10. The situation in Switzerland
Thierry Volery

The contribution of small and medium-sized enterprises (SMEs) to innovation and overall economic growth has been repeatedly demonstrated through empirical research (Acs, 1999). However, the vast majority of studies dealing with innovation processes refer to large companies or to SME with high-tech background (Bhaskaran, 2006; Akgün et al., 2004). Most of what is written about innovation either focuses on the hottest new start-up or the sleeping giant who suddenly awakened. Rarely do stories of established SMEs in traditional industries make headlines with their managerial activities (Blumentritt, 2004).

This lack of research interest in established SMEs from a ‘low-tech’ background is particularly striking when we consider the importance of the SME sector in the economy. For instance, SMEs account for 99.7 per cent of the companies and employ almost 70 per cent of the workforce in Switzerland. Yet, as Fueglistaller and Fust (2006) have shown, ‘low tech’ does not necessarily equate with obsolete. For instance, a large proportion of SMEs from the traditional arts and crafts sector have significantly improved their productivity over the last decades as they internationalized their operation. The famous Mittelstand (small and medium-sized firms, often family-owned) went through its operations, step by step, judging what to do in Switzerland, what to send abroad and what to outsource. Similarly, innovation is one of the key drivers of the Swiss economy. Since the country has no raw material, Swiss companies have traditionally relied on qualified employees and on innovation to capture niches in global markets.

In order to contribute to a deeper understanding of innovation in SMEs, this study takes a broad approach by including enterprises from various industries. We focus our attention on three questions: how SMEs make strategic innovation decisions, how they assess potential risk–return profiles of future innovations and how the innovation management process is structured. Empirical evidence is based on a series of three case studies.
METHOD

In order to contribute to a deeper understanding of innovation in SMEs, this study takes a broad approach by including enterprises from various industries. We employed a diagnostic assessment tool that formed the basis of the case study survey framework. One element of the diagnostic tool was the assessment of the anticipated risk and return associated with the innovation, as perceived by the entrepreneur within the SME (Reboud and Mazzarol, 2006).

We adopted a strategic perspective and we considered that the primary goal of innovation in the establishment of sustainable, distinctive competitive advantage which, in turn, is a precondition for rent appropriation (McGrath et al., 1996). According to Santi et al. (2003) the potential rent of an innovation results from the volume (potential annual sales), the rate of margin (average rate of profit) and the length of the innovation (duration of the life cycle of the innovation). This creates the formula:

\[
\text{RENT} = \text{VOLUME} \times \text{RATE} \times \text{LENGTH}
\]

As outlined in Chapter 1, the diagnostic tool identifies eight types of rent configurations with different volume–rate–length characteristics. Within these eight configurations, the Champion configuration appears to be the most desirable. However, the Oasis-B (high profit) configuration appears to be the most suitable for small firms because of the small sales volume. Since small firms typically lack extensive resource endowments, it is anticipated that they would strive for Oasis-B type innovations. This configuration shows favourable characteristics in terms of profit rate and length in combination with rather small volumes. In contrast, Flash in the Pan-A and B, Joker and Champion configurations are characterized by high volumes which: ‘may not be followed easily by small firms with limited capacity to commit to such production’ (Mazzarol and Reboud, 2009).

The least attractive configuration is the Shrimp type which has low values regarding all three components. The Gadget differs from the Shrimp only in the higher rate of profit. The short lifecycle (length) and the high sales volumes of the Gadget induce the innovator to adopt a ‘take the money and run’ strategy.

In addition to the estimation of the potential return an entrepreneur might yield from an innovation, there remains the need for the development of an effective business model to fully commercialize the innovation (Akgün et al., 2004). To address this problem, a four-dimensional innovation diagnostic diamond (IDD) was developed to measure the SME owner-manager’s
approach to innovation management. The following four dimensions (Mazzarol and Reboud, 2006) were analysed:

1. Market index – a measure of the firm’s focus on customer needs and how the new innovation offers customers value for money.
2. Innovation index – a measure of the firm’s formal process of new product development, and its management of intellectual property.
3. Resources index – a measure of the firm’s technological, human, financial and managerial resources.
4. Strategy index – a measure of the firm’s strategic planning in relation to its commercialization process.

