

Plastics vs. Construction: Sectoral differences in sustainable innovation processes within SMEs

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Introduction

In recent years, academic attention for sustainable innovation is growing (Vollenbroek, 2002; Hockerts, 2003). Innovation is considered to be the main driver for economic development and business competitiveness (Riddle, 2000). Sustainable innovation as the implantation of sustainable development within organizations, focuses on the improvement of as well as economic performance as on environmental and social performance. It gives companies numerous advantages, such as quality improvement, product diversity, operational efficiency and improved employee competences (Guinet & Pilat, 1999). Most theory on sustainable innovation regards the role of large, often multinational companies. However, a caveat exists in theory and empirical data where innovation meets sustainable entrepreneurship within small and medium-sized enterprises (SMEs). The role of SMEs should not be underestimated, due to their high economic importance. In the Netherlands, 98% of all companies can be defined¹ as SME (CBS, 2007). They cover over 57 % of the employment rate and 51,5 % of the gross economic turnover (MKB-Nederland, 2008). This paper aims to provide more insight in the sustainable innovation processes within SMEs of the plastics and construction industry, by giving a sectoral comparison on the influence of stimulating and inhibiting factors. The main research question is as follows: *“What sectoral differences can be found in stimulating and inhibiting factors influencing the sustainable innovation processes within SMEs of the plastics and construction industry?”*

Method of research

This qualitative research includes a literature research on (sustainable) innovation processes. Also 60+ semi-structured interviews were conducted with representatives of a cross-sectional sample of plastics and construction companies, and intermediary organizations. These interviews were held during three research projects between 2005/2007 to explore sustainable innovation processes within SMEs.²

¹ This research follows the EU definition for SMEs, see EU, Enterprise and Industry Publications, 2005, The new SME definition: User guide and model declaration. Brussels, Belgium.

² 2005: *“PRIMA-ondernemen”*: a benchmark study in the rubber and plastics industry, in cooperation with Vrije Universiteit Amsterdam, Universities of professional education Windesheim, Fontys, Avans and InHolland, trade association Federatie NRK, Syntens and Polyplasticum. 2005-2007: *“Innovaties voor duurzaamheid in het Nederlandse MKB”*: Sustainable innovations within Dutch SMEs; commissioned by the Dutch Ministry of Housing, Spatial Planning and Environment. 2007: *“Onderzoek beleidsplan Federatie NRK”*: Policy research Federatie NRK,

Preliminary conclusions

The qualitative data of this research provide an analytical overview of the stimulating and inhibiting factors within both the plastics and construction industry. A short summary follows below.

Construction:

Stimulating factors:

- more transparent tender structure resulting from the Dutch building fraud affaire in the early 2000s;
- life cycle orientation on construction provides marketing and cost-effective opportunities;
- sharing knowledge and collaboration.

Inhibiting factors:

- risk-averse, conservative and hierarchal culture leading to economic and technological lock-ins, wherein parties have no interest at stake to innovate in a sustainable manner;
- low cooperation level;
- low end-user orientation; therefore sustainable alternatives are often not or poorly communicated;
- heavy competition leads to a focus on implementation instead of exploitation costs.

Plastics:

Stimulating factors:

- market demands for new and improved materials in high-end applications;
- increasing oil and energy prices stimulate the development of renewables and energy-saving processes;
- innovative culture, collaboration with knowledge institutes

Inhibiting factors:

- renewable plastics diffuse slowly in the market because of price competition from conventional plastics;
- financing of innovations is difficult, due to risk averseness of financial institutions.

Sustainable innovation leaves room for implementation of new products and processes with higher quality standards or new functionalities. Backgrounds for an innovative attitude can be found in the higher degree of sustainability orientation and cooperation within the customer-supply chain.

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