

# SCHUMPETERIAN ENTRY: INNOVATION, EXPORTING, AND GROWTH ASPIRATIONS OF ENTREPRENEURS

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## ABSTRACT

Strategic engagements, namely product innovation, process innovation and internationalisation, expose entrepreneurs to learning opportunities, and thereby enhance their growth aspirations. Furthermore, these learning effects are reinforced in knowledge-intensive industrial environments. We apply multilevel random slope estimation for individuals from 74 countries, 2001-2015, to derive results consistent with our hypotheses.

## INTRODUCTION

In Schumpeter's (1934) seminal work, innovation and successful entrepreneurship were viewed as being intimately connected. Yet in fact only a minority of entrepreneurs actually innovate (Autio et al., 2014), and new ventures differ widely in terms of their potential economic impact. In this paper, we build on Schumpeter's intuition to identify and analyse a mechanism which might connect innovation to the aspirations of entrepreneurs. Specifically, we ask how innovation, but also internationalization, and innovative contexts may enhance entrepreneurial growth aspirations. Our theory therefore highlights the mechanisms linking entrepreneurial growth aspirations to new venture strategies. Our measure of aspirations focuses on the growth intentions of entrepreneurs (Stam et al., 2012); given the difficulties in assessing performance at the early stages of new ventures, the literature has proposed this as an early predictor of their economic potential (Autio and Rannikko, 2014; Kolvereid and Iskanen, 2017; Mthanti and Ojah, 2017). We draw on the expectancy theory perspective (Manolova et al., 2008) to argue that growth aspirations are affected by beliefs concerning the underlying potential of the venture (Levie and Autio, 2013; Capellaras et al., 2018). Furthermore, these beliefs will be augmented by acquiring new, valuable, and non-redundant knowledge related to innovation and international orientation. We also pay close attention to the business context in which entrepreneurship occurs: we take on board the criticism of over-individualized approaches to innovation and entrepreneurship (Autio et al., 2014; Radošević and Yoruk, 2013). A key element of our framework therefore builds from the knowledge-spillover theory of entrepreneurship (Audretsch and Keilbach, 2007), but we contextualize entrepreneurship within the broader environment of knowledge creation at the sectoral rather than the more traditional national level.

Our main contributions can be summarised as follows: we extend the understanding of the Schumpeterian entrepreneurial process by demonstrating the importance of entrepreneurs'

strategic choices that via knowledge generation and acquisition enhance the growth aspirations. Our study extends (Schumpeterian) innovation and entrepreneurship theory by articulating a mechanism whereby entrepreneurs' strategic decisions to engage in knowledge generation and acquisition produce high-growth aspirations. Moreover, building on expectancy theory (Manolova et al., 2008) we develop a theoretical framework linking entrepreneurs' growth aspirations with their innovation and internationalisation orientations, as well as the opportunity context provided by a knowledge intensive environment. We find that the benefits entrepreneurs derive from exposure to opportunities present in knowledge-intensive industrial contexts accrue to product innovators, process innovators, and entrepreneurs engaged in the early-stage internationalisation process. The latter two types of entrepreneurs benefit more at relatively higher levels of R&D intensity of a surrounding industry.

More generally, this study bridges the gap between the innovation, strategic management, and entrepreneurial behaviour literatures, by articulating the interdependencies of entrepreneurs' strategic choices and their aspirations at the early stage of their venture's life.

