



Inter-firm Transaction Networks and Firm Performances

The purpose of this study is to explore the structure of inter-firm transaction networks in Gyeonggi province and investigate the relationship between the centrality and efficiency of a firm's network with other firms.

In terms of the magnitude of inter-regional transaction, total amount of sales to firms in other provincial regions exceed the amount of purchase from external regions. Average cost of intra-regional trade within manufacturing sector is lower than that of inter-regional manufacturing transaction, whereas the average cost of intra-regional trade within wholesale and retail trade industry is higher than that of inter-regional transaction.

By applying social network analysis method, it is shown that a firm's local centrality(centrality degree) index and global centrality(centrality betweenness) index are correlated positively. The size and age of firm, and the location in industrial complex tend to increase the likelihood of a firm being advantageous in terms of the position at the inter-firm networks.

This study found that a firm's performance is linked with the

centrality and the efficiency of a firm's network with other firms. All other things being equal, the operation of inter-firm transaction, centrality degree and centrality betweenness indices are positively associated with a firm's profit, but average weighted distance of transaction has negative influence on it. In addition, abundance of regional resource of innovation as well as a firm's internal resource of innovation is closely related with its profit. These indicate that efficient operation of inter-firm network and the access to external resource of innovation are required to enhance a firm's performance. Further, these attributes are more critical to small and medium firms, and businesses in knowledge-based service sectors.

Policy implications from these findings are as follows. First, it is important to understand the structure of industrial ecosystem at lower spatial level (e.g. industrial complex) to set the guideline and priority of the adoption of negative zone in terms of the restriction of the type of businesses in industrial complexes. Second, given that a large-scale development project can threaten local industrial ecosystem, policy measures to alleviate the side-effects of industrial gentrification need to be developed.

Keyword

inter-firm transaction network, centrality, average trade distance, firm performances social network analysis