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Fostering product innovation: Differences between new ventures and established firms

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ABSTRACT

This study combines insights from the entrepreneurship, competency-based view and innovation policy literature to analyze the relationships among different types of public incentives designed to foster innovation and product innovation at both new ventures and incumbent firms. To test our hypotheses, we ran a system of regression models on a cross-national sample comprised of 5238 firms from 29 European countries and found a different pattern for new ventures and incumbents. Our results suggest that support for attendance or participation in trade fairs and networking with other companies are the most effective methods of promoting product innovation for new ventures. However, for incumbent firms, we found that the most effective policies consisted of tax reduction for R&D expenditures and subsidies for acquiring buildings or other infrastructure(s) for innovation activities. This distinction prompts interesting insights related to theory development in research on entrepreneurship and innovation policy.

1. Introduction

A growing body of research addresses the effectiveness of public support instruments designed to incentivize firm innovation (e.g., Almus and Czarnitzki, 2003; Busom, 2000; Gonzalez and Pazo, 2008). This research stream largely focuses on the effects of public innovation programs on firms' R&D investments (e.g., David et al., 2000; Klette et al., 2000; Lach, 2002; Wallsten, 2000) and, in particular, on whether public R&D funding has a "crowding-out" or substitution effect on private R&D investment (e.g., Aerts and Schmidt, 2008; Almus and Czarnitzki, 2003; Czarnitzki and Fier, 2002; Czarnitzki and Lopes-Bento, 2013; Yang et al., 2012). Although there are exceptions (e.g., Cappelen et al., 2012; Czarnitzki et al., 2011; Huergo and Moreno, 2014), studies have not typically examined the effectiveness of public R&D programs using output measures such as patents and product innovations; as a consequence, little remains known about how effective public policy instruments are in this regard. In addition, although policy makers have employed a variety of innovation policy instruments, a vast majority of this literature focuses narrowly on one type of R&D program. In particular, there is a need for studies that compare the effectiveness of different types of public instruments; thus, the specific impact of such instruments on firm innovation output remains unclear (e.g., Blanes and Busom, 2004; Woolley and Rottner, 2008). For example, many previous studies use the Community Innovation Survey (e.g., Aerts and Schmidt, 2008), which contains limited information in this regard.

In this paper, we focus on an analysis of the differential effect of a number of public funding schemes on the innovation output of new ventures and incumbent firms. This approach is relevant because governments employ economic rationales to support innovative new ventures based on the reasoning that new ventures generate the most new jobs in developed economies and play a significant role in the emergence of new economic sectors (e.g., Sine and Lee, 2009). New ventures also improve resource allocation in the economy by identifying factors that established players may be blind to, such as when goods or services become unexpectedly valuable or feasible for consumers (Ireland et al., 2003). Moreover, Arrow (1962) and Nelson (1959) indicated that innovations by new ventures frequently generate positive external effects that cannot be internalized by the entrepreneurs.

Public support can make a difference in a firm's early stages (Norrman, 2008). New ventures frequently fail to develop innovative ideas because they lack the appropriate assets and capabilities (Arthurs and Busenitz, 2006; Norrman and Klofsten, 2009). We contend that because new ventures may find particularly difficult to deploy, develop and combine their innovative capabilities (Alvarez and Busenitz, 2001), they can also get the maximum benefit from public instruments specifically intended to facilitate the development of such capabilities. For example, instruments intended to increase a

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firm's contact networks may be particularly beneficial because they assist new ventures in gaining access to valuable knowledge outside of company boundaries, which is one of the most important assets involved in product innovation (Chesbrough, 2003). Although public administrations may support innovation with many different types of instruments, the most widely used in recent years in Europe include subsidies and grants, tax incentives, financing, funding for networking with companies and research institutes, and facilitating information on market conditions (COM, 2009).

This paper thus tackles which innovation policy instruments are better at fostering product innovation in new ventures compared with incumbents. In seeking to answer this research question, this paper makes two theoretical contributions: first, we provide new theoretical insights into the notion that innovation policy instruments might have different effects on new ventures than on incumbent firms. Our current understanding of the dissimilarities among policy instruments is weak. An important contribution of this paper is its focus on identifying the differences among the most common innovation policy instruments and how these instruments affect product innovation in both new ventures and incumbent firms. Second, this research links the competency-based view with entrepreneurship and innovation policy literatures to suggest that these differences involve the ability of innovation instruments to provide – or foster the development of – key competitive capabilities to firms.

New ventures and incumbents are the result of a combination of a diverse bundle of capabilities and competences. Consequently, some innovation policy instruments will better fit the characteristics of new ventures, whereas other instruments will correspond better to the specificities of incumbent firms. Specifically, we suggest that funding for marketing and networking activities related to innovation are more beneficial for new ventures, whereas grants and tax reductions are more advantageous for incumbents. By exploring the effects' variations on new ventures and incumbents, we provide new perspectives and possible explanations for the inconclusive results of previous studies regarding incentives' general effects on innovation (e.g., Cappelen et al., 2012).

