), which ultimately result in SMEs' internationalization performance. Furthermore, we posited that alliance portfolio diversity moderates the link between AMC and strategic activity. We empirically test our model in the context of a sample of SMEs to the UK manufacturing industry. Our findings supported these hypotheses.

Keywords: Inter-organizational collaboration, innovation, internationalization, alliance management capabilities, SMEs

1. INTRODUCTION

During crisis (e.g., the recession in 2007), empirical evidence suggests that small and medium-sized enterprises (SMEs) were among those who severely suffered from the consequences of economic difficulties (Williams & Schaefer, 2013). Therefore, extensive efforts have been made to specify the means of increasing their resilience (e.g., Gunasekaran, Rai, & Griffin, 2011), where internationalization emerged as a key strategy (Kyvik, Saris, Bonet, & Felício, 2013). As such, inter-organizational collaboration (IOC) is posited as an effective approach for SMEs to overcome the liability of foreignness and to enter international markets (Kyvik et al., 2013). In this regard, IOC can mitigate the cost and risk typically associated with such activity through external integration (Felzensztein, Ciravegna, Robson, & Amorós, 2015). IOC may also boost innovation and creativity of SMEs (Nieto & Santamaría, 2007), thus supporting the competitiveness of SMEs in the international domain (Love & Roper, 2015).

Against this backdrop, scholars have tried to pay attention to the development of specific capabilities that are necessary to evolve and maintain IOC (Cummings & Holmberg, 2012). These capabilities are termed Alliance Management Capabilities (AMC), which are regarded as a central concept in the IOC activity (Schilke & Goerzen, 2010; Schreiner, Kale, & Corsten, 2009). Building on prior research (Dyer & Singh, 1998), AMC can be considered as cognitive, behavioral or organizational skills that can provide the basis to effectively manage any given alliance. Particularly, being an intangible asset, AMC can augment the success of firms due to their value, rarity, inimitability and non-substitutability and constitute a source of competitive advantage (Barney, 1991; Kauppila, 2015). However, despite the recognized role of AMC in creating value and competitive advantage (Fang & Zou, 2009; Niesten & Jolink, 2015), there is scant evidence for explaining the link between AMC as capabilities and performance in the setting of SMEs. In particular, the role of strategic activities to explain the relationship between AMC and internationalization is missing (Matanda, Ndubisi, & Jie, 2016). We address this gap by proposing *innovation* as a strategic activity that is necessary for leveraging the AMC when SMEs pursue the internationalization. We draw on two complementary theoretical perspectives: the resource-based view (RBV) and capabilities perspective.

This paper provides a number of key contributions. First, unlike previous studies, which have largely focused on the relationship between AMC and alliance performance (e.g., Niesten & Jolink, 2015), our study develops a SMEs-centric framework that explains the impact of AMC that SMEs may possess on their internationalization performance through innovation as a strategic activity. Second, drawing on the RBV and capabilities literature, we offer a new conceptualization for the capability-strategy-performance link. We assume that two aspects of strategic activity (i.e. radical and incremental co-innovation) can matter for SMEs' to realize internationalization performance – speed and success. Third, based on reviewed literature, we offer an alternative view of partners' diversity. We suggest that partners' diversity can moderate the link between AMC and co-innovation.

2. CONCEPTUAL BACKGROUND

Prior research has established the link between internationalization and innovation (Ganotakis & Love, 2011), and also has highlighted how the IOC benefits internationalization through innovation (Chetty & Stangl, 2010). Nevertheless, the relationship between AMC, co-innovation and internationalization has received less mainstream attention. Spanning this gap, the RBV establishes a correspondence between a firm's resources and capabilities and its level of performance (Hervas-Oliver & Albors-Garrigos, 2009). Furthermore, the theory has been extended conceptually to alliance-level capabilities (Niesten & Jolink, 2015), which may contribute to forming collaboration and the realization of competitive advantage that would otherwise be prohibitively costly. Therefore, by using the RBV lens, we can explore a more fruitful avenue of how AMC can lead to collaborative-innovation activities which are vital for expanding SMEs' operations internationally.

3. RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

In this section we discuss the theoretical connections between the three constructs (AMC, strategic activity, and internationalization), as depicted in Figure 1.