Each index comprises a total of ten items that are scored by the owner-managers undertaking the survey. Scores could range from 0 to 10, with 5 being the average for each of the four indexes.

This study draws on data from a series of 67 case studies conducted by a team of researchers based at the University of St Gallen. Data were collected in the Fall of 2008 during a face-to-face interview with the owner-manager. The interviewee was taken through the diagnostic questionnaire, as well as providing an overview of their company and its current innovation(s). The case study approach allowed discussions around the responses to each item and interviews were taped and transcribed for subsequent analysis. The purposeful sample included a variety of SMEs from German-speaking Switzerland with a broad mix of innovation and commercialization activity, across a wide range of industries. The SMEs in the sample had between 10 and 150 employees.

In order to enhance the reliability and validity of the data, the output generated by the diagnostic questionnaire (RENT profile and IDD) was discussed with the respondents immediately in order to validate the results. Through this, interviewees were given the opportunity to check the conclusions drawn by the researcher and express any suggestions or amendments to it.

THE INNOVATION ENVIRONMENT IN SWITZERLAND

Switzerland performs very well in terms of nearly all available indicators of science, technology and innovation, often holding a leading international position (OECD, 2006). Many framework conditions for research and innovation are good, including a reliable legal framework, a sophisticated financial system, a well-educated labour force, and generally favourable taxation. Openness of labour markets vis-à-vis the European
Union facilitates balancing demand and supply for highly qualified human resources for science and technology.

Overall, the main strengths of the Swiss national innovation system (NIS) are as follows:

- **Strong industrial research and innovation.** Switzerland has a strong and varied industrial research base. It comprises both large, R&D-intensive multinational enterprises which are at the forefront of industrial research and a large number of innovative SMEs with strong positions in global market niches.
- **A high-quality research-oriented university sector and a well-developed research infrastructure.** Industrial research benefits from an excellent university-based public research sector, including the world-renowned federal institutes of technology in Zurich and Lausanne, and a number of very active cantonal universities.
- **A strong services sector.** This sector, which includes a highly developed financial industry, plays an increasing role in the Swiss economy and innovation system.
- **Orientation towards high quality.** A pervasive orientation towards high quality products and services throughout the Swiss economy contributes to high standards, performance and reputation.

However, when reviewing the Swiss NIS the following challenges are often mentioned:

- **Insufficient innovation capabilities in parts of the economy.** Although most large and smaller Swiss firms show impressive innovative capabilities, there are pockets in the economy which are less advanced: enterprises in sheltered sectors which face too few incentives to innovate and some SMEs with an insufficient capacity to innovate. The issue is especially acute at the intersection of these two sets of firms.
- **Insufficient policy coordination between the federal and cantonal (state) level.** Griessen and Braun (2008) highlighted two ‘coordination gaps’ between federal and cantonal levels: the ‘federal divide’ that structures political governance in the knowledge space in manifold ways and the ‘utilitarian divide’ that is institutionalized within the federal administration. While Swiss policy-makers have taken great pains to overcome the obstacles in the wake of the federal divide with some success, they have failed to do so with regard to the utilitarian divide. The lack of guiding and reflexive capacities at the cabinet level will make it difficult to overcome this divide in the future, though planned reforms at the agency level may
help to build some bridges between at least basic and technological
research.

- Effective management of co-operative arrangements with the
  European Union (EU). The European Research Area and related
  programmes have become vital for the Swiss innovation system.
  However, as a non-EU-member country, Switzerland faces
  particular challenges. There is room for improving the management
  of an increasingly dense and comprehensive web of agreements.