### **The Strategic Logic of Knowledge Generation and Acquisition**

Discovery, generation and acquisition of knowledge is risky but critical for new ventures to establish their competitive advantages in dynamic marketplaces (Ketchen et al. 2007), and we expect these strategies to result in higher growth aspirations for the firm. This perspective points us to the mechanism whereby the identification of potentially more valuable opportunities leads entrepreneurs to greater growth aspirations for their new business (Levie and Autio, 2011; Estrin et al., 2013). Thus, we argue that growth aspirations will be boosted by entrepreneurs taking strategic actions towards the discovery or creation of opportunities (Shane and Venkataraman, 2000; Alvarez and Barney, 2004; 2007). Related to this, the strategic entrepreneurship literature has attempted to bridge the firm's pursuit of superior performance and growth to opportunity identification and advantage-seeking activities (Ireland, Hitt, and Sirmon, 2003; Ketchen et al. 2007). Bingham and Eisenhardt (2008) have developed a typology of strategic logics that underlie alternative pathways leading to competitive advantage. *The strategic logic of opportunity*, under which a competitive advantage stems from entrepreneurial action of capturing profitable market opportunities (Rindova and Kotha, 2001; Bingham et al., 2007; Bingham and Eisenhardt, 2008), is particularly relevant here. Ambitious, entrepreneurial firms select the learning content and translate it into simple rules (heuristics) which guide the capture of opportunities and provide the firm with a series of temporary advantages in terms of performance (Bingham et al. 2007; Bingham and Eisenhardt, 2008; Bingham et al. 2011).

We therefore consider the implications of these strategic choices to pursue knowledge generation and acquisition. Specifically, we focus on two of the most important elements of new venture strategy in the firms' earliest days: the decisions as to whether to generate new knowledge through innovation, which we classify in terms of (i) new products or (ii) new processes, and whether to seek knowledge acquisition internationally via (iii) producing, at least in part, for international customers. In our first hypothesis, we propose that these three strategic choices expose the new firm to a wider range of learning possibilities (Zahra et al. 2005; Zahra, 2008), and therefore enhance the growth aspirations of entrepreneurs, consistent with expectancy theory discussed above. We also posit that these engagements are mutually supportive (Bingham et al., 2007; Love and Roper, 2015).

## Schumpeterian Entrepreneurship in Knowledge-Intensive Contexts

We follow the literature in acknowledging that firm strategies are not the only source of new venture opportunities; the context is also important (Audretsch and Keilbach, 2007). Hence, a new firm's growth aspirations may also be influenced by the generation of knowledge in its business environment. The spillover mechanism from the business context to the entrepreneur has previously been analysed in terms of institutional arrangements at the national (Baumol, Litan Schramm, 2007; Autio and Acs, 2011, Estrin, Korosteleva and Mickiewicz, 2013) or the regional level (Audretsch and Keilbach, 2008). However, for this analysis, spillovers within an industry seems an equally important line of enquiry, building on ideas from the literatures on international business (Meyer and Sinani, 2008) and innovation strategy (Porter, 1990). This leads us to propose that industry represents the appropriate level of analysis for contextual effects on the relationship between strategies and entrepreneurial aspirations. Therefore, we posit in our second hypothesis that a knowledge-intensive industrial environment, conducive to opportunity discovery, may especially influence those founders already oriented towards knowledge acquisition and generation to create larger-scale businesses. Our framework thus relates the strategic behaviour of the individual entrepreneur with the opportunity context of a knowledge intensive sectoral environment, and considers the conjunction of both for the growth aspirations of a new venture. We argue in our third hypothesis that the enhancement of the entrepreneur's growth aspirations through contextual knowledge intensity will be conditioned by the decision to engage in strategic, knowledge generating and acquiring activities.

### Data and Methodology

In our empirical counterpart, we follow the examples of Autio and Acs (2010), Estrin et al. (2013), Schøtt and Jensen (2016), and Capelleras et al. (2018) in applying multi-level modelling to a large cross-country cross-individual dataset of new firms over the period of 2001-2015. Our database is constructed from the Global Entrepreneurship Monitor (GEM) combined with information from a variety of country and industry-level sources. One major advantage of this dataset is that it includes both developed and developing economies; the omission of the latter has been recently identified as a major issue by Engelen et al. (2014). We also consider carefully in our empirical work two major econometric issues which may potentially affect our analysis. The first concerns the potential endogeneity between entrepreneurs' strategic behaviour and growth aspirations, and the second is the selection bias which may arise because the decisions to innovate, internationalize and grow a business are only observed for the sample of actual entrepreneurs. Here, we follow a call by Engelen et al. (2014) to take more seriously these biases in empirical research on innovation and entrepreneurship.

