New product and service launching in new ventures: a multilevel approach to innovation antecedents

Mickael Géraudel, Johanna Gast and Katherine Gundolf

ABSTRACT

Macro-economic policies such as public financing seek to push the development and introduction of innovations; however, entrepreneurs also need support in their ‘day-to-day’ activities to improve their capability to launch innovations. As this micro-level perspective is rarely studied, we analyze both the micro and macro levels by examining the effects of the entrepreneurs’ individual intention to innovate and public financing. Additionally, we include the meso level, representing entrepreneurs’ network. Entrepreneurs are embedded in social spheres in which they capture resources and identify opportunities. But not all entrepreneurs are equally well supported, and some tend to be completely isolated. We thus focus on multilevel factors explaining new product or service launching in new ventures. Drawing on data of 48,251 French new ventures, we reveal that innovation intention and public financing positively impact new ventures’ product and service innovation launching, while entrepreneurs’ isolation has a negative effect. We also highlight two interaction effects that enhance the multilevel effects of innovation antecedents.

ARTICLE HISTORY

Received 18 April 2016
Accepted 10 June 2016

KEYWORDS

Entrepreneurship; SMEs; innovation strategy

Introduction

Fostering innovation is a key issue for every country because innovative activity is indispensable to the economy (Audretsch and Link 2012) given that it is linked to not only firm survival but also economic growth (Audretsch 1995). More than any perspective, the study of innovation appears to derive from practical rather than theoretical concerns, leading to normative explanations (Drazin and Schoonhoven 1996). Due to the importance of the issue, a substantial amount of public and private financing supports innovation activities and the development of new products or services (Cieply 2001; Falk 2007; Bodas Freitas and von Tunzelmann 2008). Illustrating how much financing is actually dedicated to innovation activities, the World Bank provides a ratio representing research and development (R&D) expenditures as a percentage of the gross domestic product (GDP) for many countries. This ratio reveals, for instance, that from 2010 to 2014, China spent 1.98% of its GDP on R&D expenditures, France 2.26%, the USA 2.79% and Germany 2.92%. Obviously, relatively large variations across countries are evident. Although such macro-economic policies seek to push the development and introduction of innovations in many countries, they do not seem to be sufficient (Acs and Szerb 2007). Entrepreneurs clearly need to be supported in their ‘day-to-day’ activities to improve their capability to launch product and service innovations on the market (McMullan, Chrisman, and Vesper 2002; Berends et al. 2014). Thus far, this micro-level perspective has rarely been
studied in the literature. One of the major contributions is presented by Di Benedetto (1999), who identified the key factors of successful launching of new products, namely perceived superior skills in marketing research, sales force, distribution, promotion, R&D and engineering. Nevertheless, these findings emphasize merely the organizational and strategic management of innovation practiced by the firms and do not incorporate the entrepreneur’s perspective on innovation. Because entrepreneurs create value, more in-depth studies on entrepreneurs are warranted to extend the present understanding of the individual predictors that push the entrepreneurs’ engagement in innovation.

Between these macro and micro levels, the so-called meso level represents entrepreneurs’ networking opportunities (Ozgen and Baron 2007). Actually, entrepreneurs are embedded in social spheres in which they can capture resources, recognize opportunities (Ozgen and Baron 2007), obtain business referrals (Chollet, Geraudel, and Mothe 2014) and receive social support (Chollet et al. 2012). However, not all entrepreneurs are equally well supported in their decisions, and some tend to be completely isolated. Consequently, research suggests that entrepreneurs should switch from the ‘lone ranger’ approach to the ‘it takes a village approach’ (Danes 2013), implying that they should leave their state of isolation to be more innovative. In line with this approach, research about social capital and innovation (Tsai and Ghoshal 1998) shows that connected actors are more innovative than isolated people.

Most previous approaches to innovation launching focus on only one particular level of analysis, the macro, micro or meso levels. This may be explained by the dominant normative approach (Drazin and Schoonhoven 1996), which calls for clear statements on innovation-enhancing triggers; the lack of well-developed multilevel frameworks (Gupta, Tesluk, and Taylor 2007); or the difficulties in linking theories at different levels (Klein, Tosi, and Cannella 1999; Bitektine and Haack 2015). However, innovation is a multilevel phenomenon (Gupta, Tesluk, and Taylor 2007). In fact, economic geographers underline that enterprise-specific drivers of innovative behaviors are undervalued and that the importance of the meso level (here, the region) may be over-estimated (Beugelsdijk 2007). That is why enterprise-specific variables need to be included to provide true tests of the effect of the meso environment (Mariani 2004). In addition, Bitektine and Haack (2015, 49) insist that ‘the exploration of level interactions is critical for understanding the duality of macro-level institutional processes, which are enacted by individuals (Powell and Colyvas 2008), and microlevel processes’. This argument is also stressed by Tracey, Phillips, and Jarvis (2011). Thus, the exploration of cross-level interactions seems to be necessary to understand this complex phenomenon, as emphasized by Klein, Tosi, and Cannella (1999). In fact, these authors lament the division of micro- and macro-level studies, insisting that multilevel approaches result in real benefits because they foster the much needed synthesis and connection of theories and the inherent difficulties in gathering complex phenomena at different levels.

Particularly, multilevel theory aims to develop a better understanding of how phenomena at one level of analysis are related to those at other levels of analysis (Rousseau 1985; Klein, Dansereau, and Hall 1994). This leads us to stress the need for multilevel perspectives both on the theoretical side, by proposing integrative models, and on the empirical side, where further research has to be done. Our research is clearly positioned on this empirical side.

Concerning innovation antecedents in a multilevel context, little empirical work was found. However, Dias, Pedrozo, and da Silva (2014) accentuate the complexity and dynamics of the innovation process and, thus, the need to adopt a multilevel micro–meso–macro framework. In their article, they propose to analyze the innovation process through the lens of complexity. To do so, they adopt and link different theories to build a multilevel framework. Furthermore, Lederman (2010) explores the effects of three levels of analysis (firm characteristics, industry characteristics and the national context) on innovation, and Srholec (2011) also focuses on multilevel effects on innovation. He examines the national economic, technological and institutional framework conditions in different developing countries to predict the likelihood that enterprises will innovate.
However, despite an impressive amount of research, the innovation literature may be considered to be fragmented and lacking the synthesis of findings across levels (Sears and Baba 2011).

Moreover, to date, innovation launching antecedents have rarely been explicitly studied in the context of entrepreneurship, although Rosenbusch, Brinckmann, and Bausch (2011) support the overall positive relationship between innovation and entrepreneurial performance in their meta-analysis. Moreover, Davidsson and Wiklund (2001) show that research about entrepreneurs can be designed at different levels such as the level of the entrepreneur or the firm, the industry level, the regional level or the national level.