At the European level, Switzerland is the leading country in terms of
innovation performance according to the 2008 European Innovation
Scoreboard (European Commission, 2009). Switzerland, together with
Sweden, Finland, Germany, Denmark and the United Kingdom are the
innovation leaders, with innovation scores well above those of all other
countries.

In 2008, Switzerland’s rate of improvement was also above that of the
EU27. Relative strengths, compared to the country’s average performance,
are in throughputs (patents, trademarks and designs per capita) and relative
weaknesses are in linkages and entrepreneurship, and economic effects. Over
the past five years, human resources (tertiary education, percentage of
population with tertiary education, participation in life-long learning, youth
education attainment level), finance (public R&D expenditures, venture
capital, private credit) and throughputs have been the main drivers of the
improvement in innovation performance: More specifically, a strong growth
in master and doctorate graduates (8.2 per cent), venture capital (18.1 per
cent), trademarks (8.8 per cent), designs (9.3 per cent) and technology
balance of payments flows (10.8 per cent) could be observed.

The top performing countries in the European Innovation Scoreboard,
notably Switzerland, Sweden, Finland, Germany, Denmark and the UK can
be divided into two large diversified states (Germany and the UK) and four
smaller, export-oriented and more specialized countries (the three
Scandinavian and Switzerland). All six share very high rankings in
international benchmarks, including the European Innovation Scoreboard,
consider innovation policy as the cornerstone of their future competitiveness
and systematically dedicate means for the maintenance of evidence bases,
allowing them to review policies that maintain their positions and, if possible,
forge ahead. Above all, they recognize that their status is not stable and that
globalization challenges call for constantly adjusting governance. For these
reasons, most of them experiment with changes in their organizational set-up
and all of them ensure the full utilization of all tools available for intelligence
gathering (European Commission, 2009).
OVERVIEW OF THE RESULTS

International statistics usually show that Switzerland is one of the most expensive countries in Europe, along with Norway and Iceland. Swiss people pay particularly high prices for consumer goods, housing and health insurance. It is therefore not surprising that the surveyed SMEs identified the cost of doing business as one of the major weaknesses of the Swiss innovation system as shown in Figure 10.1.

The high cost of living is partly due to the relatively high level of salaries in Switzerland. According to a comparative study conducted by UBS (2009) on an international level, the Swiss hubs of economic development, namely Zurich, Basle and Geneva, are among the frontrunners of cities with the highest gross pay, for all types of professions. These high salaries reflect a tight labour market. The unemployment rate in 2008 – the year we conducted this survey – was 4 per cent. Accordingly, SMEs find it difficult to recruit sufficiently qualified management staff and qualified technical staff.

Figure 10.1  Assessment of the innovation environment in Switzerland
Conversely, the SME owner-managers rated positively the communication infrastructure, the lifestyle in the country, and the access to research centres. The small size of Switzerland and its location at the heart of Europe generally mean that the geographic distance to key markets is relatively small.

The Swiss sample drawn for this study comprised 67 small business owner-managers who were taken through the diagnostic questionnaire during an interview lasting approximately 1.5 hours. The interview focused on current innovation and the commercialisation process developed by the company. As shown in Table 10.1, the data computed by the diagnostic tool revealed 25 Champion, 21 Flash in the Pan, 10 Shrimp, 4 Joker, 4 Oasis and 3 Gadget type innovation configurations in the sample. The majority of Champions belong to the manufacturing sector. Manufacturing SMEs seem to be overrepresented in this category. Conversely, SMEs offering services are predominant in the Shrimp, Flash in the Pan and Oasis categories.

Another pattern emerges from Table 10.1, which shows that the vast majority of Champion innovations are product or service. Flash in the Pan innovations tend also to be product or service innovations which are in addition compatible with existing product.