We also use multilevel modelling to address unobserved heterogeneity within the context of our cross-country-time, cross-individual dataset. Multilevel modelling takes account of the fact that the dataset has a hierarchical structure in which individuals represent level one, industry subsamples (ISIC 2-digit Revision 4) represent level two, and country-year subsamples represent level three. This allows us to control for clustering of the data within a 2-digit industry-country-year subsample. Failure to do this would lead to biased results (Rabe-Hesketh et al., 2005).

### Results and Discussion

Our empirical analysis provides evidence that entrepreneurs make strategic choices to engage in knowledge acquisition via product and process innovation and via internationalisation. Emphasising the strategic logic of opportunity, we validate the importance of different channels of knowledge acquisition. Thus, we find that the relationship between product innovation, process innovation, the range of foreign customers and growth aspirations is positive and the finding is robust across a variety of specifications, and when addressing issues of selection and reverse causality. The magnitude of the relationship between product innovation and growth aspirations is slightly stronger compared to other two strategic engagements, consistent with Stam and Wennberg's (2009) and Kolvereid and Isaksen's (2017) results. This may also be in line with that branch of the literature that stresses the sequential aspects of product and process innovation, with product innovation appearing first and leading to the second, and therefore being of relatively higher importance (Hullova, Trott and Simms, 2016).

Thus, we find that the most important aspect of the strategic choice to innovate by new ventures concerns new *products* rather than new *technology*. However, as hypothesised, the two strategic choices are synergic; our results indicate that entrepreneurs are more likely to have high growth aspirations when they engage in both types of innovation (product- and process-related) jointly. This finding is consistent with the stress that Hullova et al. (2016) place on the value of complementarity. We also add to the complementarity argument, illustrating the important role of exporting in facilitating entrepreneurial growth aspirations jointly with engagement in innovation processes (Love and Roper, 2015).

Our empirical work also explores the moderating effects of knowledge intensive environments on the impact of strategies on growth aspirations. We find that the positive impact of knowledge intensity of business environment on growth aspirations is amplified by entrepreneurs' engagement in product and process innovation, and internationalisation (see Figures 1-3 below). At the same time, the moderating effect of knowledge intensity is statistically weaker in the case of process innovation; this could be attributed to a steeper learning curve for entrepreneurs in making a productive use of new technology after its introduction (Sakellaris, 2004).

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 Figures 1-3 about here  
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## CONCLUSIONS

In this study we propose that a multidirectional strategic engagement of entrepreneurs with respect to innovation and internationalization will lead to higher entrepreneurial growth aspirations, and further confirm this empirically. We also find that the entrepreneurs with a strategic focus on process innovation and acquiring foreign customers are likely to benefit most from more knowledge-intensive industrial environments.

