

Small and Medium-sized Enterprises and Their Attitudes towards Internationalization and Innovation

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Abstract

We use 16 case studies of SME to examine a very diverse range of innovation vs internationalization situations. Four synergic scenarios can be discerned, four situations can be identified in which innovation and internationalization either simply occur side by side or are in conflict; and many SMEs go through successive stages in which the balance between internationalization and innovation shifts over time. The companies examined show how internationalization uses mixed (technological and managerial) innovation devices in complex combinations, depending on the type of company, the operational context and their business trajectory.

Keywords: Internationalization, SME, Innovation

1. Introduction

The phenomena of internationalization and innovation have been recognized as the key drivers behind the development of small and medium-sized enterprises (SMEs), and appear to be irrefutably linked. However, many French SMEs continue to be reluctant to innovate and stray beyond the borders of their native countries due to the risks which this involves. In 2008, 6% of SMEs generated a portion of their turnover from exports (Observatory of European SMEs, 2008). Data in this field are disparate, however: the regularity of exports varies, and SMEs with some kind of group affiliation report five times more foreign sales than their independent counterparts.

Meanwhile, SMEs which engage in innovation export more: one in two SMEs in this category generates more than 5% of its sales abroad (Note 1). For this reason, research papers linking the aspects of internationalization and innovation are increasing in number (Perrault & Saint Pierre, 2008; Le Roy & Torrès, 2000; Gueguen *et al.*, 2007, Wolff & Pett, 2000). Practice shows that international activity is not restricted to exports: SMEs are willing to relocate, engage in foreign direct investment and forge business partnerships in foreign countries.

Many studies analyze the way in which SMEs optimize or fail to optimize their internationalization and innovation activities. Do these activities lead to synergies, are they merely concurrent or are they even ridden with tensions? If difficulties arise, is this due to conflict arising from the means, time, skills or leadership available or is it because of the nature of internationalization itself (skills drain and unfocused positioning)?

It seems inappropriate to view these issues from a global perspective, as SMEs vary in terms of the contexts in which they operate and the positions which they adopt. Rather, we use 16 case studies to examine a very diverse range of model situations. These situations are not uniform in nature; in most cases, we find a mixture of forward thinking, opportunism and plain luck, as can be seen in any strategic process.

These cases will be used to gain a deeper understanding of SMEs' strategic positioning regarding innovation and internationalization. With the help of managers, the case studies could also lead us to cause SMEs to rethink or corroborate their strategic decisions.

We do not include group subsidiaries in this study, as they have access to export-related resources through their parent companies, which means that their ability to trade abroad differs from that of independently managed SMEs.

2. Frame of Analysis

2.1 A Few Misconceptions

SMEs fall victim to numerous misconceptions regarding their internationalization behavior. At least three of these are discussed below.

Firstly, SMEs are the subject of a number of dogmatic preconceptions meted out through sound arguments telling them “how to export”. The expounding of general principles may seem reasonable (and it is reasonable in part), but it disregards certain realities specific to SMEs and does not account for the fact that these businesses often make decisions reactively, or even “in fits and starts”, to paraphrase Montaigne (Note 2).

Let us take an example of rational injunctions (taken from a website, rungsinternational.com): “Exporting success cannot be achieved through improvisation. Besides patience and determination, it requires planning and specific preparation, both of which in turn demand that the business adopt a structured method with a clearly defined strategy and financial plan [...]. The finances on offer must be commensurate with the size of the firm and its turnover objectives. The business must have enough financing to be able enter a foreign market without qualms [...]. In light of the product chosen for export, the most profitable market must be identified, the potential for market growth analyzed, and the customer profile targeted, all the while taking into account the degree of political risk, channels of distribution, regulations, competition and infrastructure [...]. The business must adapt to cultural issues, that is to say the way people buy, live and think. Any preconceived idea can be harmful to the business’s involvement in the chosen market. And so on.” At first sight, there is nothing wrong with this sensible list, but it says nothing of real strategic impulses or the risks and opportunities behind them.

A second common misconception is that SMEs need to have reached a certain size (through unions, associations or support from international businesses at the very least) before they can export (Perrault & St Pierre, 2008). Admittedly, “firms becoming established in a greater number of destinations are more productive, are larger, pay higher wages and enjoy bigger margins” (Fontagné & Gaulier, 2008), but the fact that a business exports less or across shorter distances does not mean that it is not internationalizing, and nor does it mean that it is devoid of strategy or productivity as a result.

