

1 Introduction

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“Innovation is the central issue in economic prosperity”

MICHAEL PORTER (1947–)

This chapter at a glance

- Innovation and Small Business
- Small Business Innovation Networks
- Organisation of the Book

Innovation and Small Business

Small businesses are making an important contribution to the development of technological innovation within industries at regional and national levels. In fact, the European Commission (EC, 1993, 1994, 2007) has reported that this sector probably holds the key to the future renewal and growth of Europe. According to the EC small businesses are enterprises employing fewer than fifty people, with an annual turnover/balance sheet total not exceeding ten million euro (EC, 2005). Innovation can be defined as either the ‘application of a new method or device’ (Collins, 1997) or the ‘successful exploitation’ of a new idea (Thomas and Rhisiart, 2000). According to Baregheh et al. (2009) innovation is ‘the multi-stage process whereby organisations transform ideas into new/improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace’.

Whereas the advantages of small businesses in innovation are largely associated with flexibility, dynamism and responsiveness (Rothwell, 1994), the disadvantages are often related to a lack of financial and technological resources. This can lead to problems in their capability to absorb and diffuse technology within industrial sectors. This is a major problem in the development of the small business sector in many UK regions, especially as external inputs are of greater importance for the small firm than for the large firm during the innovation process (Allen et al., 1983). With the different levels of regional industrial development within Europe there will also be variations in the importance of innovation support to the small business (Saxenian, 1991). This inequality can make access to knowledge, technology and human resources more difficult, and will affect not only the development of small businesses within regions, but also the efficiency and effectiveness of the regional innovation system. Regional policy needs to respond to these variations, and develop innovation support networks that are sensitive to the needs of small business.

Uyarra (2005) has investigated theoretical issues and empirical evidence of regional innovation strategies with regard to knowledge, diversity and regional innovation policies. The development of concepts concerning regional innovation has led to the new regionalist literature (Lovering, 1999) and to models of territorial innovation (Moulaert and Sekia, 1999). Such concepts include regional innovation systems, the triple helix, innovative milieu, technological districts and learning regions (Uyarra, 2005). Here there are concerns on the use of concepts including regional innovation systems to study declining economies, rural areas and peripheral regions (Doloreux, 2002; Asheim and Isaksen, 2002). It is concluded that it is rare to identify the requisite aspects for a regional system of innovation (Evangelista et al, 2002). In terms of increasing globalisation it appears sensible for small businesses to use support for their own innovation goals (Cooke, 2001) whether or not the support comes from outside or within a region (Uyarra, 2005).

Small Business Innovation Networks

It has been shown that networking is a time-consuming and demanding activity with opportunity costs for small businesses with limited resources (Rothwell, 1994). Accordingly, there is a need to enable small businesses to overcome innovation-related disadvantages associated with networking. Since this has become a key feature of industrial innovation this increases the small businesses innovatory capabilities. Negative and positive aspects of networks need to be noted since, for example, ICT systems carry dangers as well as opportunities for small businesses, especially where industry-wide operating standards lock them into large networks.

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In innovation support networks technology equates with knowledge. Within university-industry link systems a multiplicity of technology transfer mechanisms are apparent, which appear to be well integrated (Cheese, 1993). Chambers of commerce who deliver innovative support to small businesses complement the higher education system. Small businesses need to co-operate through network groups to share learning and training resources and good practice. It is clear that chambers of commerce can provide support by acting as the prime entry point into the local innovation support network, by offering basic consultancy and using knowledge of the network to direct businesses, as necessary, to the agent, such as an independent research centre or a higher education institution (Cheese, 1993). A non-trivial source of the exchange of information on problems of common interest are personal contacts within an informal network (Desforges, 1985). A problem that is particularly acute for small businesses is co-operation since they tend not to be well integrated into academic/government/company networks.

