

The University - Industry- Government Relationship of Technological Innovator Networks in Different National Innovation Systems: A Comparative Case Study

Ju Liu and Angathevar Baskaran

Abstract

A comparative case study on technological innovator network (TIN) of two manufacturing companies located in China and Switzerland is undertaken by employing the concepts of national system of innovation (NSI), the Triple Helix (TH) model, and the social network approach as analytical frames. The research attempts to reveal the pattern and process of social interaction within and across organizational boundaries in different national contexts by exploring the relation between the industry, the universities and government in the TIN of these two companies. It tries to understand how the specific characteristics of NSI and different national context in China and Switzerland respectively shaped the TH relationship in the TIN of the case companies.

We found that the Government paradoxically plays a peripheral role in the Chinese TIN, but a core role in the Swiss TIN. The way Governments interact with the universities and industries in these two cases is also context-specific and different. We found that in the Chinese case the TH relation is unbalanced in terms of the network centralization, which express the degree of inequality or variance in the network as a percentage of that of a perfect star network (the most centralized network), and the standard deviation of degree. In the Swiss case the TH relation is found to be more equal and balanced.

Despite limitations of the research based only on two cases, we think our study makes three important contributions. First, the empirical evidence from the comparative case study on technological innovator network (TIN) of two manufacturing companies will further enrich appreciative theory in this area. Second, the heuristic NSI-TH-SN analytical framework together is helpful for exploring and understanding the complex relation between industry, university and government in the TIN of the case companies. Third, the work makes methodological contributions with its exploratory comparative case study of two manufacturing companies located in China and Switzerland. Finally, we draw few policy implications from the findings.

Keywords: Technological innovation, Technological innovator network, National innovation system, Triple Helix, Social network.

JEL Classification: O30; O39.