In this study, we not only analyze the micro level by examining entrepreneurs’ individual intention to innovate but also take into account the possibility that multilevel factors (Mathieu and Chen 2010; Chen et al. 2013) explain entrepreneurs’ innovation behavior. As multiple factors play a role during the innovation process, a multilevel approach to innovation antecedents seems adequate to seize different insights and to support the understanding of entrepreneurs’ innovation launching. Thus, our research question reads as follows: What are the multilevel antecedents of entrepreneurs’ innovation launching?

This multilevel analysis of innovation proposes a wider perspective of innovation in new ventures and provides theoretical and managerial insight. In particular, in answering this question, our study provides three main insights. First, we find that public financing has a real potential to foster entrepreneurs’ new product or service innovation launching. Second, we reveal that entrepreneurs’ individual intention to innovate influences their subsequent launching of innovation. Third, entrepreneurs are encouraged to develop their social capital and networks to increase their innovation potential because operating and managing in isolation clearly have negative effects on innovation launching. Moreover, it could help investors to better support the relevant projects and, finally, target cash-earning projects. Fourth, we highlight the interaction effects between entrepreneurs’ individual intention to innovate and public financing, on the one hand, and entrepreneurs’ individual intention to innovate and social capital, on the other hand.

The remainder of the study is structured as follows. First, we briefly present the literature on public financing and innovation, the link between intention to innovate and innovative actions, and the network support approach. Next, we explain the methodology applied and present our empirical findings before discussing them in light of extant research. Finally, the paper closes with limitations and suggestions for future research.

Innovation antecedents through the lens of a multilevel paradigm

Innovation in new ventures

Robinson starts his famous article published in 1990 with the following sentence: ‘Should a start-up business venture develop and introduce an innovative or imitative product?’ (Robinson 1990). Indeed, in the 1980s, researchers discussed the opportunity cost that a venture must pay to introduce innovations (Mansfield, Schwartz, and Wagner 1981). Today, globalization pushes ventures from northern countries to innovate to keep high profit margins. Is the same true for new ventures?

According to Baron and Tang (2011, 49), ‘Innovation has often been identified as an essential ingredient in new venture success’ (e.g. Ireland and Webb 2007). At present, however, relatively little direct evidence exists concerning mechanisms through which individual entrepreneurs encourage innovations in their companies. We propose to explore this issue at the macro, meso and micro levels. In fact, Gupta, Tesluk, and Taylor (2007) underline the importance of multilevel approaches for innovation studies in their introductory article for a special issue in Organization Science in 2007. In this sense, based on a systematic literature review, Ardito, Messeni Petruzzelli, and Albino (2015) propose a multilevel approach to innovation antecedents. They underline the lack of an integrative and multilevel framework and suggest a framework based on individual, firm, network and industry levels of analysis (for an overview of the proposed theoretical framework, please see Ardito, Messeni
Petruzelli, and Albino 2015, Figure 7). Furthermore, they present the main gaps and future research directions enabling an understanding of the introduction of new products based on firms’ own technological inventions. Specifically, they stress several gaps referring to the different levels of analysis, e.g. trade-offs between environment and firm innovation or the effect of external incentives on firm innovation.

Public policy and innovation: the macro-level perspective

It is a well-established fact that entrepreneurship and innovation play crucial roles in promoting economic growth by serving as mechanisms that facilitate the spillover of knowledge (e.g. Audretsch 2004; Wong, Ho, and Autio 2005; Audretsch and Link 2012). To make use of these positive effects of entrepreneurial and innovative activity, several countries implement policies supporting entrepreneurship with the aim of enhancing the motivation, opportunity and skills needed to become an innovative entrepreneur within the population (Lundstrom and Stevenson 2006). The economics literature about such public policy, financing and innovation is very detailed (Hall and Lerner 2010). Especially two distinct approaches can be found in the economics literature, namely the demand-pull and the technology-push perspectives (Crépon, Duguet, and Mairessec 1998). From a demand-pull view, demand drives the rate and direction of innovation (Nemet 2009; Coad, Pelligrino, and Savona 2015; Dacko, Stoneman, and Kastrinaki 2015). Market opportunities (Vernon 1966) or price shifts (Lichtenberg 1986) incite firms to move factors to innovations potentially satisfying latent customer demands. In this case, public support fosters increased payoffs for successful innovation. The technology-push perspective, by contrast, argues that the rate and direction of innovation is determined by advances in science and technology (Schumpeter 1942; Nemet 2009). Later work emphasizes firms’ idiosyncratic firm-level competences that enable them to pursue particular technology paths (Freeman 1974). Here, government actions attempt to reduce firms’ costs related to innovation.

Nevertheless, focusing on entrepreneurship, the opposition between demand-pull and technology-push has been strongly neglected since it was considered in the 1950s entrepreneurship literature. Thus, a more holistic perspective ignoring the push/pull distinction of innovation drivers arose. This is mainly due to the dearth of studies since Schumpeter (1942) that link innovation and entrepreneurship (Drucker 1985) through the prism of public support in general. Since the year 2000, the discussion of how public policy influences firm innovation has mainly reappeared in the entrepreneurship literature (e.g. Bodas Freitas and von Tunzelmann 2008; Thurik 2009; Audretsch and Link 2012). Thus, research focuses on the effect of public policy in general, ignoring the difference between push/pull policies. The goal is to determine the potential influence of government intervention at the firm level.

Entrepreneurship research shows that especially small highly innovative firms tend to face problems raising sufficient financial funds (Lerner 2002). For these firms, raising external capital on financial markets can be very costly or even impossible to obtain mainly due to the existing information asymmetries between the entrepreneurs and the investors (Lerner 2002). However, firms’ R&D and innovation expenditures can have positive spillover effects not only for other firms but also for society in general. Hence, governments increasingly adopt the lens of Schumpeterian Economics, in which public policy’s role is to ‘facilitate investment in knowledge-creating activities, such as research and education, to encourage agents of change, or entrepreneurs, to innovate’ (Audretsch and Link 2012, 14). To achieve this, policy not only focuses on strengthening the entrepreneurial climate and culture, encouraging entrepreneurship, creating and stimulating a positive attitude toward entrepreneurship and increasing the number of new ventures (Lundstrom and Stevenson 2006) but also provides starting entrepreneurs with financial support in terms of for example, access to loan finance, equity capital, subsidies, grants, funding for research and science, or preferential tax treatment (Audretsch 2004; Kreft and Sobel 2005; Bodas Freitas and von Tunzelmann 2008; Audretsch and Link 2012).
Several researchers attempt to depict how public policy and governmental intervention can influence entrepreneurial and innovative activities in greater detail (e.g. Bodas Freitas and von Tunzelmann 2008; Thurik 2009). Inspired by the work of Verheul et al. (2002), Wennekers, Uhlner, and Thurik (2002), and Audretsch, Grilo, and Thurik (2007), the study by Thurik (2009) presents the Entrepreneurship Policy Framework, which incorporates diverse channels of possible government intervention and policy instruments, including ‘demand-side policies creating room for entrepreneurship’ and ‘policies affecting the accessibility of markets’ (Thurik 2009, 14). Bodas Freitas and von Tunzelmann (2008) show how policy-makers can align their policy activities aiming at coordinating and enhancing the demand for and the supply of innovative inputs. The authors reveal that the type of knowledge objectives (vertical versus horizontal dimension), the type of support (specific versus general management support) and the type of implementation (local versus central program implementation) compose a three-dimensional framework of innovation policy programs and apply this framework to analyze and compare British and French public incentives for innovation. Similarly, Lanahan and Feldman (2015) underline the importance of multilevel innovation policy mix in the USA and provide an empirical analysis of the multilevel factors associated with states adopting a policy that enhances the federal Small Business Innovation Research program. Although these contributions highlight the need for a multilevel approach to innovation policy and incorporates multiple dimensions, they do not take into account the entrepreneurs’ perspective on innovation.