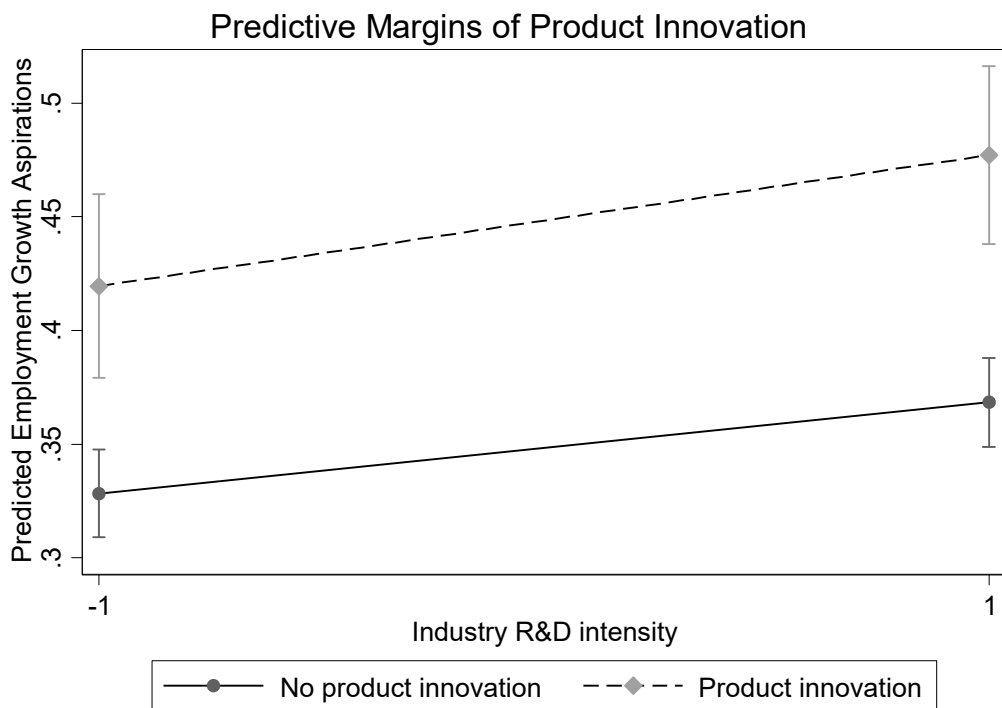
Our study has important ramifications for researchers and entrepreneurs. For researchers, it suggests that the definition of types of entrepreneurial activity in theoretical and empirical work should be more finely grained, so that the distinctions can be drawn between new firms created to provide employment for their founder (and their friends and family), and new ventures, which have the objective of growth. Within the latter category, we propose to focus on

a further important subset of Schumpeterian entrepreneurs, for whom, growth aspirations result from expanding opportunity set generated by knowledge augmenting activities. Overall, our study helps to bridge the gap between the innovation, strategic management and entrepreneurship literatures by articulating the importance of knowledge acquisition, and of identifying strategies for entrepreneurs to gain from opportunity discovery and creation. This line of enquiry may in time lead to a better understanding of the micro-foundations of Schumpeter's (1934 [2008]) proposition that (ambitious) entrepreneurship must be closely aligned with innovation.

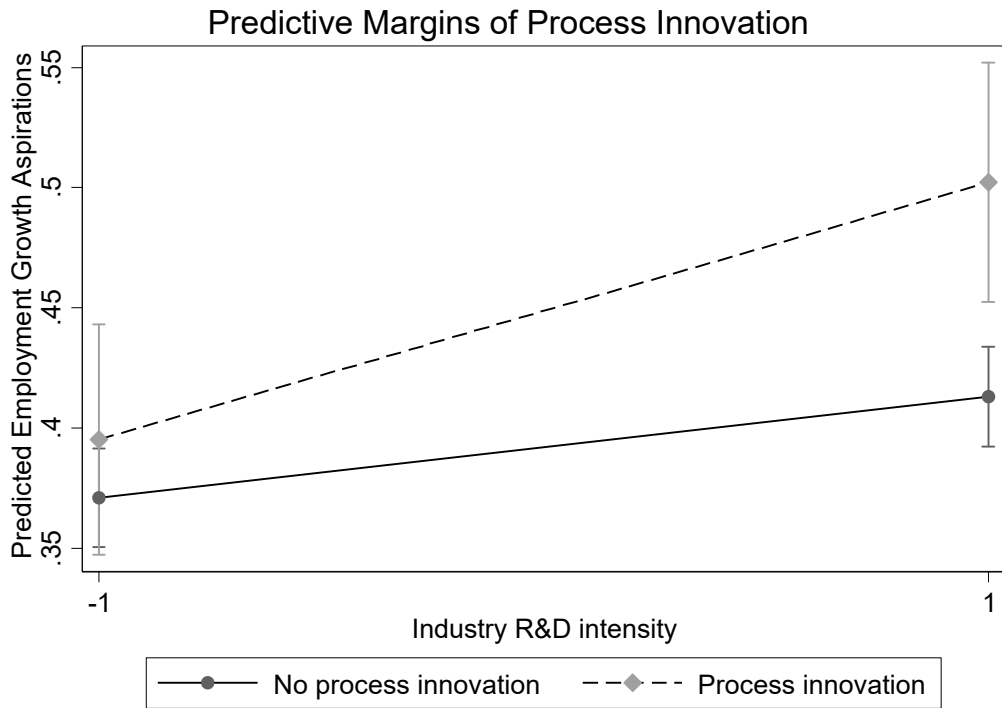
As regards entrepreneurs, our study suggests that to remain competitive in a dynamic market environment, entrepreneurs should not assume that a one-off experience of being engaged in a high-impact activity, such as innovation or exporting, is sufficient. Rather, entrepreneurs must translate their experience into articulated heuristics that produces patterning of high-performing organisational activity, including, for example, the ways to innovate or export that are central to the development of growth capabilities. Such activities will be based on the search for competitive advantage which, through the generation of new products, processes, and access to new markets, can lead to wealth creation sustainable over time.