### Table 10.1 Overview of the Swiss sample according to the RENT profile

<table>
<thead>
<tr>
<th>Shrimp</th>
<th>Gadget</th>
<th>Joker</th>
<th>Oasis</th>
<th>Champion</th>
<th>Flash-in-Pan</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>(%)</td>
<td>(15%)</td>
<td>(5%)</td>
<td>(6%)</td>
<td>(6%)</td>
<td>(37%)</td>
</tr>
</tbody>
</table>

**Industry:**
- Manufacturing: 1 – – 16 9 4
- Services: 6 2 – 24 6 10
- Other: 3 1 4 2 10 7

**Type of innovation:**
- Product/Service: 4 3 3 2 21 14
- Process: 3 – 1 2 2 4
- Other: 3 – 1 - 2 3

**Scope of innovation:**
- Compatible with existing product: 4 3 3 1 14 16
- New dominant design: 4 – 1 3 11 5
THE CASE STUDY FIRMS

Since the Champion, Flash in the Pan and Shrimp innovations represented over 80 per cent of the innovations in the Swiss sample, we decided to investigate these RENT profiles in further detail through a series of three case studies (one case for each profile). A case study is considered an appropriate strategy for answering research questions that ask ‘how’ and ‘why’ and that do not require control over events (Robson 1993) because such questions deal with operational links that need to be traced over time, rather than mere frequencies or incidence. By using a case study approach, the reasons why particular decisions were made, how they were implemented and results obtained can be identified and understood (Yin, 2003).

The three case study firms selected for this study were: MACHINERY (Champion), Electronic (Flash in the Pan) and Publish (Shrimp). The key characteristics of the RENT profile and of the IDD for each case are outlined in Table 10.2. Each of these cases is then described in the following sections.

Table 10.2 Overview of the three Swiss case study firms

<table>
<thead>
<tr>
<th></th>
<th>MACHINERY</th>
<th>ELECTRONIC</th>
<th>PUBLISH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RENT Profile:</strong></td>
<td>Champion</td>
<td>Flash in the Pan</td>
<td>Shrimp</td>
</tr>
<tr>
<td><strong>Strengths (Above average scores):</strong></td>
<td>Annual sales</td>
<td>Annual sales</td>
<td></td>
</tr>
<tr>
<td>Market diffusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segment diffusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weaknesses (Below average scores):</strong></td>
<td>Segment diffusion</td>
<td>Ease of imitation</td>
<td>Segment diffusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Profitability</td>
<td>Profitability</td>
</tr>
<tr>
<td>**Innovation Diagnostic Diamond:**¹</td>
<td>Market Index</td>
<td>8.0/10</td>
<td>8.2/10</td>
</tr>
<tr>
<td></td>
<td>Innovation Index</td>
<td>8.4/10</td>
<td>7.6/10</td>
</tr>
<tr>
<td></td>
<td>Resource Index</td>
<td>7.0/10</td>
<td>7.8/10</td>
</tr>
<tr>
<td></td>
<td>Strategy Index</td>
<td>6.4/10</td>
<td>6.3/10</td>
</tr>
</tbody>
</table>

*Notes:* ¹ Index scores range from 0 to 10 with 5 being the average for each index
Case 1: MACHINERY (Champion)

MACHINERY was established in 1974 as a private limited company and it currently employs 75 people. The firm is an engineering company producing machines and parts in the area of post press processing of newspapers and magazines. It is part of a holding owned by a family. This holding manufactures equipment and provides integrated solutions for the conveying, storing, bundling and packaging of newspapers. Since MACHINERY conducts its own innovation activities and there is no centralized R&D for at holding level, MACHINERY can be analysed as single company for the purpose of this research project.

The innovation activities of MACHINERY over the last three years were mainly focused on product innovations. These account for around 70 per cent of the whole number of innovations commercialised in this period (total: 1–5 innovations) whereas the remaining innovations can be characterized as market and process innovations. According to the interviewee, there were no marketing and administrative innovations in the last three years. The annual investments in innovation activities amount to 5 per cent of annual turnover, i.e. to around €2.5m per year.