A network of co-operation partners will operate to form a 'focal point' of business innovation (Martinussen, 1992). The hub of the process needs good organisation and a network of co-operation partners involving business innovation centres, technology transfer companies, science parks, and venture capital companies. These will be responsible for developing technology from a business idea to establishment of a new firm.

Organisation of the Book

This volume contains chapters concerning the innovation process and small business and considers invention, innovation and small business, research and development and the small firm, technology diffusion, clusters and knowledge flows, higher education spin-offs, global start-ups and business development and innovation performance indicators.

Chapter 2: Invention, Innovation and Small Business

This opening chapter introduces the distinction between invention and innovation and the interrelationships between invention, innovation and small business. The chapter investigates inventive activity in the modern technological setting of the 21st Century and reports on the barriers, motivations and drivers to inventors becoming entrepreneurs in exploiting their ideas and taking them to market.

Chapter 3: Research and Development and the Small Firm

The chapter investigates R&D in terms of spillovers and technology absorption, the measurement of R&D activity and these activities in small businesses. In relation to these aspects the chapter considers R&D activities in businesses according to demand, organisation, innovation, imitation and diffusion, complementary assets, networking and government influence on business R&D.

Chapter 4: Technology Diffusion

This chapter considers technology diffusion, technology transfer networks, a model of technology diffusion, “best practice” and implications for policy. Technology diffusion in the form of new or improved technology, the transmission of knowledge or technical expertise is investigated. This involves spillovers through formal and informal networks enabling learning by interacting and an absorptive capacity to assimilate new technology developed elsewhere. Implications for policy relevant to technology and entrepreneurship arising from the model are also investigated and conclusions are drawn.

Chapter 5: Clusters and Knowledge Flows

Clusters and knowledge flows are explored together with mobility within clusters followed by the example of the Inkjet Printing Cluster in the Cambridge area. Labour mobility and knowledge spillovers in clusters are interrelated phenomena with knowledge embodied in entrepreneurs and specialised workers can spill over from one enterprise to another through labour mobility and direct revelation (Guarino and Tedeschi, 2006). It is found that knowledge diffused by the mobility of employees contributes to a cluster performing better through the generation of spinouts and the accumulation of knowledge (Dahl, 2002).

Chapter 6: Higher Education Spin-offs

Academic entrepreneurs, academic spin-offs and the economic importance of academic spin-offs are explored in this chapter. A number of factors will influence the ability to establish and develop spin-offs. Some of these arise from the priorities and views of university researchers and characteristics of academic culture. Others are from the wider business environment and the ability of the academic-industry infrastructure to promote and support the development of spin-offs. Supply-side factors will include the business background, skills, relevant experience and access to finance, of the founders/co-founders of spin-offs. Whereas, the demand-side factors will include unemployment in the region, demand for the services provided by the spin-offs, the local industry structure (whether conducive to the formation of spin-offs), and the level of economic activity in the local economy.

Chapter 7: Global Start-ups and business development

This chapter examines the characteristics of global start-ups and relates case studies of these small businesses. By describing, understanding and interpreting the reasons behind the emergence of global start-ups it is possible to gain insight into their needs for business support. Six global start-up case studies are described, which were investigated, and these reveal different characteristics and aspects for business development. Perhaps the main limitation is that most of the companies are in the early stage of business development, but it is envisaged that this work will be developed into a longitudinal study which will show interesting evolutionary dynamics in future years.

Chapter 8: Innovation Performance Indicators

Innovation performance indicators and small firms are discussed together with an examination of innovation performance, a framework for measuring innovation performance and regional innovation performance. The extant concepts and research the chapter builds on is the recent work into innovation performance indicators, at national and regional levels. A framework for selecting and placing indicators in three performance areas is explored according to i) basic research and the production of new knowledge; ii) links between public and private research and iii) levels of industrial innovation (OECD, 2001). Through categorisation and weighting, indicators are determined to measure innovation performance.

Recommended Reading

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