Studying the differentiated effect of public programs to promote innovation on entrepreneurial ventures is of practical significance for policy makers who might otherwise fail to achieve their goals by using the wrong instrument when attempting to support innovative entrepreneurs. The conclusions obtained may help identify the unintended effects of certain programs and to interpret the observed outcomes correctly. In addition, this line of research is also valuable for managerial practice because it provides guidance concerning which public programs are more appropriate for new ventures and incumbents.

Studying the antecedents of product innovation in new ventures is important because it represents a key dimension of entrepreneurship. For example, typical new venture competences, such as flexibility, the ability to recognize entrepreneurial opportunities or entrepreneurial alertness (Burg et al., 2012; Marion et al., 2012), may be considered complementary assets for new product development. New products may enhance firm performance for both new ventures and incumbents. However, these products are even more important for the survival of new ventures (Marion et al., 2012; Radas and Bozic, 2009) because they constitute a means of developing other relevant competitive capabilities (Danneels, 2002), of gaining market share (Aspelund et al., 2005) and of earning revenues, which is particularly critical for new firms (Kleinschmidt and Cooper, 1991). New ventures are more dependent on new product development because all their products are new (Schoonhoven et al., 1990), to an extent. Conversely, incumbents can opt to cash out on their already current successful products.

We empirically analyze these issues using a cross-national sample comprised of 5238 firms (new ventures and incumbents) from 29 European countries. By considering different institutional contexts, we provide a framework that governments and managers can use to design or adopt effective and specific public innovation incentive portfolios aimed at both new ventures and established firms.

2. Theoretical framework

2.1. A competency-based view of new ventures' ability to innovate

The entrepreneurship literature has examined how new ventures experience specific restrictions of resources and capabilities that may limit their strategic choices when competing with established firms (Aspelund et al., 2005; Bruton and Rubanik, 2002). This initial limited endowment of assets and capabilities is frequently called "the liability of newness" because it hinders new ventures in the development of various competences and in their ability to compete and prosper (Bruton and Rubanik, 2002; Stinchcombe, 1965). We posit that the competency-based view may add theoretical insight into the understanding of how innovation policy instruments can help new ventures overcome the liability of newness and augment their abilities with respect to launching new products.

The competency-based view conceptualizes firms as heterogeneous configurations of competences and capabilities that determine how and whether value-creating strategies are implemented and competitive advantages realized (e.g., Prahalad and Hamel, 1990; Walsh and Linton, 2001). This perspective links a firm's internal environment to its organizational competences to predict economic performance. Organizational competences are those specific assets, knowledge, skills and capabilities embedded in the organizational structure and processes that enable the organization to develop, choose and implement value-enhancing strategies (Lado and Wilson, 1994), such as product innovation. Companies' abilities to integrate, build and reconfigure corporate-wide technologies and capabilities into core competences are difficult to imitate and provides superior value to customers (Lado and Wilson, 1994; Prahalad and Hamel, 1990).

New ventures and established companies differ in the configurations of their capabilities and competences, which impacts new product development competences. New ventures are characterized by important entrepreneurship-related capabilities, such as flexibility, creativity, alertness and the ability to recognize opportunities (Burg et al., 2012; Marion et al., 2012). Entrepreneurial capabilities confer new ventures with the ability to see what established players do not, such as identifying when goods or services become unexpectedly valuable to consumers or feasible to produce (Ireland et al., 2003). However, entrepreneurship research also shows that new ventures frequently lack the internal assets necessary to develop new products, such as experienced personnel (Schoonhoven et al., 1990), market and technological knowledge (Gans and Stern, 2003), marketing skills (Marion et al., 2012), social capital (Aspelund et al., 2005; Baker and Nelson, 2005), production equipment (Schoonhoven et al., 1990) and funding (Burke et al., 2010; Marion et al., 2012). In general, new ventures lack the organizational routines, skills and best practices that incumbents possess and that enable them to develop certain types of competitive advantages (Bruton and Rubanik, 2002). Moreover new ventures cannot afford to experiment with a variety of new ideas to the same extent as incumbents (Burg et al., 2012), and they do not possess sufficient resources to absorb product failure (Marion et al., 2012). Therefore, new ventures must cope with their initial limited endowment of assets and lack of experience and time all of them required to develop their innovation capabilities.

Based on the different endowments that characterize new ventures and established companies with respect to developing product innovations (i.e., which assets and capabilities they currently possess and which must be developed or acquired), public instruments designed to encourage innovation may be expected to