MACHINERY is currently working on several product innovations to be released over the next few years. The specific innovation analysed according to its RENT profile was a technological product innovation consisting of an improvement of existing conveyor technology. Like most of MACHINERY’s products, this innovation will require the integration in a system and it will have the potential to create a new market. The interviewee expected the geographical distribution to be high with sales of €400,000 to €600,000 after three years. However, the potential diffusion within market segments was expected to be limited. With 21 to 40 per cent gross profitability and 11 to 20 per cent net profitability, the anticipated profit can be considered as merely satisfactory. However, the market impact of the innovation outweighs this weakness since the innovation could possibly create a new dominant design. From a technical point of view, this innovation could be imitated by competitors with modest effort. However, since this innovation will be protected by several patents, it will prove rather difficult to imitate from a legal perspective. The rent profile for this innovation has a Champion configuration with rather high volume, high rate of profit and high length of lifetime.

MACHINERY’s IDD score reveals that the strength of the innovation management process is the internal steering of the commercialization process (innovation index: 8.4) whereas the strategic planning constitutes its weakness (strategy index: 6.4). The scores for the resource index (score: 7.0) and the market index (score: 8.0) lie in between. The market index is most
negatively influenced by the fact that the customer benefits of the innovation were not fully researched and the most appropriate pricing strategy was not fully explored. Considering the innovation index, all items received very high scores except for the development of a prototype and the independent evaluation of the innovation. In this case, the development of the prototype involved external research institutions and this already provided an ‘external, independent validation’. The company often renounces to independent evaluation or testing in order to secure the highest confidentiality possible. Positive aspects of the innovation index encompass the existence of a formal process of new product development, the innovation focus of the firm and the efforts made to avoid imitation by competitors.

Regarding the resource index, the identification and recruitment of suitable personnel poses a major challenge to the company. In contrast, the financing of innovation activities is influenced by the holding structure. If the company owners are convinced of the benefits of the innovation, the adequate funding will be available. Therefore, there is generally no need for the company to explore government assistance programmes or to identify external sources of funding. The respondent remarked that one of the major problems in terms of strategic planning was ‘the lack of a consistent, clear strategy’. This statement is reflected in the relatively low strategy scores compared to other areas of the innovation management process. For instance, extensive planning resulting in a formal business plan is only done if the project involves a new organization (i.e., the foundation of a new company). Otherwise, planning is limited to the calculation of project costs instead of a comprehensive financial model and strategic considerations are neglected.

After the interviewee was presented with the RENT profile and innovation diamond scores, he agreed with the results even though the personal benefits of these results seemed to be limited to him. With regard to the RENT configuration (Champion) he mentioned that: ‘if we wouldn’t see it similarly, we wouldn’t do it’.

With this statement, an important relationship between diagnostic diamond and RENT profile was made obvious: if thought was given to the assessment of the risk–return structure in terms of potential volume, rate of profit and product life cycle, every innovator should, in the respondent’s opinion, realize an innovation only if the outcome is favourable (like, for example, a Champion configuration). Accordingly, unfavourable configurations should merely result from the diagnostic questionnaire if the innovation management process is insufficient, i.e., the potential risk–return structure was inadequately or not evaluated.
Case 2: ELECTRONIC (Flash in the Pan)

ELECTRONIC was founded in 1992 as a distribution company of electronic components. This division remains until now the core business of the company. Working in a close partnership with other companies from the industry, ELECTRONIC supplies and tests wafers and semiconductor dies. The company also sells fax machines, voice socket modems and LAN communication modules. In addition to electronic component procurement, the company develops and produces customer-specific information systems and electronic equipment. ELECTRONIC has an ISO 9001:2000 certification.

Mr Lang is the owner-manager of the company which currently has 18 full-time employees. The gross turnover of ELECTRONIC in 2007 was about €17 m, while three years ago it was about €13 m. In the last three years, ELECTRONIC introduced several innovations (product/service and administrative innovations) and invested about 1 per cent of its turnover in them. The most impact on the strategic decisions concerning innovations have the main customers and the senior managerial staff of the company. The company’s retained profits are the main source of financing of its development.

