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A model of a firm's innovation and growth in a Knowledge based - economy.

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**Abstract**

Knowledge- based economies use knowledge as an input of production to produce knowledge intensive products and services. In such economies a firm's growth crucially depends on knowledge accumulation, technical change and the resulting innovation activities. To achieve sustained growth, a firm must keep on innovating. A firm's core competence and its refinement and development over time play a crucial role in a firm's innovation activities and its growth. In this paper, a conceptual framework of a firm's innovation and growth in knowledge –based economy is presented. This framework is based on a firm's core competence and its development over time within a firms' cluster .This model is empirically estimated and evaluated, in a pilot study, via a data set from a manufacturing cluster of 128 firms operating in the North East England. The empirical results provide some support for the proposed framework. In particular, it is found that the conditional probability that a firm undertakes R&D activity to innovate in such a cluster of firms is over 70%.

**Key words:** Knowledge economy, Core competence, R&D activities, Cluster formation, Innovation policy.