Based on the previously cited contributions to entrepreneurship, innovation and public policy, we propose the following hypothesis, which relies on the positive impact of public policy:

H1: Entrepreneurs’ reception of public policy programs supporting entrepreneurship positively impacts product innovation launching.

From intention to action: the micro-level perspective

The theory of planned behavior (TPB) seeks to determine how individuals decide on and engage in a particular behavior (Ajzen 1991). Given its usefulness for learning about the antecedents and consequences of intentions, which are described ‘to capture the motivational factors that influence a behavior’ (Ajzen 1991, 181), the TPB has been empirically applied to predict the relationship between intentions and behavior in a variety of contexts (e.g. Masalu and Astrom 2001; Bansal and Taylor 2002; Rhodes, Jones, and Courneya 2002; King and Dennis 2003; Kautonen, van Gelderen, and Tornikoski 2013). In particular, the first part of the model delineates how intentions are formed based on the three antecedent variables of attitude, subjective norms and perceived behavioral control, while the second part models how intentions determine subsequent behavior and suggests that intentions are a significant predictor of actions. In fact, studies find that intentions are the best single indicators of behavior (e.g. Ajzen 1991; Sutton 1998; Armitage and Conner 2001; Sheeran 2002). Analyzing the link between intention and behavior, we focus on the second part of the model because we seek to examine whether the intention to start up a business can explain innovation behavior.

Previous meta-analyses confirm that intentions strongly predict subsequent behavior in mostly non-entrepreneurship contexts (van Gelderen et al. 2008), and the number of studies discovering the intention–behavior relationship in the entrepreneurship context is limited (Kautonen, van Gelderen, and Fink 2013). In his work regarding opportunity recognition, Krueger, Reilly, and Carsrud (2000) suggests that opportunities are not simply found but actively constructed by entrepreneurs, presuming some degree of intention before the behavior. In line with Krueger, Reilly, and Carsrud (2000), we assume that opportunities to innovate are constructed and depend on the entrepreneur’s initial intention, leading to Hypothesis 2:

H2: The entrepreneur’s intention to innovate positively impacts product innovation launching.
It is not good to be alone: the meso-level perspective

Based on the neoclassical assumption of a fragmented market, entrepreneurs have long been depicted as ‘lone rangers’ (Danes 2013, 277) or ‘lonely heroes’ (Cooney and Bygrave 1997), assuming that they are relatively isolated from their environment when making entrepreneurial decisions. However, since the 1960s, research has emphasized that entrepreneurs’ relationship with other players in the industry impacts firm performance. In this sense, Arrow (1962), Mueller (1976), Williamson (1975) underline that for example, knowledge holders must enter into the market for other firms to exploit their knowledge.

The entrepreneurship literature now acknowledges that social interactions influence firm behaviors. In this sense, Danes (2013) suggests the metaphor of ‘it takes a village’, underlining that these interactions play a crucial role in the entrepreneur’s decision-making process. More specifically, the author stresses the role of spousal emotional support for new venture success and entrepreneurs’ resilience (Danes 2013). According to Putnam (1995), entrepreneurs who bowl alone instead of being embedded in a strong network of social ties hardly benefit from social interactions and therefore may experience difficulties in creating social capital. The social capital perspective underlines the contingency of strong and weak ties (Granovetter 1973; Granovetter 1983; Burt 1992). In this sense, Boschma (2005) shows that different types of proximity (geographic, cognitive, organizational, social and institutional) interfere and that they may have positive effects but may also create involuntary lock-in effects.

However, social interactions and trust among people foster resource exchange and combination and may, consequently, positively impact product innovations (Tsai and Ghoshal 1998; Leyden, Link, and Siegel 2014; Iacobucci and Hoeffler 2016; Leenders and Dolsma 2016). Thus, examining a sample of 134 entrepreneurial ventures in China, Yu et al. (2014) show that network competence has a positive impact on new product development performance.

A related stream of literature highlights the occurrence and relevance of entrepreneurial teams. Here, the assertion that new ventures are more frequently established and developed by entrepreneurial teams rather than solo entrepreneurs is gaining momentum (e.g. Kamm et al. 1990; Gartner et al. 1994; Ensley, Carland, and Carland 1998; Lechler 2001). Especially in the context of high-tech ventures, research shows that new ventures are primarily founded by entrepreneurial teams (Cooper 1973; Hunsdiek 1987; Cooper et al. 1990). The participation of entrepreneurial teams instead of solo entrepreneurs is likely to have positive results in terms of higher revenues and net incomes and more successful market capitalization (Kamm et al. 1990). Regarding innovation, entrepreneurial teams composed of individuals from various professional backgrounds tend to develop and commercialize new products faster (Bingham and Quigley 1989).

Hence, we assume that it innovation requires not only sufficient financial and human capital but also social capital (Ahuja 2000). Accordingly, we hypothesize that isolated entrepreneurs who lack social interactions and contacts with their environment engage less strongly in innovation launching:

H3: Entrepreneurs’ state of isolation negatively impacts product innovation launching.

Interaction effects

Based on our multilevel approach to innovation antecedents, we add a fourth hypothesis related to the interaction effects between the theoretical variables. Entrepreneurs who receive support from public policy programs are encouraged in their intention to innovate (Thurik 2009). This is due to mainly two elements: first, the fact that the cost of launching innovations is compensated by public policy, which represents a financial help and the possibility to reallocate financial resources elsewhere. Second, to the feeling of trust conveyed by the legitimation of the entrepreneurs’ activity through a public institution.
Consequently, we assume that public support policy contributes to foster the transition from intention to action. Accordingly, we formulate:

H4a: Entrepreneurs’ reception of public policy programs supporting entrepreneurship moderates positively the effects of entrepreneurs’ intention to innovate.