Mr Lang exerts a great influence on the innovation implementation during the decision process. He decides whether the company will engage in a specific innovation or not. As the sole owner of the company he believes that he has the full responsibility for everything happening in ELECTRONIC. However, Mr Lang also values the opinion of the ELECTRONIC employees. Similarly, he listens carefully to the advice of external people, for example, good friends, but he never employs consulting services.

ELECTRONIC is going to enter the Chinese market in order to buy Chinese products and to sell there the products from the other countries, acting as an intermediary. Mr Lang believes that in order to establish a successful business with Chinese partners it is essential for ELECTRONIC to hire two employees who can speak Chinese fluently. The innovation will be introduced as integration to the company’s overall structure, processes and system (particularly, its information system), so that it is compatible with the rest of the company and its products. The planned turnover from the new market entry exceeds €500,000. Mr Lang wants to use the flexibility and speed advantage of his small company to launch the project within one year.

The generated RENT profile of this projected innovation is a Flash in the Pan-A with high projected sales volume, but a low rate of profit margin and a short anticipated lifecycle (length). ELECTRONIC is likely to extract a minimal additional margin over a short period of time because this innovation is a simple improvement of an existing process, based upon no
technical complexity which could be difficult to copy. In addition, this innovation cannot be protected from the legal perspective. From the technical perspective it is also not very difficult to imitate. Overall, the relative weak potential of this innovation reflects the competitive pressure in the electronics industry. According to the firm’s owner-manager: ‘We’re in a commodity business with the hardware we offer and we can really make some money by selling solutions to clients and by offering services’.

When we examine the general commercialisation process, we see that ELECTRONIC scores well in the different indexes of innovation diamond: the market index equals 8.2, the innovation index equals 7.6, the resources index equals 7.8 and the strategy index equals 6.3.

ELECTRONIC always pays careful attention to the clients’ perception of a future innovation before introducing it. According to Mr Lang, it is very important to listen to the clients’ needs. A successful entrepreneur should also have a profound understanding of the customers and he should even be able to detect unformulated needs. Choosing the proper pricing strategy is also essential, although a client does not always want the cheapest product. Many other factors such as personal relationships with clients or quality guarantee play an important role.

According to Mr Lang, innovations are central points in his company’s operations. ELECTRONIC has a semi-formalised process of new products/services development. The management team of the company convenes regularly and conducts a SWOT analysis of the potential innovation. ELECTRONIC never uses patents to protect its innovations. It uses non-disclosure agreements only when presenting its ideas to outside people, but there are no regulations for such meetings with the clients. Clients and employees of the company are closely involved in the innovation process.

ELECTRONIC possesses adequate technical resources to both develop a prototype and to assure the further development of the idea. Similarly, it usually has all the competence required for the complete independent commercialisation of the project. While the company has an experienced project management team, it is still not always easy to ensure the adequate labour capacity for certain projects. Sometimes the company has to attract some part-time employees.

The company does not systematically prepare business plans for all the planned innovations. There are no business plans for ‘small-scale innovations’, and while there is some planning for the bigger innovations, it is not always highly formal. In most cases, there is no complete comprehensive financial model for the innovation. According to Mr Lang, the bargaining power of customers and suppliers and the threats of alternative technologies are in most cases evaluated and analysed. Interestingly, Mr
Lang never analyses the potential reaction of the competitors to the ELECTRONIC innovations. As Mr Lang commented: ‘It is more important to be the first to offer a product or a service’.

