

# Focus on Economics

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## To be the leader of the pack? Innovation strategies in the German SME sector

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Niche strategies predominate in SMEs' innovation efforts. In doing so, it is relatively rare for market novelties to be created. The innovation efforts are thus primarily geared towards spreading innovations and contribute to competitiveness across the corporate sector. Around a quarter of innovative SMEs pursue trailblazer strategies when introducing products and technologies. Aside from high-tech start-ups, these primarily include larger SMEs. SMEs will also have to expand their innovation efforts in order to adapt new technologies more quickly and follow trailblazer strategies more frequently than before, to prevent Germany from falling behind in terms of international competition for innovation.

The role of small and medium-sized enterprises (SMEs) in the innovation process has often been controversially discussed in economic literature. Even Schumpeter's early work emphasised the important role of the entrepreneur, who, as a "dynamic entrepreneur", contributes materially to structural change. He later stressed the great innovative strength of large, powerful companies.<sup>1</sup> Thanks to extensive resources, they have advantages when financing risky R&D investment. They can also better skim the profits of innovation. However, the organisational structure of large companies is more sluggish. Unlike in SMEs, lengthy decision-making processes inhibit the realisation of risky projects and can have a demotivating effect.<sup>2</sup> According to the latest survey of the KfW SME Panel 30 % of the companies with annual revenues of up to EUR 500 million have introduced new products or processes.

In light of the core importance of an effi-

cient innovation system for Germany's prosperity, this report examines how companies that conduct own innovation activities position themselves in the competition for innovation.<sup>3</sup>

### Niche strategies dominate in the SME sector

With 67 % of innovating SMEs creating individual solutions for individual customers, this is the most frequent innovation strategy pursued (see figure 1).<sup>4</sup> In second place with 50 % of the mentions, comes specialising in individual market segments. Both count as niche strategies, in which particular product features or performance benefits are used to target competitiveness on quality. These strategies are particularly widespread among small SMEs.

Creating individual customer solutions involves companies distinguishing themselves from their competitors by modifying products and technologies in accordance

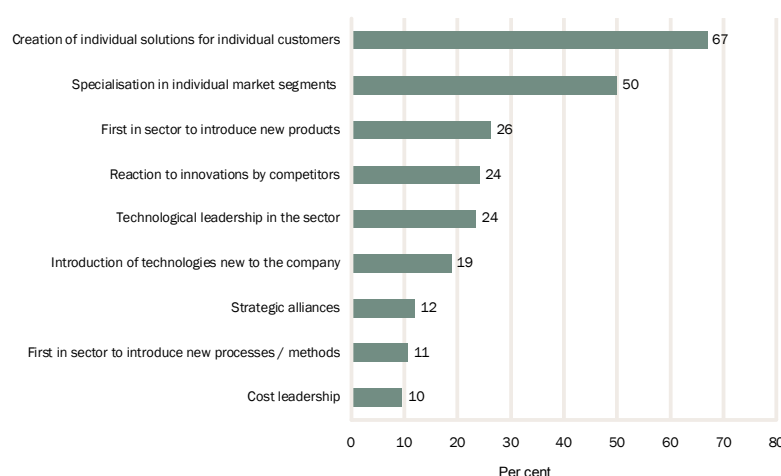
with customer requirements, while specialising in individual market segments follows the aim of reducing the intensity of competition for their company by occupying niche markets. The know-how advantage, which in both strategies stems from the manufacturer's experience in the market segment and good knowledge of customer preferences, makes it difficult for potential newcomers to enter the market in question.

It is relatively rare for market novelties to be created with either strategy. Original innovators account for 19 % of process innovators and 16 % of product innovators in the field of creating individual solutions and 17 % of process innovators and 15 % of product innovators in the field of specialising in market segments (see figure 2).

### Trailblazers in products and technologies: one in four SMEs...

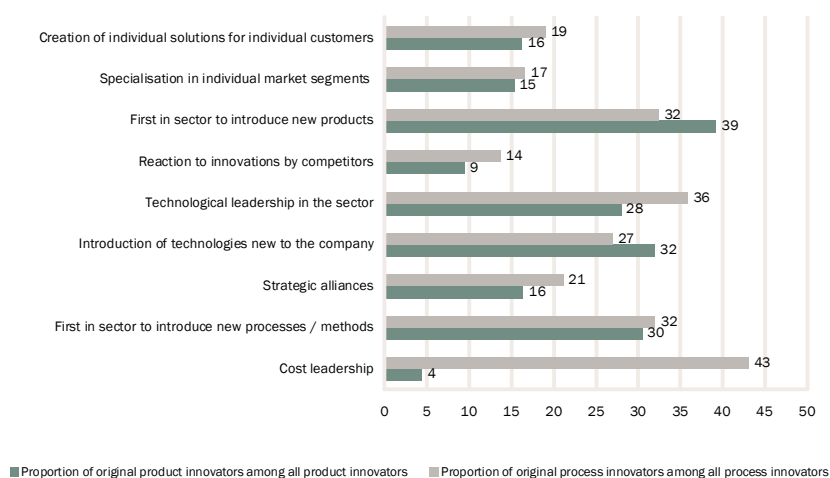
The goal of being the "first in the sector" to introduce new products and services (26 %) puts an emphasis on attracting demand by being ahead of competitors and exploiting the customer's typically high willingness to pay for market novelties. However, this advantage comes with a high risk of failure. Companies that follow these strategies – unsurprisingly – have the highest proportion of original product innovators at 39 %. The fact that a strategy of

