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Network characteristics of a self-organised supply chain

Abstract

The New York garment industry is characterised by complex evolutionary dynamics driven by heterogeneous firms' interactions, external perturbations and collapse-regeneration processes. In common with many ecological systems under habitat fragmentation, the industry exhibits an interesting behaviour defined by a decrease in diversity and a significant variation in firms richness. Despite the growing interest in network dynamics, there is presently little empirical evidence on how real networks organise and behave under conditions of population loss. In this paper we use a unique empirical dataset to analyse the changing supply network structure in the NY garment industry for the period 1985 – 1995. We show that the evolution of this network presents complex microscopic fluctuations characteristic of socio-economic systems, but stable large-scale properties which show the presence of a self-organised architecture. The existence of robust organisational forms reveals the importance of stable emergent configurations followed by the network in a dynamic competitive environment.