**Case 3: PUBLISH (Shrimp)**

PUBLISH is a small publishing company of business to business (B2B) magazines located in Zurich. Its product portfolio comprises two trade journals for process automation and production technology, a magazine for model railway enthusiasts and a handful of specialised publications. Furthermore, PUBLISH acts as the Swiss representative for various trade journals of a German media company. The company was established in 1934 and currently employs 21 people. It has an annual turnover of €9 million and normally invests between 2 and 4 per cent of the turnover into innovation activities. The company operates in an industry affected by the increasing importance of new information and communication technologies (ICT). Advertising expenditures are reallocated from print to online media, and information becomes more and more readily available for free on the internet. At the same time, the market entry costs have decreased and new large players such as Google and Yahoo constitute a substitution threat to the firm. The General Manager of PUBLISH, Mr Biedermann, was interviewed for this case study.

In the past three years, PUBLISH commercialised a small number of product and service innovations. Mr Bierdermann values the conductive innovation climate in Switzerland, although he points out the relatively high costs of doing business and the difficulty in recruiting qualified managerial staff. Strategic decision-making at PUBLISH is heavily influenced by customers, the management team and the company owners. The most important source of financing is retained profits, whereas other forms of equity finance and loans have only marginal importance. Cooperative innovation activities with customers are limited to product development while key suppliers are an important source of external technologies.

Future innovation activities at PUBLISH focus on the business challenges which are currently affecting the printing and media industry. The specific innovation which was discussed in detail during the interview was product innovation: PUBLISH plans to develop an interactive website for one of its trade journal, which would supplement its traditional print edition. However, this innovation possesses a rather weak potential resulting in a Shrimp type RENT configuration. This innovation profile is typically characterised by its low volume, low rate of profit and short length of product life cycle.

With a marginal geographic diffusion, only €120,000 estimated sales after three years and a poor diffusion within market segments, the overall potential
sales volume is low. Thin margins (less than 20 per cent gross profitability and less than 10 per cent net profitability) and the easy imitation by competitors complete the overall poor configuration. This RENT configuration clearly reflects the intense competition in the industry which was discussed before. Substitution products, a shrinking market, low entry barriers and an increasing number of direct competitors are the key determinants eroding the rent potentially approvable by the firm.

In addition, the innovation management process at PUBLISH shows a considerable weakness with regard to the internal commercialization process. There is no formal process for new product development and outside assistance is needed for the development of a prototype. In addition, the innovation has not been tested independently, and there is little effort made to protect the innovation or keep it confidential. There is very limited experience of commercialization within the organization. As a result, the innovation index reaches only a low score (4.0) compared to other dimensions of the innovation management process.

In contrast, the strategy index reaches a considerably high score (8.6). In general, substantial effort is made in order to evaluate the strategic strengths and weaknesses of the innovation: competitors’ reaction is assessed, existing or anticipated government regulations are considered, all necessary compliances and authorizations are secured, a risk assessment is undertaken and a comprehensive financial model for the innovation is completed prior to the market launch. A detailed analysis of these various factors is summarized in a formal, written business plan. The only shortcoming of the strategic analysis is the lacking assessment of the bargaining power of suppliers which is not considered necessary by the company.

With regard to the resource index (score: 7.0), PUBLISH generally disposes of sufficient resources to commercialize the innovation. But, according to Mr Biedermann, the access to adequate staffing resources is nevertheless an obstacle for the commercialization of the innovation. PUBLISH needs to recruit people with different skills in order to pursue the innovation considered. The company is especially eager to recruit staff who have a proven track record in the field of online media. These new recruits will bring technical skills to develop the new online platform as well as the commercial experience needed to generate a profit from this new offering.

The company obtains a mediocre market index score (6.2), which is mainly due to a lack of cooperation with customers. PUBLISH has conducted an insufficient assessment of the customers’ understanding and acceptance of the proposed innovation. Here, another contradiction becomes evident, since in the preceding section of the questionnaire concerning alliances and networks, customers were identified as beneficial cooperation partners in joint product development activities. Altogether, the diagnostic diamond
casts some doubt on the ability of PUBLISH to commercialize the planned innovation. Even though the company possesses a lot of information regarding the strategic dimension, the innovation index reaches a critical value. It can be hypothesized that the existence of a singular underdeveloped dimension is linked to the absence of a formal process. If there would exist a policy requiring the managers to examine all aspects of a planned innovation at PUBLISH, the IDD would have a more balanced profile.