Being isolated is not good for entrepreneurs and people in a general way (Putnam 1995). ‘For policy makers, (…) utilizing or building social capital may give people and communities the connectedness they need to face the new realities of devolution’ (Lang and Hornburg 1998). Receiving support from public policy programs could help entrepreneurs to pulse their innovations through the possibility of being linked to stakeholders. Thus, our hypothesis may be read as

H4b: Entrepreneurs’ reception of public policy programs supporting entrepreneurship moderates positively the effects of entrepreneurs’ state of isolation.

Lastly, regarding intention to innovate and state of isolation at the same time, these two elements may seem contradictory. Indeed, innovation requires openness to the world and to the others (Krueger, Reilly, and Carsrud 2000), whereas state of isolation refers to people that are self-centred and not opened to others. Nevertheless, we assume that intention to innovate could reduce the disadvantages of being isolated and foster positively the level of innovations. Accordingly,

H4c: Entrepreneurs’ intention to innovate moderates positively the effects of entrepreneurs’ state of isolation.

Method
Sample
To test our hypotheses, we used the large, representative, secondary data set SINE (Système d’information sur les nouvelles entreprises – New Enterprises Information System),2 version 2009, provided by the French National Institute of Statistics and Economic Studies. The SINE survey provides information on French entrepreneurs’ profiles, characteristics of new ventures, development conditions of new enterprises, and the problems they encounter over their first three years. It covers all new ventures created in France because the questionnaire is mandatory. We studied new ventures created in 2006. This is the year in which the survey was first administered to the current sample. The second survey round in 2009 completes and adds elements to the first questionnaire. The final sample is composed of 48,251 firms.

Dependent variable
Product (service) Innovation Launching. In the literature, various scales measure innovations (see Nasution et al. 2011 for items selection). For instance, Nasution et al. (2011) use the following item to measure service innovation: ‘our organization has introduced many new services to the market’ (343). In the SINE survey, the measure of innovation launching (first survey round in 2006) is along the same lines, as the respondents answered the binary question ‘Did you introduce new products or services on the market?’.

Independent variable
Public financial aids
A list of different forms of French public financial aid programs for companies is incorporated in the SINE survey, and for each public financial aid program, respondents had to indicate whether (yes/no) their company benefits from the program. We recoded this variable by summing the number of
public financial aids new ventures received, irrespective of the distinct aid program. Consequently, we created a dummy variable to measure the public financial aid received by the individual new venture.

**Innovation intention**

The intention to start up a venture was measured in 2006. Respondents had to indicate the reasons behind their intention to start their own venture (dummy variable). Innovation intention was among the options: [What has pushed you to create an enterprise?] ‘You had a new idea (product, service or market)’.

**Isolation**

The respondent had to indicate whether he/she manages the company alone through the following dummy variable: ‘I manage the company alone’. This variable was also measured in 2006.

**Control variables**

We included Sex, Age and Innovative Sector as control variables. Research shows that male and female entrepreneurs pursue growth aspirations differently (e.g. Autio and Acs 2010) and likely also possess different innovation aspirations (e.g. Dorenbosch, Engen, and Verhagen 2005). Therefore, Sex was included in the form of a dummy variable (men = 0; female = 1) to control for these potential effects. Several studies find that age can also influence the motivation to become an entrepreneur (e.g. Bergmann and Sternberg 2007) and to grow (Delmar and Wiklund 2008). Age at the time of the creation of the new venture was measured in age groups: (1) less than 25 years old; (2) between 25 and 30 years; (3) between 30 and 35 years; (4) between 35 and 40 years; (5) between 40 and 45 years; (6) between 45 and 50 years; and (7) 50 years and more. INSEE classified the Innovative Sector as follows: company does not belong to the innovative sector survey = 0 and company belongs to the innovative sector survey = 1. We used this classification system for our Innovative Sector control variable.

**Findings**

Table 1 describes Spearman correlations, while Table 2 presents the results of the hierarchical logistic regressions. Non-parametric binomial test on one sample is significant; thus, the null hypothesis is rejected.

Looking at the control variables first, our results show a significantly negative effect of Age on our dependent variable Product Innovation Launching, implying that young entrepreneurs are more likely
Hypothesis 1 suggested a positive relationship between reception of public financial aid programs and the likelihood of launching product (service) innovations. The findings of our empirical analysis render support for Hypothesis 1 in the sense that receiving Public Financial Aids, indeed, increases the likelihood of Product Innovation Launching. The main effect in the model is observed for Hypothesis 2, i.e. between Innovation Intention and Product Innovation Launching, as the intention to innovate has a significantly positive effect on the actual launching of a product (service) innovation. Hence, Hypothesis 2 is also supported. In Hypothesis 3, we proposed a negative relationship between isolation and Product Innovation Launching, implying that being alone hampers innovative behavior. Our regression results support Hypothesis 3. Indeed, the findings reveal a significantly negative effect of Isolation on Product Innovation Launching.

To identify potential moderating effects between the independent variables, we checked each interaction. Thus, we included two interaction effects: Innovation Intention × Public financial aids (H4a) and Innovation Intention × Isolation (H4c). Both interaction effects are positive. Figure 1

Table 2. Hierarchical regressions.

| Variables                  | Model 1          | Model 2          | Model 3          |
|----------------------------|------------------|------------------|------------------|
| Constant                   | -0.658*** 0.026  | -1.059*** 0.034  | -1.006*** 0.037  |
| Sex                        | 0.247*** 0.021   | 0.255*** 0.022   | 0.252*** 0.022   |
| Age                        | -0.042*** 0.005  | -0.030*** 0.006  | -0.030*** 0.006  |
| Innovative sector          | 0.416*** 0.049   | 0.255*** 0.053   | 0.261*** 0.053   |
| Inno. intention            | 1.961*** 0.032   | 0.214*** 0.024   | 1.622*** 0.062   |
| Isolation                  | -0.214*** 0.024  | 0.556*** 0.021   | -0.275*** 0.032  |
| Public financial aids      | 0.556*** 0.021   | 0.507*** 0.041   | 0.175** 0.066    |
| Innov. intention*Public fn. aids | 0.175** 0.047   | 0.097 0.047     |
| Public fn. aids*Isolation | 0.037 0.047      | 0.097 0.047     |
| Innov. intention*Isolation | 0.366*** 0.071   | 0.097 0.047     |

-2 Log-likelihood          60,382.446  | 55,233.370  | 55,194.661  |

χ²                        266.990  | 5149.076  | 5454.775  |

Percent correct           67.8%  | 73.1%  | 73.1%  |

Cox and Snell R²          0.006  | 0.106  | 0.107  |

Nagelkerke R²             0.008  | 0.148  | 0.149  |

*p < .05.  
**p < .01.  
***p < .001.
shows the interaction effect between Innovation Intention and Isolation. It shows that entrepreneurs with a low innovation intention increase their Product (service) Innovation Launching when they are not isolated. However, the difference between isolated and non-isolated entrepreneurs in Product (service) Innovation Launching is smaller for entrepreneurs with a high innovation intention. Figure 2 shows that Public Financial Aids help entrepreneurs with a low and those with a high intention to innovate. Nevertheless, the graph shows a higher positive slope for entrepreneurs with a high innovation intention.