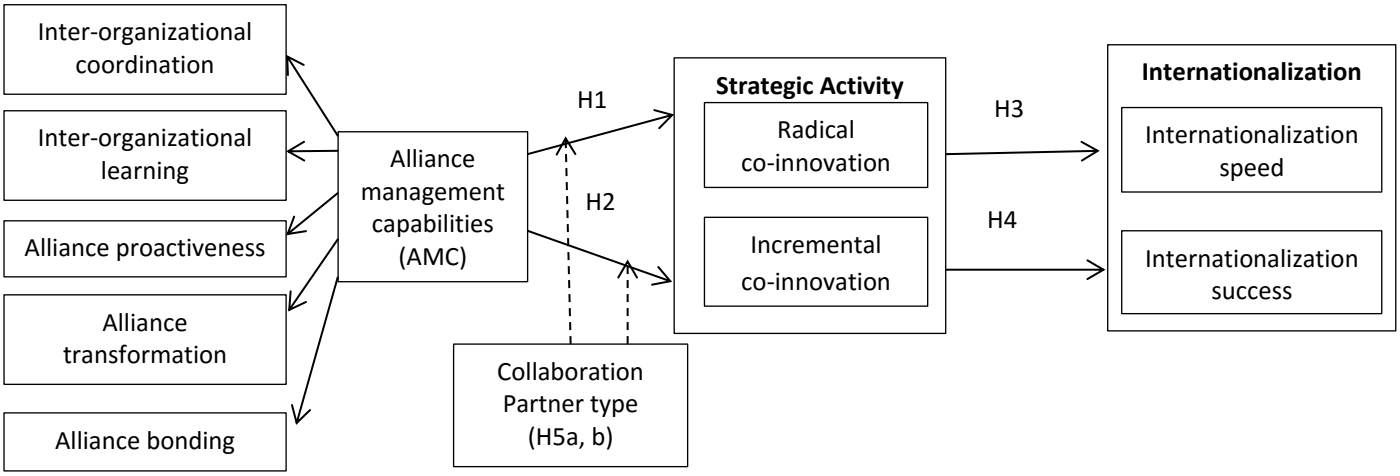

Figure 1: Conceptual Framework and Research Hypothesis

3. 1. AMC and Radical Co-Innovation

Co-innovation between partners constitutes an important driver for IOC. In general, innovation may vary along a newness continuum, ranging from radical to incremental. Radical innovations describe ground-breaking developments that represent a major departure from existing capabilities in the firm and establish the basis for the revolutionary change in the technologies (Ritala & Hurmelinna-Laukkanen, 2013). However, although radical innovation can enable SMEs to develop a dominant position in the market, it could also bring a higher level of risk (Bouncken & Kraus, 2013). Involvement in radical innovation projects requires extensive resources over a longer timeframe that can be obtained from alliances with complementary partners (Lee, Park, Yoon, & Park, 2010).

However, as radical innovation is characterized as risky practice with a lot of uncertainty, SMEs would need to evolve a set of AMC to ensure the effectiveness of their collaboration process. In particular, empirical evidence suggests that the ability to create and manage external relationships is important in order to activate the co-exploration process (Kauppila, 2015; Rothaermel & Deeds, 2006), which is an important step toward radical innovation (Lee et al., 2010). Following this line of thought, it appears that AMC provides the small firm with greater access to its surroundings, and thus provides an effective mechanism to enact co-innovation (Sisodiya, Johnson, & Grégoire, 2013). Besides the overall impact of AMC on radical co-innovation, it is worthwhile to look at the impact of different dimensions of AMC. First, a strategic focus on inter-organizational learning can stimulate the emergence of radical innovation in SMEs.

On the one hand, it can intensifies the ability of a small firm to absorb the tactic approaches and core technologies (Branzei & Vertinsky, 2006). On the other hand, it strengthens the efforts to jointly develop and commercialize the revolutionary products (Maes & Sels, 2014). Second, alliance scanning (as one alliance capability) helps SMEs, who may have limited information sources and financial resources, to search and decide on who to collaborate with to create new products (Lee et al., 2010).

Besides this effect, it is increasingly acknowledged that a potential trade-off exists between the benefits and costs of AMC for strategic activity (Rothaermel & Deeds, 2006). AMC enables the small firms to gain the collaboration experience and resources, which they can apply later when managing the subsequent relationships (Katila & Ahuja, 2002; Molina-Morales & Martínez-Fernández, 2009). As SMEs are plagued with severe scale constraints, it decimates their willingness to invest in new experiences in order to avoid the opportunity cost (Mesquita & Lazzarini, 2008). Radical innovation requires an extensive portfolio of resources, therefore inclining to clasp with the tried behaviors will reduce the SMEs' potential to realize new developments (Bouncken & Kraus, 2013). Consequently, we predict that a positive relationship between AMC and radical co-innovation begins to decline after a certain point. Therefore, we propose:

H1: The effect exerted by alliance management capabilities will have an inverted U-shaped relationship with radical co-innovation.