Figure 1: Innovation strategies in the SME sector 2008–2010



Source: KfW SME Panel 2011.

**Figure 2: Original innovators as a proportion of each type of innovator total 2008–2010**



Source: KfW SME Panel 2011.

this nature is frequently also accompanied by the development of new product processes is proven by the likewise high proportion of original process innovators at 32 %.

Technology leadership (24 %) emphasises being the first to implement new technological developments and thus likewise achieving “first mover” advantages. The proportion of original innovators is correspondingly high with this strategy too. Implementing new, technological knowledge for the first time in commercial use makes pursuing this strategy particularly resource intensive and risky.

**...and there are just as many stragglers**

On the other hand, at 24 %, the equally frequently mentioned strategy of reacting to innovations from competitors represents a “defensive” innovation strategy. Merely adapting products and manufacturing processes to a changing environment results in market novelties being developed least frequently.

**Cost leadership is a secondary goal among SMEs**

Unlike technology leadership, which targets competitiveness in quality, cost leadership is important in markets with homogeneous goods where there is strong price competition. Cost leadership makes it possible to achieve high market share and thus represents the opposite strategy to differentiation strategies. The fact that SMEs rarely mention this strategy (10 %) is due to their

specific disadvantages in price competition against large companies. Large companies can spread the development costs across a large number of units and thus offer (new) products and services at comparatively low prices. Cost leadership primarily means a trailblazing role in developing new product processes. At 4 %, it is very rare for product innovations to be created.

**Technological leadership requires considerable R&D efforts**

A strategy of technological leadership is primarily pursued by larger SMEs and SMEs that make substantial R&D efforts (see figure 3).<sup>5</sup> This and the fact that this strategy occurs more often as companies increase in size shows that it is necessary to provide extensive resources in order to implement a strategy of this nature. At 15 %, small SMEs with low R&D intensity correspondingly followed this strategy least often, while it is mentioned most frequently (71 %) among the larger high-tech SMEs (50 or more employees).

**Scarce resources force small high-tech SMEs into the fastest follower strategy**

Small high-tech SMEs are the most frequent followers of the strategy of (rapidly) adopting new technologies at 38 %. Among larger high-tech SMEs this strategy is adopted by only 27 %. A strategy of rapid adaptation of new technologies should frequently be the more viable alternative for small SMEs, primarily because of their restricted resources.