Discussion and conclusion

The purpose of this paper is to reveal multilevel antecedents of entrepreneurs’ innovation launching. In doing so, we include the following antecedents: entrepreneurs’ reception of public financial aids programs for companies (macro level), entrepreneurs’ individual intention to innovate (micro level) and entrepreneurs’ level of isolation (meso level).

Contributions

The contribution of this study is fourfold. First, we respond to the current call for innovation research that takes into account antecedents of innovation at multiple levels simultaneously (e.g. Dias, Pedrozo, and da Silva 2014). Following recent examples (e.g. Lederman 2010; Srholec 2011), we present factors at the macro–meso–micro levels that can trigger or hinder product/service innovation in new ventures. In doing so, we aim to advance the existing knowledge in this research field, which is merely based on studies that focus on the individual levels separately due to difficulties in theory linking (Klein, Tosi, and Cannella 1999; Bitektine and Haack 2015) or the dominant normative approach (Drazin and Schoonhoven 1996).

Second, we shed light on the importance of public financial aid programs directed at supporting newly created ventures. Public financial aid programs are an important antecedent of the launching of product (service) innovations; our findings clearly affirm their positive impact. This finding strongly corroborates the importance of national research policy aimed at supporting large-scale innovation because it is important to support innovative projects in the current Society of Knowledge. Public policy thus needs to acknowledge its crucial role in supporting knowledge-creating activities and motivating entrepreneurs to engage in the R&D process of innovations (Audretsch and Link 2012). Nevertheless, our results also reveal that financial aids have to be coupled with other factors to be efficient.

![Figure 2. The interaction effect between ‘Innovation Intention’ and ‘Public Financial Aid’](image)
The test of our control variables Sex, Age and Innovative Sector shows that they are all highly significant (Sex $\beta=0.252$, $p < .001$; Age $\beta=-0.030$, $p < .001$; Innovative Sector $\beta=0.261$, $p < .001$). This result is in line with the existing literature, suggesting that differences in innovation activities exist between male and female and between young and older entrepreneurs acting in innovative or non-innovative sectors (e.g. Dorenbosch, Engen, and Verhagen 2005; Bergmann and Sternberg 2007; Delmar and Wiklund 2008; Autio and Acs 2010).

Next, we tested the robustness of the TPB based on a large sample of French entrepreneurs. Hence, we closely examined the relationship between intention, in the form of Innovation Intention, and behavior, in the form of actual Product Innovation Launching. In our model, the effect between Innovation Intention and Product Innovation Launching represents the main effect. This result presents evidence for the impact of intention on behavior, as introduced by Ajzen (1991), in the entrepreneurship context, in which the TPB has been only marginally studied thus far (Kautonen, van Gelderen, and Fink 2013). Indeed, the intention to innovate is, thus, a significant predictor of innovative action, which is in line with prior findings on the general link between intention and behavior (e.g. Ajzen 1991; Sutton 1998; Armitage and Conner 2001; Sheeran 2002). This result is crucial in terms of innovation because it highlights the key role of the entrepreneur’s intention in his subsequent behavior. The step from invention to innovation, that is, the launching on the market, is actually the consequence of the entrepreneur’s intention to do so. Moreover, this study enriches the present body of literature that examines the micro-level antecedents of innovation, which, in general, emphasizes the effect of personality traits such as proactivity (Parker, Bindl, and Strauss 2010; Chen et al. 2013) when highlighting the role of intention to innovate.

Finally, we contribute to the literature on whether it is beneficial to start up a new venture alone or supported by a team by including isolation as an independent variable at the meso level. The result concerning the link between being isolated and launching innovative products (services) indicates a disadvantage for the ‘lone ranger’ or ‘lonely heroes’, as proposed by Danes (2013, 277) and Cooney and Bygrave (1997). Entrepreneurs who bowl alone seem to lack a supportive and strong social network (Putnam 1995). As revealed by the negative effect of isolation on innovation launching, this state of isolation hampers innovative behavior in new ventures. This is in line with the belief that entrepreneurial teams are likely to be faster and more successful in developing and commercializing new, innovative products (Bingham and Quigley 1989; Kamm et al. 1990). Hence, it does not take a lone ranger but, rather, an entire village (Danes 2013) to engage in innovative entrepreneurial actions, highlighting the importance of social support for entrepreneurs. Innovation launching is risky. The possibility to talk with his/her husband/wife, a business partner, a friend or another family member is a key issue for an entrepreneur. Thus, we emphasize the role of the social environment of entrepreneurs in the achievement of innovation launching.

**Policy and managerial implications**

Concerning policy implications, our results show that the attribution of public financial aids should be largely conditioned on entrepreneurs’ innovation intention because such intention is a significant predictor of subsequent innovation behavior, which can be a driver of economic growth. This result echoes the work of Santiago et al. (2016), which suggests that policies should enhance the innovation capacity of firms interested in innovation. Hence, identifying the intention to innovate helps to distribute public financial aids to relevant innovative startups. Similarly, academic programs could push the intention to innovate of spin-offs created by students or scientists by providing favorable conditions. Searching for the antecedents of entrepreneurs’ innovation behavior is, therefore, a promising research avenue.

Regarding managerial implications, we show that starting up a new venture in isolation and managing the company alone have negative effects on the probability that the venture launches innovative products (services). We recommend that entrepreneurs leave their state of isolation using their personal networks to for example, obtain access to resources (Chollet, Geraudel, and Mothe 2014).
Public support thus could develop special programs to help these ‘lone rangers’, entrepreneurs who act in isolation, feel connected to their economic and social environment.

Limitations and directions for future research

Similar to every other study, this study has limitations that represent future research opportunities. First, our model could be enriched by the antecedents of the intention to innovate. In the TPB (Ajzen 1991), the three antecedents (1) attitude toward the behavior, (2) subjective norm, and (3) perceived behavioral control are incorporated as steps prior to intention and action. The inclusion of such antecedents to the intention to innovate in the model could have an impact on entrepreneurs’ intention and subsequent behavior. It would be interesting for a single study to examine both parts to explore how antecedents influence intentions and how intentions affect behavior in the context of entrepreneurship and innovation. The insights could be helpful in developing tools to enhance innovative actions in academic and professional contexts.