3. 2. AMC and Incremental Co-Innovation

Incremental innovations are the developments of new products and services that are known to the market or minor improvements in existing products (Parida, Westerberg, & Frishammar, 2012). Incremental innovation aims to get an insight from the customers for the development of better solutions and increase profits (Xin, Yeung, & Cheng, 2008). As AMC provides a base for the success of IOC, it may enables small firms to jointly pursue incremental innovation (Faems, Van Looy, & Debackere, 2005). Moreover, different dimensions of AMC, such as communication, coordination and learning, enable the SMEs to find the suitable partner and jointly modify and exploit existing products and services-related knowledge according to customers' choice (Findikoglu & Watson-Manheim, 2015).

A high-level of AMC can reduce the technological rigidity (Molina-Morales & Martínez-Fernández, 2009). As small firms are characterized by flexibility, a higher AMC allows then to escalate incremental co-innovation to produce more certain. Consequently, we predict that a positive relationship between AMC and co-innovation increases as small firms increase reliance on AMC. Therefore, we propose:

H2: The effect exerted by alliance management capabilities will have a nonlinear positive relationship with incremental co-innovation.

3. 3. Radical Co-Innovation and Internationalization Speed

Joint R&D activities promote the development of new products, services and processes, which in turn create more opportunities for small firms to reach international markets and take advantage of a product's profit potential (Li, Qian, & Qian, 2015). In this vein, Chetty and Campbell-Hunt (2004) find that small firms with new innovations can be forced to internationalize quickly and benefit from first-mover advantage. In order to provide further support, Knight and Cavusgil (2004) argue that radical innovation eliminate the entry barriers for small firms as their technological resources are unique. Furthermore, Zahra, Ireland, and Hitt (2000) show that with rapid changes in technology and economic liberalization firms are being propelled to expedite their internationalization performance. Therefore, we propose:

H3: The radical co-innovation of SMEs will have a positive relationship with internationalization speed.

3. 4. Incremental Co-Innovation and Internationalization Success

In a technological sense, incremental innovation is a minor product/process improvement. This is nevertheless critically important for constituting a distinctive pattern of internationalization success. Since the business scope of SMEs has been geographically confined, the implementation of incremental activity

presents an important opportunity to capitalize on market imperfections (Lu & Beamish, 2001). Offering further support for this contention, Sui and Baum (2014) finds that partners have to specialize their resources for adjustment of existing products' attributes, which in turn induces internationalization success. Explicitly, incremental innovation is argued to be an important catalyst in the development of internationalization success for small firms because the uncertainty and risk in international markets can trigger the exploration of new opportunities. Overall, these arguments support the idea that SMEs can develop the internationalization capabilities by leveraging existing technologies with partners. Therefore, we propose:

H4: The incremental co-innovation of SMEs will have a positive relationship with internationalization success.

3. 5. Moderating Role of Alliance portfolio Diversity

This construct refers to the diversity of collaboration partners. While firms engage in collaboration with clients and suppliers for process improvements, horizontal collaboration with competitors allows the establishment of standards and research (Nieto & Santamaría, 2007). Companies struggle to nurture the successful partnering routines for innovation and therefore partner diversity can mitigates some of the costs and amplifies some of the benefits of increasing AMC, thus positively moderating its effect on incremental/radical co-innovation (Hervas-Oliver & Albors-Garrigos, 2009). For instance, the risk of opportunism is higher for radical innovation, therefore high partner diversity moderates the relationship between SMEs' AMC and radical co-innovation (Belderbos, Gilsing, & Lokshin, 2012). In the case of incremental innovation, low partner diversity allows SMEs to learn about current and prospective partners, which can mollify some of the aggressive scanning routines and provide opportunities to expand AMC allowing SMEs to more effectively develop incremental co-innovations. Therefore, we propose:

H5a: In SMEs, high alliance portfolio diversity moderates the relationship between AMC and radical co-innovation,

H5b: : In SMEs, low alliance portfolio diversity moderates the relationship between AMC and incremental co-innovation.

