

Brokerage Role of Intermediaries in Innovation Networks: the Biopharmaceutical Innovation System in Taiwan

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Abstract

Innovation has been widely recognized as a social process (Freeman 1991; Giuliani 2011). The existing literature has applied social network analysis to study the cluster innovativeness with specific focus on the innovation performance of the technology gatekeepers (Giuliani and Bell 2005; Giuliani, 2011, Graf, 2011). However, the literature rarely further analyzes the brokerage roles (Gould and Fernandez, 1989) of the actors in a complete sectoral innovation system. Applying social network analysis to R&D collaboration data collected from 62 elite group interviews and published sources, this paper empirically visualizes the innovation networks and analyzes the brokerage roles of the key actors in the Taiwanese biopharmaceuticals innovation system. Particular attention is paid to the extent to which public intermediary organizations link academia and industry. The results illustrate how the Taiwanese biopharmaceuticals innovation system evolved in the last decade. Especially, the leading research institutes have evolved to influence the acquisition, creation and diffusion of knowledge in the innovation networks. The major intermediaries serve as technology consultants and liaisons who actively broker knowledge transfer within and beyond the academia and industry. This brokerage role falls short of the original intent of establishing these intermediary organizations, namely, to acts as technology gatekeepers. This suggests that network-oriented policies sometimes fail. Therefore, concludes research institutes and intermediaries should be further strengthened to play diverse brokerage roles in knowledge production networks.