Second, we measure isolation with a focus on the management dimension (‘I manage the company alone’). However, entrepreneurs can manage the company alone but still receive advice, social support and other resources from their personal network (Chollet, Géraudel, and Mothe 2014). Therefore, researchers should deeply study this meso level by introducing variables that simultaneously control the presence of an entrepreneurial team versus the configuration of the personal network. Through this method, we could compare the types of resources displayed by these two types of networks.

Notes
1. http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS
2. For further information about the Système d’Information sur les nouvelles entreprises (New Enterprises Information System), see http://www.insee.fr/en/methodes/default.asp?page=sources/ope-enq-sine.htm.

Funding
This research received financial support from the French National Research Agency through the program ‘Investments for the Future’ under reference number ANR-10-LabX-11-01.

References

Acs, Z. J., and L. Szerb. 2007. “Entrepreneurship, Economic Growth and Public Policy.” Small Business Economics 28 (2/3): 109–122.

Ahuja, G. 2000. “Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study.” Administrative Science Quarterly 45 (3): 425–455.

Ajzen, I. 1991. “The Theory of Planned Behavior.” Organizational Behavior and Human Decision Processes 50 (2): 179–211.

Ardito, L., A. Messeni Petruzzelli, and V. Albino. 2015. “From Technological Inventions to New Products: A Systematic Review and Research Agenda of the Main Enabling Factors.” European Management Review 12 (3): 113–147.

Armitage, C. J., and M. Conner. 2001. “Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review.” British Journal of Social Psychology 40 (4): 471–499.

Arrow, K. 1962. “Economic Welfare and the Allocation of Resources for Invention.” In The Rate and Direction of Inventive Activity: Economic and Social Factors, 609–626. Princeton, NJ: Princeton University Press.

Audretsch, D. B. 1995. “Innovation, Growth and Survival.” International Journal of Industrial Organization 13 (4): 441–457.

Audretsch, D. 2004. “Sustaining Innovation and Growth: Public Policy Support for Entrepreneurship.” Industry and Innovation 11 (3): 167–191.

Audretsch, D., I. Grilo, and A. R. Thurik. 2007. “Explaining Entrepreneurship and the Role of Policy.” In Handbook of Entrepreneurship Policy, edited by D. Audretsch, I. Grilo, and A. R. Thurik, 1–17. Cheltenham: Edward Elgar Publishing.

Audretsch, D., and A. N. Link. 2012. “Entrepreneurship and Innovation: Public Policy Frameworks.” The Journal of Technology Transfer 37 (1): 1–17.

Autio, E., and Z. Acs. 2010. “Intellectual Property Protection and the Formation of Entrepreneurial Growth Aspirations.” Strategic Entrepreneurship Journal 4 (3): 234–251. doi:10.1002/sej.93.
Bansal, H. S., and S. F. Taylor. 2002. “Investigating Interactive Effects in the Theory of Planned Behavior in a Service-Provider Switching Context.” Psychology and Marketing 19 (5): 407–425.

Baron, R. A., and J. Tang. 2011. “The Role of Entrepreneurs in Firm-Level Innovation: Joint Effects of Positive Affect, Creativity, and Environmental Dynamism.” Journal of Business Venturing 26 (1): 49–60.

Berends, H., M. Jelinek, I. Reymen, and R. Stultiens. 2014. “Product Innovation Processes in Small Firms: Combining Entrepreneurial Effectuation and Managerial Causation.” Journal of Product Innovation Management 31 (3): 616–635.

Bergmann, H., and R. Sterberg. 2007. “The Changing Face of Entrepreneurship in Germany.” Small Business Economics 28 (2): 205–221.

Beugelsdijk, S. 2007. “The Regional Environment and a Firm’s Innovative Performance: A Plea for a Multilevel Interactionist Approach.” Economic Geography 83 (2): 181–199.

Bingham, F. G., and C. J. Quigley. 1989. “Venture Team Application to New Product Development.” The Journal of Business and Industrial Marketing 4 (2): 49–59.

Bittektine, A., and P. Haack. 2015. “The “Macro” and the “Micro” of Legitimacy: Toward a Multilevel Theory of the Legitimacy Process.” Academy of Management Review 40 (1): 49–75.

Bodas Freitas, I. M., and N. von Tunzelmann. 2008. “Mapping Public Support for Innovation: A Comparison of Policy Alignment in the UK and France.” Research Policy 37 (9): 1446–1464.

Boschma, R. 2005. “Proximity and Innovation: A Critical Assessment.” Regional Studies 39 (1): 61–74.

Burt, R. 1992. Structural Holes: The Social Structure of Competition. Cambridge, MA: Harvard University Press.

Chen, G., J.-L. Farh, E. M. Campbell-Bush, Z. Wu, and X. Wu. 2013. “Teams as Innovative Systems: Multilevel Motivational Antecedents of Innovation in R&D Teams.” Journal of Applied Psychology 98 (6): 1018–1027.

Chollet, B., S. Brion, V. Chauvet, and M. Géraudel. 2012. “NPD Projects in Search of Top Management Support: The Role of Team Leader Social Capital.” Management 15 (1): 44–75.

Chollet, B., M. Géraudel, and C. Mothe. 2014. “Generating Business Referrals for SMEs: The Contingent Value of CEOs’ Social Capital.” Journal of Small Business Management 52 (1): 79–101. doi:10.1111/jsbm.12034.

Cieply, S. 2001. “Bridge Capital Gaps to Promote Innovation in France.” Industry and Innovation 8 (2): 159–178.

Coad, A., G. Pellegrino, and M. Savona. 2015. “Barriers to Innovation and Firm Productivity.” Economics of Innovation and New Technology, 2, 1–14.

Cooney, T. M., and W. D. Bygrave. 1997. “The Evolution of Structure and Strategy in Fast-growth Firms Founded by Entrepreneurial Teams.” Working Paper presented at the Babson Entrepreneurship Conference, Wellesley.

Cooper, A. C. 1973. “Technical Entrepreneurship: What do we Know?” R&D Management 3 (2): 59–64.

Cooper, A. C., W. C. Dunkelberg, C. Y. Woo, and W. J. Dennis. 1990. New Business in America. Washington, DC: National Federation of Independent Businesses.

Crépon, B., E. Duguet, and J. Mairessec. 1999. “Research, Innovation and Productivity: An Econometric Analysis at the Firm Level.” Economics of Innovation and New Technology 7 (2): 115–158.

Dacko, S. G., P. Stoneman, and Z. Kastrinaki. 2015. “New Product Introduction: Follower Firm Timing Behaviour.” Economics of Innovation and New Technology 24 (8): 829–853.