In broader terms, general statements about links between business environment, experience or length of business activity and degree of internationalization should be treated with caution (Andersson, Gabrielsson & Wictor, 2004). These aspects are certainly relevant, but general statistics cannot account for individual behaviors.

Finally, many analyses confuse internationalization and exportation. In a general sense, any type of internationalization involves exporting, importing, and exchanging technological skills on a global market (Perrault & St Pierre, 2008). Moreover, we can discern and describe various types of internationalization: notably commercial (expanding trade), technological (where there is an open link with the global industrial system), and organizational (involving complex relocation in, for instance, the commercial, logistical, or productive domains).

2.2 A Few Shared Findings

A distinction can be made between three types of internationalization:

- (a) *Incremental* (as can be seen in step-by-step models). For example, a company exports to reduce its level of risk or uncertainty by enlarging its markets little by little.
- (b) *Opportunistic* (methods of international penetration involving seizing opportunities in conjunction with the firm’s types of strategic involvement);
- (c) *By initial design* (in this case, internationalization is directly linked to the birth of the firms: BORN GLOBAL COMPANY, INTERNATIONAL NEW VENTURE, INSTANT EXPORT, INFANT MULTINATIONAL, GLOBAL START-UP, etc.).

For Julien and Martin, (1996), the SMEs which export the most are medium- to high-technology companies which maintain a level of commercial, competitive, and technological responsiveness and which have a number of formal processes at their disposal. In other words, in addition to securing the minimum technical abilities required, the firm must also enjoy the necessary commercial prospects and structure its activities (so as not to lose itself in the formal variety which arises as a result of internationalizing).

Various studies (Coviello & Munroe, 1995; Julien & Martin, 1996) have shown that SMEs’ ability to forge contacts (to join and expand networks) may explain their propensity to internationalize. Whether formal or informal in nature,

such contacts enable the firm to benefit from opportunities by summoning skills. In the same way, Julien (2005) prompts managers to join intelligent networks which are able to support them, that is to say to help them develop their knowledge and to provide them with rich information and new opportunities.

Finally, as managers play a key role in directing SMEs (Julien, 1997), they contribute directly to their propensity to internationalize, or indeed their lack thereof (Morgan, 1997; Lloyd Reason & Muughan, 2002). Useful personal characteristics in this regard are a certain level of training, international experience and fluency in foreign languages. A sense of the challenge involved in going international must also be added to this list (Calof & Beamish, 1995). Knight (2001), meanwhile, observes that “The manager’s international inclination is a fundamental attitude and contributes greatly to performance”. On the contrary, a manager’s fearful attitudes concerning risks and innovation can generally be considered as inhibiting factors (Fillis, 2000).

We can see from the above that opportunities for internationalization are secured when a favorable manager coincides with available resources (technological potential, network-related dynamics). This marriage is a source of innovation in its own right.

2.3 A Few Concepts to Be Tested

Since the links between innovation and internationalization are complex and incidental, “it is not so much a help to export that companies need, but a more horizontal policy heightening the level of efficiency” so that the potential for growth or for production quality improves. “As the retreat of high-tech demonstrates, the subject of innovation is at the heart of these policies” (Fontagné & Gaulier, 2008).

In this paper, our bias is not to fix or classify SMEs’ behavior during internationalization processes from the outset, and nor is it to classify them in a kind of typology (with the aim of distinguishing, assessing or classifying them).

We examine SMEs’ praxis (their activity in times of change), through the managers’ and their teams’ behaviors, revealing the multi-faceted realities which emerge when goalposts are in flux. The links between internationalization and innovation vary through time, obeying circumstantial rules.

Obviously, conditions of general rules are identified (in help, support or injunctions; in regulation through the environment, advice networks or financing). A need for resource-related support can also be identified (by which we mean time, methods and skills, with the technological level and requirement depending on the economic domain involved and the degree of globalization of firms competing in those domains).

However, SMEs’ responses are differentiated, creative and mobile, as can be seen from the sixteen case studies offered below. It would be a pity to disregard this dynamism by imposing structuring principles. What SMEs expect is to be assisted, where necessary, to bring their initiatives to fruition, and to settle their objectives (priority management, renunciations, delays, speeding up, boldness), by bolstering their resources or by limiting their risks.

