

Foreword

Innovation networks are a complex organisation form of industrial R&D which plays a prominent role in the generation and diffusion of new knowledge. Economists widely ignored innovation networks and claimed that the phenomenon must be transitory only, a consequence of disruptive technical change that will disappear. Instead of trying to understand the dynamics of knowledge development, the whole phenomenon was reduced to the discussion of spillover effects which are likely to distort the incentives of firm actors to invest costly resources in research and development activities.

Because of the sheer existence of this cooperative form of industrial research, innovation networks are considered an expression of exceptional circumstances. Innovation networks might allow established firms to get access to relevant but distant knowledge introduced by innovative start-ups. After the creation of own competences in the respective fields, the innovation networks disappear and with them the small start-up companies. If this is not the case and the established companies are not able to integrate the new competences, the start-ups will become the established firms of the future, replacing the old establishment.

Economic development has shown that traditional economists were barking up the wrong tree: In many industries, innovation networks are not a transitory but a permanent phenomenon which connect heterogeneous firms in their attempts to improve the knowledge base. It is the merit of Tobias Buchmann that he addresses this important topic not only from a new theoretical perspective embedded in Neo-Schumpeterian economics but also complementing his theoretical reasoning with an important and so far rare empirical study.

In his thesis, he has outlined a conceptual framework for capturing network evolution patterns of interfirm innovation networks and analysed the dynamic evolution of an R&D network in the German automotive industry. In particular, he tested a number of hypotheses with respect to the drivers of evolutionary change processes of a network that are based on subsidised R&D projects in a recent period encompassing ten years.

For this purpose, he employed a stochastic actor-based model in order to estimate the impact of network change drivers. In his analysis, which can be characterized as a pilot study in understanding network dynamics he is able to derive interesting results. For example, he showed that structural positions of firms as well as actor covariates and dyadic covariates are determinants of the evolution process.

Tobias Buchmann's result are likely to meet a large interest in the field of modern innovation research. The results are relevant to support the strategic considerations of firms involved in networks as well as of policy makers in the field of innovation policies.

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