Clear identity needed for industrial recycling networks

Recycling waste products between companies in industrial recycling networks can bring environmental and competitive benefits. A recent study on whether such networks can be used to advance sustainable development more broadly suggests companies first need a clear, shared network identity before other types of sustainability-oriented cooperation can take place.

‘Industrial ecology’ aims to reduce the environmental impact of industry by recycling by-products and waste from one company and using them as raw material inputs (resources) for another company. The concept of industrial ecology is modelled on natural ecosystems where all materials are recycled in an efficient and sustainable manner.

These industrial recycling networks can be considered a type of ‘industrial symbiosis’ (IS) project. Apart from providing economic benefits to all the firms involved, the environment also benefits from reduced raw material use, waste generation and emissions.

This study conducted a survey among companies from the general manufacturing sector of Austria, as well as firms belonging to recycling networks in Styria in Austria and Oldenburger Münsterland in Germany. It sought to understand whether IS projects can be used as a starting point for much wider cooperation amongst companies in terms of sustainable development. That is, whether they encourage further environmental protection and social responsibility activities.

The survey asked about the sustainability-related aspects of inter-company recycling activities and compared responses from companies within IS projects with companies that did not belong to such networks.

Surprisingly, companies belonging to the recycling networks passed on a significantly lower percentage of waste products for recycling than companies in the general manufacturing sector (52 per cent for other companies compared with 39 per cent for the Styria network and 36 per cent for the Oldenburger Münsterland network).

In addition, companies that are partners in the recycling networks do not view their cooperation to be different to a regular customer relationship. In particular, none of the companies from the Styria recycling network and only two companies from the Oldenburger Münsterland recycling network were aware that they were part of a wider waste recycling network. This implies that the companies view the recycling activities as a bilateral market relationship, rather than a shared value contributing to sustainable development.

Descriptions and charts can be used to understand the materials and energy flows for recycling purposes, but they do not reveal any information about the social level of the recycling networks. This study demonstrated there was no shared network ‘identity’ in the Styria or the Oldenburger Münsterland recycling networks.

In order for industrial networks to encourage new ideas about sustainability and become sustainability networks, it would be necessary to first create a network identity. From this a network vision of sustainability with common objectives could be developed.


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