**High-tech start-ups – a source of radical innovations**

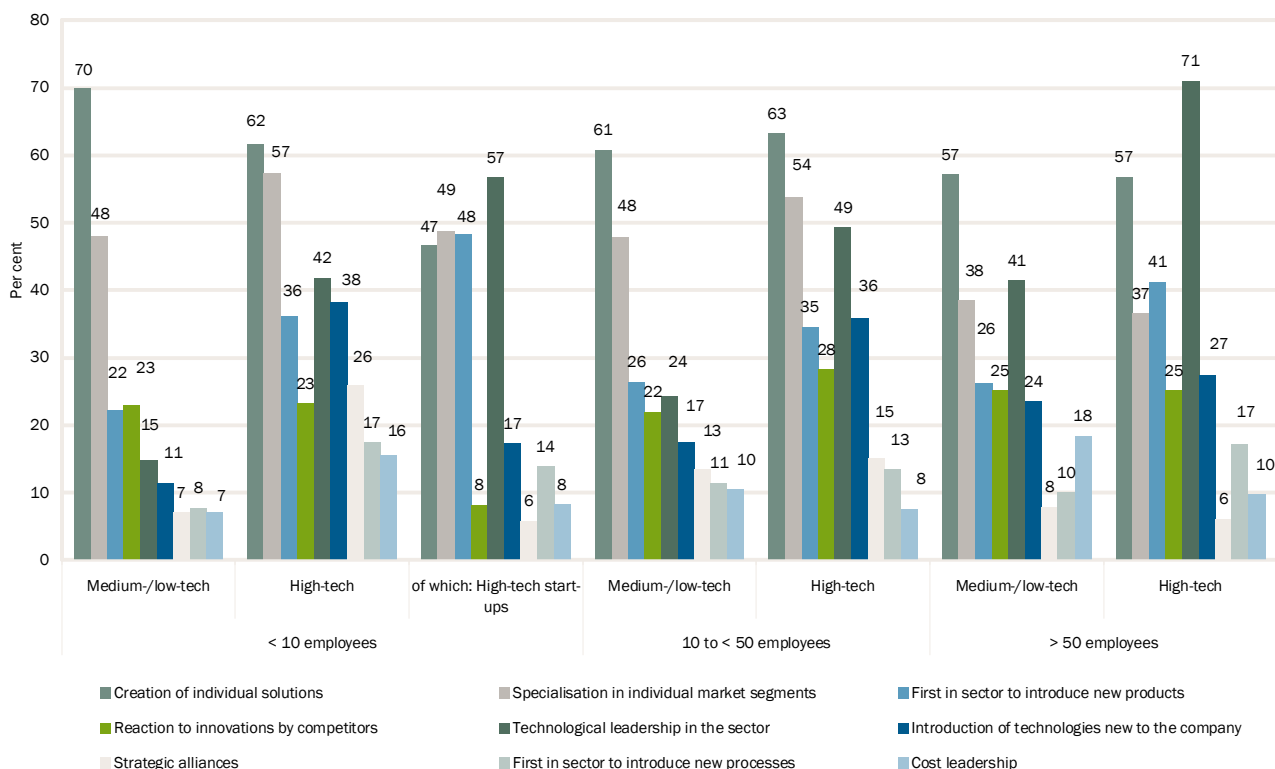
High-tech start-ups<sup>6</sup> adopt new technologies more often than other companies and are the first to develop marketable products with them. With 48 % mentioning being the “first in the sector” when introducing products as an innovation strategy and 49 % when introducing processes as an innovation strategy, no other SME type includes a higher proportion of companies following this strategy. With regard to technological leadership, only the larger high-tech companies surpass them (57 %). In keeping with the heavy weighting towards trailblazer strategies, at 8 %, reaction to innovations from competitors is of little importance compared to other SME groups.

**Conclusion**

Niche strategies predominate in the SME sector with regard to focusing innovation efforts. The strategies most frequently adopted are geared towards positively differentiating the company's own product offering from that of competitors and concentrating on individual market segments. Price strategies thus take secondary importance. The resulting innovations are frequently modifications or further developments, and less frequently market innovations. Overall, the innovation efforts of innovative SMEs thus primarily cause innovations to be spread within the economy and thereby contribute to structural change and competitiveness across the corporate sector.

However, strategies geared towards a trailblazing role which create an increased number of original innovations are not rare amongst SMEs. Around one in four innovative SMEs aims to be a technological leader or the first to bring new products to the market. The fact that these are primarily companies which themselves put considerable efforts into R&D underlines the importance of extensive R&D activities as a core input factor for this type of innovation strategy. Larger SMEs in particular emphasise trailblazer strategies, while smaller SMEs tend to adopt niche strategies. High-tech companies also more frequently pursue first-mover strategies.

Figure 3: Innovation strategies by type of SME 2008–2010



Source: KfW SME Panel 2011.

As far as innovation activities and competitiveness are concerned, SMEs and the corporate sector as a whole are currently still well positioned compared to other countries. However, Germany has lost its leading role as a research nation in the long-term comparison. In addition, it is in

danger of losing further ground, as up-and-coming emerging markets are currently catching up in the traditional German areas of competence. In order not to fall any further behind, it is not just necessary to rapidly spread technology within the economy, but also to develop new tech-

nologies. For SMEs, this means that even when concentrating on narrow market segments, in future a stronger focus on developing market novelties is needed. ■

<sup>1</sup> See Schumpeter, J. (1912), *The Theory of Economic Development* and Schumpeter, J. (1939), *Business Cycles*, compared to Schumpeter, J (1946), *Capitalism, Socialism and Democracy*.

<sup>2</sup> For an overview see Acs, Z. J. and Audretsch, D. B. (1992), *Innovation and Small Firms*.

<sup>3</sup> The KfW SME Panel 2011 is a representative business survey with responses from more than 12,000 SMEs with annual revenues of up to EUR 500 million. In particular, it includes companies with fewer than five employees, which, according to calculations using the KfW SME Panel, account for more than four in five SMEs in Germany and are not usually taken into account in comparable data sets. See Reize, F. (2011), *KfW SME Panel 2011: SMEs are well equipped against increasing financing risks and economic slow-down* (Available in German only).

<sup>4</sup> The companies surveyed were able to specify several innovation strategies to characterise the focus of their own innovation efforts.

<sup>5</sup> Companies are described as high-tech companies based on the customary definition for the sector, i. e. companies with R&D intensity of more than 7 % – on the basis of R&D expenditure in relation to annual revenues.

<sup>6</sup> High-tech start-ups are high-tech companies with less than 10 employees that are no more than 10 years old. Please note here, that companies less than three years old rarely appear in the KfW SME Panel for technical reasons.