

Summary of background study number 33:

More Open Innovation –

Practice, developments, motivations and barriers in SMEs

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Goal and approach

- The Advisory Council for Science and Technology Policy will submit an advisory report on open innovation to the Ministry of Economic Affairs this year.
- To support this report, EIM studied 1) how open innovation can be operationalised, 2) the degree to which SMEs in the Netherlands practise open innovation, 3) development in the use of open innovation by SMEs, and 4) motives for and barriers to open innovation.
- First, a literature study and analyses of secondary databases were completed in order to create an inventory of the existing knowledge on the subject. The core of the study was a telephone survey of 605 innovative SMEs (10 to 500 employees). Only entrepreneurs/managers who had at least seven years' work experience with their company were surveyed to ensure that the results were a reliable reflection of the changes in how their companies innovate.

Operationalising open innovation

- Open innovation describes the development whereby innovation processes in the business sector are increasingly characterised by cooperation of different categories of parties in a chain and network relationship, and by greater user involvement in the development of new products and services. Companies are demonstrating a greater openness to external knowledge and to new organisation models and principles, with a view to accelerating innovation.

- Open innovation is often contrasted with a closed innovation model, based on knowledge protection and the development of innovations within an R&D department. There are several reasons why this closed model is under pressure, including mobility of knowledge workers, the higher level of education among the working population, availability of venture capital, etc. These factors are making external cooperation and knowledge exchange simpler and, often, necessary.
- Open innovation is in fact a collective term for several trends that have been recognised by researchers for quite some time. These trends include the role of lead users and the organisation of R&D in network relationships.
- In this study, open innovation is operationalised by examining the methods that companies use to innovate (e.g. outsourcing of R&D, venturing and shareholding), the involvement of other network parties in innovation, contributions by users and employees, and licensing of patents.

Open innovation in practice

- The literature on innovation contains numerous examples showing that multinationals in the Netherlands no longer innovate solely through their own R&D departments. Philips and DSM are well-known examples. However, the telephone survey and the analyses of secondary data sets show that small and medium-sized enterprises also frequently make use of open forms of innovation. In fact, SMEs have been using the open innovation method for many years. Because of their limited size, they lack the specific infrastructure needed for closed innovation and have to rely on contributions from and cooperation with other parties. Very few SMEs have their own R&D department.
- Innovative SMEs with 10 to 500 employees can be divided into three types based on the way they design their innovation function: opportunity-driven, market/customer-driven and strategy-driven innovators. Opportunity-driven innovators are the least explicit in the organisation of their innovation function; innovation usually depends on the entrepreneur. In market/customer-driven innovation, the initiative often comes from customers and employees. They are frequently more engaged in R&D, and primarily on direct applications in the market. Strategy-driven companies achieve the highest scores on the forms of open innovation distinguished in the survey.

The trend towards more open innovation

- The literature on innovation contains many examples showing that the use of the open innovation model among multinationals has increased dramatically in recent years. They are

shifting away from the closed model and using alternative forms, such as venturing and participation.

- Although SMEs have a tradition of innovating in a more open fashion (necessitated by their size), the telephone survey also showed that open innovation is increasing among this group as well. The number of respondents that reported an increase in the use of open innovation forms exceeds the number of respondents that reported a decrease. From the observations of the respondents, it can be derived that this is happening more among the larger companies surveyed (100-499 employees) than the smaller businesses (10-99 employees).
- The shift towards open innovation seems to depend on the size of the company. The larger the company, the stronger the adoption of techniques that can be associated with the open model: small companies were already practising open innovation and large companies are moving in that direction.

Motives and barriers

- The primary motives for SMEs to practise open innovation are market considerations. Many SMEs feel they must take a more open approach to innovation in order to meet their customer's needs and keep pace with their competitors.
- The primary barriers to open innovation are organisational and cultural differences that impede cooperation. Other barriers, such as administrative burdens, financing and knowledge transfer are mentioned, but organisational and cultural differences are the most dominant.