9 STRUCTURAL COUPLINGS OF YOUNG KNOWLEDGE-INTENSIVE BUSINESS SERVICE FIRMS IN A PUBLIC-DRIVEN REGIONAL INNOVATION SYSTEM

The Case of Bremen, Germany*

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1. Introduction

The knowledge economy presents an essential challenge for regional innovation systems, which are modernizing or renewing themselves. The main focus in knowledge-driven innovation systems is on the organizational change in innovation activities as well as on general structural shifts within the system, which are linked to the ever intensifying international division of labor and growing knowledge basis of economic and industrial activities (Miles, 2003). Closely bound to these structural shifts are new forms of knowledge generation, knowledge transfer, and the activation of new, respectively unexploited technology and knowledge potentials. At least in mature economies, structural change shows service-oriented traits and is characterized by knowledge orientation and an increasing role of new firm formation in knowledge-intensive business services (KIBS). Thus, in the last decades a dynamic development can be observed in this economic field (cf. Kerst, 1997). These developments combine several sub-trends – shifts in the management philosophy (e.g. trends towards 'leaner' firms, outsourcing of functions, and towards a greater emphasis on customer relationships), structural shifts in the composition of demand, and unevenness in the application of new technologies to product and process innovation (Illeris, 1996; Miles, 2000; Tether, 2003).

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The dynamics in these higher-quality service segments is often generated via the demand of existing enterprises for new, advanced, knowledge-intensive, and specialized services. For instance, manufacturing firms increasingly rely on external services which can provide a number of support functions in the process of adapting to structural change which include: increasing flexibility, intensifying specialization, product differentiation tailor-made to customer needs, concentration on core activities, internal reorganization, cost cutting, quality improvements, better access to information capabilities, expert knowledge or new technologies, as well as the search for new markets. Immaterial elements and inputs to the value added chain are involved here, as already described by Klodt et al. (1997). These inputs from the service sector are gaining more and more significance compared to material investments.

From a regional point of view, policy-makers have discovered KIBS as an essential and system-bridging actor group, which could actively contribute to regional development and change (Almus et al., 2001; Meyer-Krahmer and Lay, 2001; Wood, 2002). Assuming that the more the public sector is able to support KIBS formation through the promotion of spin-offs from public research organizations or through the provision of supportive framework conditions like public funding, the stronger it can govern the structural ties and, thus, the regional integration of KIBS and their contribution to the regional economy. In this respect, it appears important to shed some light on the aspect of knowledge transfer, spatial proximity (e.g. the significance of the regional environment for new KIBS formation) and the early development process of KIBS. Various differences concerning the importance of proximity or the necessity of a geographical co-location to potential knowledge-providers can be assumed in regard to the very heterogeneous group of firms within the KIBS sector (Czarnitzki and Spielkamp, 2003).

Most of the research dealing with KIBS originates predominantly in business administration or economics. Studies focus, for example, on innovation activities in the service sector in general (Miles et al., 1995), on the inter-relationships between SMEs or the manufacturing sector and KIBS (Muller, 2001), and on the importance of KIBS under aspects of regional economic development and structural change (Fritsch and Mueller, 2004; Muller and Zenker, 2001). Other studies analyzed, for instance, start-up intensities, sectoral structures, and regional distribution of newly founded KIBS (Almus et al., 2001, Santarelli and Piergiovanni, 1995). Even though important factors with regard to start-up, survival, and growth processes have been identified by generating large statistical data (Fritsch and Grotz, 2002; Fritsch and Niese, 2004), firm-level investigations have been the exception.

This contribution is designed to close a gap in existing research. It is part of a larger project analyzing "the foundation of knowledge-intensive business services in the context of industrial cores," jointly carried out by Fraunhofer Institute for Systems and Innovation Research (Karlsruhe) and the Institute of Applied Economic Research (Tübingen), funded by the German Research