4. METHOD

This study includes a survey with key informants from manufacturing industry in the UK. The sampling frame for this study was compiled from the FAME Database. In selecting the sample frame, the following search criteria were applied: SMEs (less than 250 employees) firms should have collaboration, firms should be current exporters and firms should be innovating. A pilot study was first conducted to refine the questionnaire. After three rounds of contact attempts, 278 valid questionnaires were received, resulting in an effective response rate of 21%.

4. 1. Measurements

Internationalization speed was measured as the amount of elapsed time between the year of founding and the year of its first international venture. Four items adapted from Cadogan, Kuivalainen, and Sundqvist (2009) measured internationalization success.

To measure radical and incremental co-innovation, six items (three items for each action) were developed for this study (Bierly & Daly, 2007; Parmigiani & Rivera-Santos, 2011).

Eight partner types were included: buyers, suppliers, competitors, consultants, research institutes, universities, own business groups and an open category 'other'. Alliance portfolio diversity was calculated by dividing the number of different type of partners maintained by the firm by the maximum possible amount of different partners and squaring the results of this division. The diversity score ranges from 0 (least diversity) to 1 (highest diversity).

To capture the five dimensions of alliance management capability, multi-item measures from Schilke and Goerzen (2010) and Schreiner et al. (2009) were used.

5. RESULTS

Structural equation modelling, using Amos 22 with full information maximum likelihood, was used to fit the model.

5. 1. Measurement Model

Our proposed 8 factor model suggested a good model fit with X2 = 428.548, degree of freedom = 270, CFI = 0.96, IFI = 0.96, GFI = 0.90 and RMSEA = 0.046. Cronbach alpha ranges from 0.75 to 0.90 well above the threshold value of 0.70. All factor loadings range from 0.70 to 0.91 at <0.001 significance level. Composite reliability values range from 0.75 to 0.90 and average variance extracted estimates range from 0.51 to 0.67.

5. 2. Structural Model

The model showed a good fit to the data (X2 = 576.123, df = 389, CFI = 0.95, IFI = 0.95, GFI = 0.89 and RMSEA = 0.042). The data analysis reveals the significant support for all hypotheses. Focusing on the first half of H1, AMC confirms the positive effect on radical co-innovation ($\beta = .75$; $p < .001$). The second part of H1 is not supported as the results suggest a squared positive relationship between AMC and radical co-innovation ($\beta = .65$; $p < .001$). Lending support for H2, results suggest that AMC and incremental co-innovation has positive linear ($\beta = .73$; $p < .001$) and squared effect ($\beta = .55$; $p < .001$). H3 confirms the positive relationship between radical co-innovation and internationalization speed ($\beta = .15$; $p < .05$). The findings show a positive relationship between incremental co-innovation and internationalization success ($\beta = .61$; $p < .001$), in support of H4.

We follow Baron and Kenny's (1986) approach to test the mediation effect. Entering the mediator of radical co-innovation makes the relationship insignificant between AMC and internationalization speed (P>0.10) thus supporting the full mediation role of radical co-innovation. The introduction of incremental co-innovation as a mediator between AMC and internationalization success reduces the strength of relationship (P<0.05), thus suggesting a partial mediation (Luo, Wang, Raithel, & Zheng, 2015).

To determine the moderation effect, the coefficient of AMC and radical co-innovation was higher in the high group ($\beta = .76$; $p < .001$), compared to the lower group ($\beta = .72$; $p < .001$). The coefficient of AMC and incremental co-innovation was higher in the low group ($\beta = .80$; $p < .001$), compared to the higher group ($\beta = .46$; $p < .001$). Following the chi-square difference test, the relationship between AMC and radical co-innovation, as well as AMC and incremental co-innovation, is different between high and low partner diversity at the 95% confidence level. These results provide the support for H5a and H5b.

6. DISCUSSION AND CONCLUSION

The theoretical and methodological foundation of this study contributes to the advancement of SMEs' strategy literature in the following aspects: (1) AMC is indispensible before strategic activity and (2) different types of internationalization outcomes are contingent on unique strategic activities. This study opened the black-box that partner diversity can do more than just influence the strategic activity of SMEs. In the UK manufacturing SMEs, the moderating effect of alliance partner diversity suggest that AMC contributes to radical co-innovation when partner diversity is higher than when partner diversity is low. In contrast, AMC contributes to incremental co-innovation when partner diversity is low compared to high diversity.

There are some managerial implications that can be derived from this study. First, SMEs should carefully consider the approaches to effectively manage alliances with a focus on the development of specific alliance management unit. Second, SMEs should consider their diversity of alliance partners in order to make informed decisions about AMC and strategic activities.

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