Danes, S. M. 2013. “Entrepreneurship Success: ‘The Lone Ranger’ Versus ‘It Takes a Village’ Approach?” Entrepreneurship Theory and Practice 3 (3): 277–286.

Davidsson, P., and J. Wiklund. 2001. “Levels of Analysis in Entrepreneurship Research: Current Research Practice and Suggestions for the Future.” Entrepreneurship Theory and Practice 25 (4): 81–99.

Delmar, F., and J. Wiklund. 2008. “The Effect of Small Business Managers’ Growth Motivation on Firm Growth: A Longitudinal Study.” Entrepreneurship Theory and Practice 32 (3): 437–457.

Di Benedetto, C. A. 1999. “Identifying the Key Success Factors in New Product Launch.” Journal of Product Innovation Management 16 (6): 530–544.

Dias, M. F. P., E. A. Pedrozo, and T. N. da Silva. 2014. “The Innovation Process as a Complex System with Multilevel Rules.” Journal of Evolutionary Economics 24 (5): 1067–1084.

Dorenbosch, L., M. L. v. Engen, and M. Verhagen. 2005. “On-the-job Innovation: The Impact of Job Design and Human Resource Management through Production Ownership.” Creativity and Innovation Management 14 (2): 129–141. doi:10.1111/j.1476-8691.2005.00333.x.

Drazin, R., and C. B. Schoonhoven. 1996. “Community, Population, and Organization Effects on Innovation: A Multilevel Perspective.” Academy of Management Journal 39 (5): 1065–1083.

Drucker, P. 1985. Innovation and Entrepreneurship: Practice and Principles. Oxford: Elsevier.

Ensley, M. D., J. W. Carland, and J. C. Carland. 1998. “The Effect of Entrepreneurial Team Skill Heterogeneity and Functional Diversity on New Venture Performance.” Journal of Business Entrepreneurship 10 (1): 1–14.

Falk, R. 2007. “Measuring the Effects of Public Support Schemes on Firms’ Innovation Activities: Survey Evidence from Austria.” Research Policy 36 (5): 665–679.

Freeman, C. 1974. The Economics of Industrial Innovation. Cambridge, MA: The MIT Press.

Gartner, W. B., K. G. Shaver, E. Gatewood, and J. A. Katz. 1994. “Finding the Entrepreneur in Entrepreneurship.” Entrepreneurship Theory and Practice 18 (3): 5–10.

van Gelderen, M., M. Brand, M. van Praag, W. Bodewes, E. Poutsma, and A. van Gils. 2008. “Explaining Entrepreneurial Intentions by means of the Theory of Planned Behavior.” Career Development International 13 (6): 538–559.
Granovetter, M. 1973. “The Strengths of Weak Ties.” *American Journal of Sociology* 78 (6): 1360–1380.

Granovetter, M. 1983. “The Strength of Weak Ties – A Network Theory Revisited.” *Sociological Theory* 1 (1): 201–233.

Gupta, A. K., P. E. Tesluk, and M. S. Taylor. 2007. “Innovation at and Across Multiple Levels of Analysis.” *Organization Science* 18 (6): 885–897.

Hall, B. H., and J. Lerner. 2010. “The Financing of R&D and Innovation.” In *Handbook of the Economics of Innovation*, edited by B. H. Hall, and N. Rosenberg, 1 vols, 609–639. North-Holland: Elsevier.

Hunsdiek, D. 1987. *Unternehmensgründung als Folgeinnovation – Struktur, Hemmnisse und Erfolgsbedingungen der Gründung industrieller innovativer Unternehmen*. Stuttgart: Poeschel Verlag.

Iacobucci, D., and S. Hoeffler. 2016. “Leveraging Social Networks to Develop Radically New Products.” *Journal of Product Innovation Management* 33 (2): 217–223.

Ireland, D. R., and J. W. Webb. 2007. “Strategic Entrepreneurship: Creating Competitive Advantage Through Streams of Innovation.” *Business Horizons* 50 (1): 59–59.

Kamm, J. B., J. C. Shuman, J. A. Seeger, and A. J. Nurick. 1990. “Entrepreneurial Teams in New Venture Creation: A Research Agenda.” *Entrepreneurship Theory and Practice* 14 (4): 7–17.

Kautonen, T., M. van Gelderen, and M. Fink. 2013. “Robustness of the Theory of Planned Behavior in Predicting Entrepreneurial Intentions and Actions.” *Entrepreneurship Theory and Practice* 39 (3): 655–674. doi:10.1111/etap.12056(3),10.1111/etap.12056.

Kautonen, T., M. van Gelderen, and E. T. Tornikoski. 2013. “Predicting Entrepreneurial Behaviour: A Test of the Theory of Planned Behaviour.” *Applied Economics* 45 (6): 697–707.

King, T., and C. Dennis. 2003. “Interviews of Deshopping Behaviour: An Analysis of Theory of Planned Behaviour.” *International Journal of Retail and Distribution Management* 31 (3): 153–163.

Klein, K. J., F. Dansereau, and R. J. Hall. 1994. “Levels Issues in Theory Development, Data Collection, and Analysis.” *Academy of Management review* 19 (2): 195–229.

Klein, K. J., H. Tosi, and A. A. Cannella. 1999. “Multilevel Theory Building: Benefits, Barriers, and New Developments.” *Academy of Management Review* 24 (2): 248–253.

Kreft, S. F., and R. S. Sobel. 2005. “Public Policy, Entrepreneurship, and Economic Freedom.” *Cato Journal* 25: 595–616.

Krueger, N. F., M. D. Reilly, and A. L. Carsrud. 2000. “Competing Models of Entrepreneurial Intentions.” *Journal of Business Venturing* 15 (5–6): 411–432.

Lanahan, L., and M. P. Feldman. 2015. “Multilevel Innovation Policy Mix: A Closer Look at State Policies that Augment the Federal SBIR Program.” *Research Policy* 44 (7): 1387–1402.

Lang, R. E., and S. P. Hornburg. 1998. “What Is Social Capital and Why Is It Important to Public Policy?” *Housing Policy Debate* 9 (1): 1–16.

Lechler, T. 2001. “Social Interaction: A Determinant of Entrepreneurial Team Venture Success.” *Small Business Economics* 16 (4): 263–278.

Lederman, D. 2010. “An international Multilevel Analysis of Product Innovation.” *Journal of International Business Studies* 41 (4): 606–619.

Leenders, R. T. A. J., and W. A. Dolfsm. 2016. “Social Networks for Innovation and New Product Development.” *Journal of Product Innovation Management* 33 (2): 123–131.

Lerner, J. 2002. “When Bureaucrats Meet Entrepreneurs: The Design of Effective Public Venture Capital Programmes.” *The Economic Journal* 112 (477): F73–F84.

