9 Conclusions

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"Creativity is thinking up new things. Innovation is doing new things."
THEODORE LEVITT (1925–2006)

Introduction

It is possible to relate the body of knowledge encompassed within technological innovation theory to an understanding of the processes involved in small business innovation support networks through the dichotomy of near and supra-national technology transfer networks. Near technology transfer networks operate at regional level and involve industrial clusters with overarching innovation policies guided by local and regional government bodies.

Invention, Innovation and Small Business

The question that arises is whether policy makers should leave inventors alone and let market forces take effect or should they intervene? On previous evidence (Gornall and Thomas, 2001) it appears that they should intervene due to the specific requirements of many individual inventors involved with small businesses and the need to provide them with support (Meyer, 2005). This is a problem that appears to be the case in most economies. The harnessing of peripheral individual talent through a 'coupling' process can yield unrealised benefits to the economic development of regions and countries. Moreover, strategies will need to be formulated to release and realise the significant benefits of this indigenous talent but it is evident that larger studies should be undertaken in order to shape future political strategies of our knowledge economies.

Research and Development and the Small Firm

It has been recognised that the technological development of small businesses is influenced by various sources of know-how including R&D, industry contacts, learning, ICT and publications. R&D is therefore a major source for technological progress in the modern economy. A principal justification for support of R&D policy activities will rest upon the positive spillovers which are the positive externalities from R&D (Revesz and Boldeman, 2006). Studies undertaken in the literature have revealed the major concepts involved in the study of R&D in industrial sectors. In particular the importance of R&D in enhancing technology absorption is considered important for small businesses.

Technology Diffusion

Although the variables involved in models applicable to technology diffusion into small businesses appear to be the most important influences on diffusion there will also be a multiplicity of influences that accelerate or alleviate the rate of diffusion. This spectrum of influences on diffusion rates broadens when considering technology transfer among various different small businesses in multi-tiered networks. In these small firms' sociological forces have an important role to play. Rate of adoption of a new technology will be faster if it is compatible with previous experience and present normative values of small businesses. Other influences on speed of diffusion include complexity of new technology and random influences involved with clusters and networks.

Clusters and Knowledge Flows

Within a cluster a number of mechanisms for the transfer of knowledge have been identified by Keeble and Wilkinson (1999) and these include new firms, spin-offs from firms, universities and public sector research laboratories, interactions between the makers and users of capital equipment, interactions between customers and suppliers, and inter-firm mobility of the labour in the cluster. Relationships and mechanisms create flows within the cluster and the knowledge transfer processes result in cumulative know-how that is external to firms remaining internal to the cluster (Oliver and Porta, 2006). Empirical evidence has shown how knowledge sustainability (expenditure on education), regional economic outputs (earnings and labour productivity), knowledge capital (patents and R&D) and human capital (high tech employment) have influenced regional competitiveness (Porter, 1990). Economic productive activities are enabled by tacit knowledge, the contribution of local small businesses and infrastructures such as research institutes and universities, by employee exchange and the mobilisation of human capital resources (Oliver and Porta, 2006).

Higher Education Spin-offs

Spin-off enterprises are companies whose activities are based on technologies developed as a result of academic research programmes. Such companies are significant in a local economic development context, in that they are likely to lead to the commercialisation of research in fairly close proximity to the Higher Education Institution (HEI) involved. This has benefit for both the local economy and the HEI itself. Risks and problems in forming and growing spin-off companies must not be underestimated, and it is important to recognise that they represent a significant route to the commercial exploitation of new ideas and technologies. In appropriate circumstances they can make an important contribution to regional and national prosperity. A critical challenge for HEIs is to ensure that where a spin-off is an appropriate vehicle, it is properly managed and there are structures to enable its true potential to be realised.

Global Start-ups

A form of Higher Education spin-off is a global start-up which has developed from an academic institution. Here it is particularly interesting that in the discussion on international, cross-cultural and comparative academic research about entrepreneurs, including corporate "intrapreneurs" and founders of domestic new ventures, it appears that global start-ups play a significant role. An important aspect of this is the regional infrastructure for Higher Education global start-ups. Politics can change the regional potential to support global start-ups, both in terms of how the system is organised and how clients experience the system if appropriate support is provided to these types of companies which need to take into account indicators of their innovation performance.

Innovation Performance Indicators

Through the development of innovation performance indicators it is possible to develop more advanced and accurate measures of innovation activity for small businesses to ensure better benchmarking of progress for economies. Although innovation performance indicators have many methodological shortcomings the construction of consistent and comparable indicators are important for the analysis of small businesses policy in countries. Through following a methodology that is recognised at an international level it is believed that this will lead to robust results. This is an appropriate response to the current knowledge gap regarding the measurement of innovative activity, since it is possible to investigate the difficult issues surrounding the identification and accurate measurement of data on innovation.

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