Abstract

This dissertation explores systems of innovation in order to better understand how the Dutch system of innovation shapes competitive advantage through SMEs. The study focuses in particular on national innovation systems (NIS) and regional systems of innovation (RIS). NIS specifically focuses on how a system of innovation shapes competitive advantage, while the RIS approach emphasizes economic and social interactions between agents. The systems of innovation literature mainly builds on the critique on clusters, which argues that firms differ widely in terms of size, power, and absorptive capacity, while the role of geographical proximity in patterns of knowledge exchange has tended to be overemphasized. In the cluster literature, firm performance and competitiveness were highlighted. The NIS and RIS therefore took a different approach by focusing mainly on the exploration stage of innovation. In this form, however, the concept has become so broadly defined that researchers increasingly argue that it stands in the way of a finer grained analysis. Various researchers now argue that the focus should be on the innovation processes in an NIS/RIS context rather than on a system’s activities, whereby the national, regional and sectoral systems can have meaning as a ‘focusing device’ for analysing innovation and regional advantage.

In the Netherlands, the Innovation Platform has developed several policy initiatives that are heavily grounded in the RIS approach. By specifically focusing on innovation processes of SMEs that participated in one of those RIS-inspired policies of the Innovation Platform, this dissertation aims to be better able to assess how RIS can contribute to regional advantage. The dissertation introduces a guiding model to help understand innovation processes in SMEs that are considered to be particularly dependent on external (information) sources for knowledge acquisition. The voucher subsidy programme, the RIS-inspired policy of the Innovation Platform that is the focus point of this study, has therefore proven its success especially for innovative micro- and small firms without sufficient internal resources. This study shows that a lack of financial and human capital resources is indeed a serious problem for micro and small firm. For this reason, in the RIS literature, tacit knowledge, labour capabilities, and creativity of firms are also considered key competitiveness factors. This study shows that SMEs do indeed rely on a complex set of competences and capabilities to use available resources. Further, the study supports the idea that creativity in innovative SMEs requires networks and formal or informal interaction, leading to interactive learning between SMEs. This study finds that, in particular, SMEs’ knowledge links to
universities seem to stimulate more advanced innovations, especially in combination with international network contacts. Larger firms, obviously, have fewer barriers for interacting with universities, but innovative SMEs also seem very well able to find their way to universities for R&D purposes. Most importantly, what this study shows is that there appear to be two groups of successful SMEs: those that are successful in the development of radical innovation; and those that have a high sales performance. A major challenge for policy makers lies in bringing both these types of SMEs together, so they can share sources and networks.

From an NIS/RIS perspective, the results of this dissertation therefore warn against a too critical approach towards the cluster literature of Porter. Thus, the strength of both approaches might well be in their combination. In the RIS literature, the greater emphasis on networking, social and institutional interactions, and associated collective learning that is analysed within an evolutionary framework, appears to focus specifically on the exploration phase of the innovation process, rather than the exploration phase. In this way, it distinguishes itself from the competitiveness of the cluster approach. However, in reality, firms need to be successful in both stages in order to actually be able to reap the benefits of their innovativeness. Future RIS research should also focus more extensively on networking, social and institutional interactions, and associated collective learning in the exploration stage of the innovation process of firms. This study shows that these two stages: namely, exploration and exploitation, do not necessarily rely on similar sources and networks.