#### REFERENCES AVAILABLE FROM THE AUTHORS

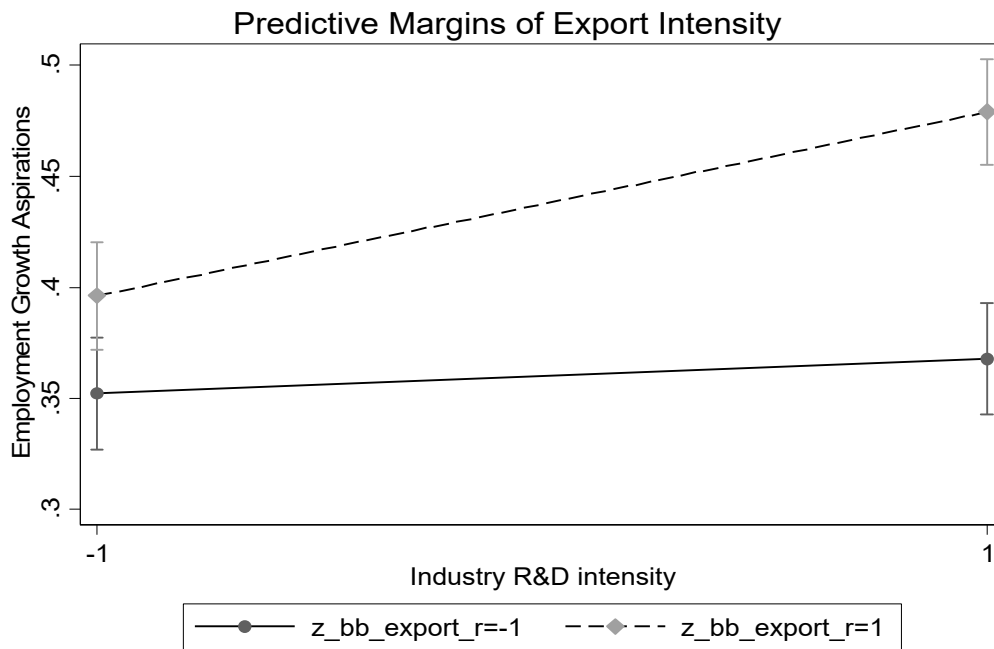
**FIGURE 1. Plotting the two-way *Innovative Product–R&D* interaction results**



**FIGURE 2. Plotting the two-way *Innovative Process–R&D* interaction results**



**FIGURE 3. Plotting the two-way *Internationalisation–R&D* interaction results**



Source: GEM 2001-2015; 95% confidence interval