DISCUSSION

Considering the relationship between the RENT configuration and the firm’s innovation management process (i.e. the IDD), it can generally be suggested that sound innovation management process is associated with a favourable RENT configuration. When the firm has a sound process in place, it will be able to determine the potential risk–return profile of the innovation and capable of deciding if it is willing to take these risks. This is only possible if the company has reduced the uncertainty associated with this assessment through the collection and analysis of relevant data about competitors, customers and other industries’ variables. This insight was gained during the discussion of the RENT configurations with interviewees. For instance, the manager of MACHINERY argued that the Champion configuration of the planned innovation did not surprise him since if he would have expected something different the company would not carry out the innovation. This suggests that high scores of the diagnostic diamond are correlated with favourable RENT configurations (e.g. the Champion or Oasis configuration), and this is a hint that a thorough analysis preceded the assessment of the innovation. In this case, the firm decides to carry out an innovation if the RENT configuration corresponds to its expectations in terms of profit and sales.

Conversely, this does not mean that SMEs pursuing an innovation with an unfavourable RENT configuration (e.g. Shrimp) necessarily have a poor innovation management process. A planned innovation can lead to an unfavourable RENT profile for several reasons. First, the innovating firm has evaluated the risk–return structure thoroughly and wants to commercialize the innovation notwithstanding its unfavourable RENT configuration. This can be the case if the intensity of competition in the industry is high and the rents generated by an innovation will underlie fast erosion by all kinds of competitive reactions (for instance, the SME is active in a ‘commodity’ market where differentiation potential is minimal; competitors can easily imitate innovations; or switching costs for customers are low). Nonetheless, any firm needs to innovate in order to keep up with competitors. An example
Strategic Innovation in Small Firms

of this kind of relationship is PUBLISH. The manager did not seem to be surprised about the unfavourable RENT profile of the planned innovation since it was exactly what she expected: ‘Sometimes, we’re surprised ourselves that we still exist’, he said.

In addition, and contrary to what Santi’s RENT model (Santi et al., 2003) suggests, firms do not only consider financial reasons while developing an innovation. Strategic considerations matter too. For example, the innovation can be part of an overall strategic plan which will secure the firm’s survival in a hypercompetitive marketplace. The extension of PUBLISH’s online offer by providing specific content for B2B users is likely to generate a very small profit in the beginning. Nevertheless, this innovation can entice customers to prefer PUBLISH’s content over other web content which is freely available, and this can increase customer loyalty. In the future, this might prepare the ground for further product extensions and might increase PUBLISH’s survival chance in an industry characterized by a high churning rate.

An innovation with an unfavourable rent configuration could also be pursued because of a flawed decision-making process. When, for instance, the family owner decides to implement an innovation against the resistance of executive managers, the best internal management process might prove worthless. Managers might have analysed all relevant aspects of the innovation and have come to the conclusion that it is not promising. However, the business owner might have a different opinion and can override the management decision. Therefore, the prevalence of the family owner(s) and the corporate governance can have a significant influence on the commercialisation process in SMEs.

The implications of the empirical findings are particularly relevant for researchers and innovators using the diagnostic tool. Researchers examining strategic innovation decisions and innovation management processes in SMEs can use the insights gained during the empirical study in order to formulate hypotheses and test them with a larger sample size. For instance, it would be interesting to examine if there is a relationship between the quality of the innovation management process (captured by the IDD) and company or industry characteristics. It would also be worthy to investigate if the often praised flexibility of SMEs coincides with reality. The companies we examined seem to struggle with diverse customer demands and have difficulties in acquiring the right competencies fast enough to meet these demands.
REFERENCES

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