Leyden, D. P., A. N. Link, and D. S. Siegel. 2014. “A Theoretical Analysis of the Role of Social Networks in Entrepreneurship.” *Research Policy* 43 (7): 1157–1163.

Lichtenberg, F. R. 1986. “Energy Prices and Induced Innovation.” *Research Policy* 15 (2): 67–75.

Lundstrom, A., and L. A. Stevenson. 2006. *Entrepreneurship Policy: Theory and Practice*. 9 Vols. New York: Springer Science & Business Media.

Mansfield, E., M. Schwartz, and S. Wagner. 1981. “Imitation Costs and Patents: An Empirical Study.” *Economic Journal* 91 (364): 907–918.

Mariani, M. 2004. “What Determines Technological Hits?: Geography Versus Firm Competencies.” *Research Policy* 33 (10): 1565–1582.

Masalu, J. R., and A. N. Astrom. 2001. “Predicting Intended and Self-Perceived Sugar Restriction among Tanzanian Students Using the Theory of Planned Behaviour.” *Journal of Health Psychology* 6 (4): 435–445.

Mathieu, J. E., and G. Chen. 2010. “The Etiology of the Multilevel Paradigm in Management Research.” *Journal of Management* 37: 610–641.

McMullan, W. E., J. J. Chrisman, and K. H. Vesper. 2002. “Lessons from Successful Innovations in Entrepreneurial Support Programming.” In *Innovation and Entrepreneurship in Western Canada: From Family Businesses to Multinationals*, edited by J. J. Chrisman, J. A. D. Holbrook, and J. H. Chua, 207–223. Calgary, AB: University of Calgary Press.

Mueller, D. C. 1976. “Information, Mobility and Profit.” *Kyklos* 29 (3): 419–448.

Nasution, H. N., F. T. Mavondo, M. J. Matanda, and N. O. Nduebisi. 2011. “Entrepreneurship: Its Relationship with Market Orientation and Learning Orientation and as Antecedents to Innovation and Customer Value.” *Industrial Marketing Management* 40 (3): 336–345.
Nemet, G. F. 2009. “Demand-Pull, Technology-Push, and Government-Led Incentives for Non-Incremental Technical Change.” Research Policy 38 (5): 700–709.

Ozgen, E., and R. A. Baron. 2007. “Social Sources of Information in Opportunity Recognition: Effects of Mentors, Industry Networks, and Professional Forums.” Journal of Business Venturing 22 (2): 174–192.

Parker, S. K., U. K. Bindl, and K. Strauss. 2010. “Making things Happen: A Model of Proactive Motivation.” Journal of Management 36: 827–856.

Powell, W. W., and J. A. Colyvas. 2008. “Microfoundations of Institutional Theory.” In Handbook of Organizational Institutionalism, edited by Royston Greenwood, Christine Oliver, Kerstin Sahlin-Andersson, and Roy Suddaby, 276–298. London: Sage Publishers.

Putnam, R. D. 1995. “Bowling Alone: America’s Declining Social Capital.” Journal of Democracy 6 (1): 65–78.

Rhodes, R. E., L. W. Jones, and K. S. Courneya. 2002. “Extending the Theory of Planned Behavior in the Exercise Domain: A Comparison of Social Support and Subjective Norm.” Research Quarterly for Exercise and Sport 73 (2): 193–199.

Robinson, W. T. 1990. “Product Innovation and Start-Up Business Market Share Performance.” Management Science 36 (10): 1279–1289.

Rosenbusch, N., J. Brinckmann, and A. Bausch. 2011. “Is Innovation Always Beneficial? A Meta-Analysis of the Relationship Between Innovation and Performance in SMEs.” Journal of Business Venturing 26 (4): 441–457.

Rousseau, D. M. 1985. “Issues of Level in Organizational Research: Multi-Level and Cross-Level Perspectives.” In Research in Organizational Behavior, edited by L. Cummings, and B. M. Staw, 1–37. Greenwich, CT: JAI Press.

Santiago, F., C. De Fuentes, G. Dutrénit, and N. Gras. 2016. “What Hinders Innovation Performance of Services and Manufacturing Firms in Mexico?” Economics of Innovation and New Technology. doi:10.1080/10438599.2016.1181297.

Schrumpeter, J. A. 1942. Capitalism, Socialism and Democracy. New York: Harper & Brothers.

Sears, G. J., and V. V. Baba. 2011. “Toward a Multistage, Multilevel Theory of Innovation.” Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration 28 (4): 357–372.

Sheeran, P. 2002. “Intention–Behaviour Relations: A Conceptual and Empirical Overview.” European Review of Social Psychology 12 (1): 1–36.

Srholec, M. 2011. “A Multilevel Analysis of Innovation in Developing Countries.” Industrial and Corporate Change 20 (6): 1539–1569.

Sutton, S. 1998. “Predicting and Explaining Intentions and Behavior: How Well Are We Doing?” Journal of Applied Social Psychology 28 (15): 1317–1338.

Thurik, A. R. 2009. “Entreprenomics: Entrepreneurship, Economic Growth and Policy.” In Entrepreneurship, Growth and Public Policy, edited by Z.J. Acs, D.B. Audretsch, and R. Strom, 219–249. Cambridge: Cambridge University Press.

Tracey, P., N. Phillips, and O. Jarvis. 2011. “Bridging Institutional Entrepreneurship and the Creation of New Organizational Forms: A Multilevel Model.” Organization Science 22 (1): 60–80.

Tsai, W., and S. Ghoshal. 1998. “Social Capital and Value Creation: The Role of Intra-Firm Networks.” Academy of Management Journal 41 (4): 464–476.

Verheul, I., S. Wennekers, D. Audretsch, and R. Thurik. 2002. “An Eclectic Theory of Entrepreneurship: Policies, Institutions and Culture.” In Entrepreneurship: Determinants and policy in a European-US comparison, 11–81. New York: Springer.

Vernon, R. 1966. “International Investment and International Trade in the Product Cycle.” Quarterly Journal of Economics 80 (2): 190–207.

Wennekers, S., L. Uhlane, and R. Thurik. 2002. “Entrepreneurship and its Conditions: A Macro Perspective.” International Journal of Entrepreneurship Education 1 (1): 25–64.

Williamson, O. E. 1975. Markets and Hierarchies, Analysis and Antitrust Implications. New York: Free Press.

Wong, P. K., Y. P. Ho, and E. Autio. 2005. “Entrepreneurship, Innovation and Economic Growth: Evidence from GEM data.” Small Business Economics 24 (3): 335–350.

Yu, B., S. Hao, D. Ahlstrom, S. Si, and D. Liang. 2014. “Entrepreneurial firms’ Network Competence, Technological Capability, and New Product Development Performance.” Asia Pacific Journal of Management 31 (3): 687–704.