

The antecedents of SME innovativeness in an emerging transition economy

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Abstract

Understanding forces that contribute to the success of small and medium enterprises (SMEs) is very important, as these enterprises are vital for both developed and developing economies. Since innovativeness is among the most important means through which such businesses contribute to economic growth, numerous research studies were conducted to determine which factors positively impact SME's innovative efforts. This is an even more important issue for developing economies, where SMEs are often faced with inadequate infrastructure. Since there is a lack of studies on SME innovation in developing economies, often policy in such countries is based on findings from developed countries.

In this paper, we explore factors that drive innovation activities in SMEs in a small emerging transition economy (Croatia), and compare it with findings from developed economies. In addition to factors used in most previous studies, we consider market scope, firm's market orientation and presence of strategic, managerial and marketing changes. We find that most factors that were found to be important in developed economies are important in developing economies as well. In addition to that, market scope was discovered to be a very important factor in both product and process innovation. Implementing corporate changes has positive impact on radical product innovation while implementing new organizational structures has positive effect on incremental innovation. When investigating determinants of product innovation, we distinguish new products of low novelty from new products of high novelty, and show that they need to be supported by different policies. To gain additional insight in innovation efforts, we examine obstacles to innovation. We find that firms that report facing obstacles are not less likely to innovate less, which suggests that innovators are able to work around obstacles without damaging effects to innovation. This study is based on a postal survey of 448 SMEs in Croatia, which was performed in 2004.

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1. Introduction

Small and medium enterprises (SMEs in further text) are considered to be the engine of economic growth and employment. One of the primary means through which SMEs are expected to accomplish this task is by developing and commercializing innovations. Innovation may be even more important for SMEs than for large firms: some authors (Fritz, 1989; Sweeney, 1983) deem that SMEs use product innovations as a means to becoming competitive to a higher extent than their large counterparts. In this

paper by innovation, we mean a new or significantly improved product (good or service) introduced to the market as well as new or significantly improved process introduced within the enterprise. We investigate both incremental and radical product innovations. Incremental innovation refers to product line extensions or modifications of existing platforms and products, while by radical innovations we mean products that are new to the market as well as for the company.

Because of the importance of the SME sector in creating economic growth, both developed and developing countries are very interested in finding ways to stimulate SMEs in realizing innovations. But in which ways can SMEs be helped to innovate? What is the best way for policy makers to encourage innovation? Many efforts have been made in

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that direction during the last few decades (Keizer et al., 2002). If we could understand how SMEs innovate and what propels them to innovate, answering these questions would be much easier. Interestingly, despite the strong commitment to supporting SMEs, the actual process by which such firms undertake innovative activity remains unclear (Hoffman et al., 1998). Therefore, the first step in devising the right incentives to support innovation in SMEs is an investigation into which factors impact the innovation efforts of SMEs and in which way (Keizer et al., 2002).

Since SMEs are integrated in the region in which they exist to much larger extent than large firms, the determinants of innovation for SMEs depend on specificities of that region (Kaufmann and Todtling, 2002). For example, Keizer et al. (2002) show that using innovation subsidies, having links with knowledge centers, and the percentage of turnover invested in R&D are the most important factors for innovation in SMEs in Netherlands (more precisely, in the Brabant region), which has direct impact on their policy recommendations. However, basing policy measures on these results may be ineffective for other countries because the same factors may not be as crucial for another region and another economy. For example, Kaufmann and Todtling (2002) in their investigation of SMEs in Upper Austria show that support measures that are not in tune with real situation “on the ground” can be rather ineffective.

Most published research studies, which deal with determining factors significant for SME innovation, come from developed economies. As noted in Hadjimanolis (1999) “The study of innovation, including the obstacles to its successful implementation, while relatively well researched in the industrialized countries is rather neglected in less-developed countries.” It is not known to which extent the findings from developed countries can be generalized to developing economies. For example, in the context of technology management, Cetindamar et al. (2009) show the importance of questioning the appropriateness of US-based management theories with regard to their use in developing countries. Yet policy makers in developing countries, faced with the task of crafting regulations to support SME innovation, often draw upon the stock of knowledge from investigation of SMEs in developed economies. So an important issue for policy makers would be to find out to which extent they can rely on these findings. In this paper, we shed some light on this question by investigating factors that significantly impact innovation in SMEs in Croatia, a small developing economy. In investigating these factors, we build upon the existing field of research about innovation determinants in SMEs. Our data come from the Community Innovation Study performed in 2004 and covers period from 2001 to 2003.

Following Keizer et al. (2002), we define a list of variables and then proceed to examine their significance for innovation in Croatian SMEs. We take relevant firm characteristics (as is usual in the literature), but in addition

we include some new variables. We include (1) market scope, (2) presence of organizational and strategic changes in the firm and (3) market orientation of the firm. To the authors’ knowledge, except for market orientation in Salavou and Lioukas (2003) study of Greek SMEs, the three mentioned variables were not considered in this context before. We include market orientation because it was shown to have strong link with innovation (Kohli and Jaworski, 1990; Deshpandé et al., 1993; Slater and Narver, 1994; Atuahene-Gima, 1996; Langerak et al., 2004). We consider organizational and strategic changes because willingness and ability to transform is important for firms in developing economies which need to improve in order to compete and survive. As Hadjimanolis (1999) points out “While firms in less-developed countries, in the recent past, were operating within a relatively protected environment, they must now face the global forces of competition. The globalization of the markets requires the adaptation of firms in order to survive.” We also investigate the effect of market scope, i.e. firm’s dominant market on innovation (dominant market can be local, national or international), as this is an important issue for a small economy. Since innovating with incremental innovations is different than innovating with radical innovations in terms of factors (Balachandra and Friar, 1997) and skills (Freel, 2005) required, in this paper we distinguish new products of low novelty (incremental innovations) from new products of high novelty (radical innovations). In this respect, our approach is similar to Amara et al. (2008) who considered both the innovation and novelty of innovation in their study of learning and innovation in SMEs.

By exploring determinants of innovation, we gain knowledge about what propels an enterprise to innovate. This picture is not complete without the investigation of hampering factors that prevent firms from innovating. This is why in this paper, we also examine obstacles to innovation.

2. Theoretical background and literature review

Stimulating innovation in SMEs is a very important matter for an economy; a number of studies were conducted recently with the goal to discover which factors contribute to innovation efforts by SMEs (Keizer et al., 2002). Following Keizer et al. (2002), the factors that have effect on innovation can be divided into internal and external, where internal variables refer to characteristics and policies of SMEs while external variables refer to opportunities that SME can seize from its environment.

2.1. Internal factors bearing impact on innovation

Among the internal factors shown to be the most important determinants of innovative activity are high incidence of qualified scientists and engineers, and strong leadership provided by a highly educated director or founder (Hoffman et al., 1998; Le Blanc et al., 1997), although some

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