3. Types of Synergy between Internationalization and Innovation

At least four synergic scenarios can be discerned, and these will be labeled A to D below.

First scenario: innovation potential makes internationalization possible through specialized products with a worldwide distribution (AB).

One possibility here is a start-up decision (A): the firm is international, with “global products”, from the outset. In this category we find SMEs whose manager fosters an international dimension from the start. The numerous papers on the dominant role played by managers in organizational and decision-making patterns emphasize this specific category (Julien, 1997). Indeed, the firm’s objectives are strongly determined by the personal priorities of the manager, who conceives, develops and implements his firm’s goals (Filion, 1991). Torrès and Plane (2003) term SMEs “ego-firms”. Other papers have shown that there is a direct link between a SME’s inclination to develop internationally and its manager’s own characteristics (Morgan, 1997; Lloyd-Reason & Mugan, 2002), especially his experience, training, skills and origin.

The case of SEQUANS, a very international Franco-Lebanese company (Note 3)

Founded in 2004, the SEQUANS start-up was floated on the New York Stock Exchange in 2011. Of French and Lebanese origin, its manager was first a senior lecturer in a university in Beirut. He then joined Alcatel, before moving to a start-up in the Silicon Valley. Next, he began working on the design of silicon chips for mobile phones and fourth-generation USB flash drives.

When he started out in Paris (SEQUANS means “an inhabitant of the banks of the Seine”), he was refused support by all the banks and investment funds, with one exception, financed in part by the Region of Ile de France. Because of this, he has always felt a sense of gratitude towards the local and regional authorities.

He signed his first commercial contract with a small Israeli company in 2005 (such are the benefits of having local links). Since then, he has learnt to negotiate with the big names in telecoms. His technical expertise has enabled him to become a world leader in his field. A polyglot, he has settled in several countries, and now employs 250 people with 37 different nationalities; he has also increased his company's turnover thirty-fold in five years (from 2.5 to 70 million dollars).

His share issue on Wall Street gave rise to new opportunities concerning technological backing and markets opening.

Clearly a competent scientist, he has benefited from networking skill and determination, with the business sense common to all Lebanese. Meanwhile, the French setting in which he operates was more of a hindrance than a help with the satisfaction of his financial needs at start-up.

EGO case study (Note 4)

This furniture company employing 25 people was created in 2004 following an encounter between a designer and an engineer experienced in commercial techniques. It manufactures top-of-the-range outdoor furniture (garden and pool furniture). Given the prices charged, this company internationalized from the outset so as to target wealthy customers.

The company focused on three strong avenues: (a) coherent positioning (to prevent any dilution of its brand image); (b) all cash flow was reinvested in exports (to tackle new markets); and (c) all the staff were empowered (to create partnership links with each of them).

In outdoor furniture, a two-year period generally elapses between initial contact and the realization of sales. A good level of penetration is crucial (to be achieved through trade fairs, prospection, press relations and catalogues). The most successful retailers and those "most in step with the spirit of the society" must be identified.

The challenge is now to move from exportation to globalization. First of all, it is necessary to "relocate to remain in France", using a workforce based partly abroad while keeping core functions such as design, marketing, research office and tooling on site. It is then vital to become a "global brand" with worldwide recognition.

Second scenario (B): the company has a technical core with a high level of potential (specialized products or services) which enables it to internationalize through trade fairs, trade shows, middlemen (employers' organizations, chambers of commerce and industry, public-sector partners), or simply via the internet, etc... In this case, what exists is sold (with slight adjustments). The problem is which resources to use, what backing to secure, and what support is on offer from international businesses, as well as how quickly business should be developed.

For the manager of LABOFILL, member of a chamber of commerce and industry and coordinator of an EXPORT club, "what is vital is the exchange of experience and the opportunity to enjoy networks abroad".

In this respect, the best method to adopt does not necessarily involve a particular geographical progression in line with the advice of those who advocate beginning with nearby countries and then moving further afield. The opportunities offered by the internet and the density of transport infrastructure mean that established contacts and links can be prioritized. It is often only then that specific risks and constraints in terms of transport costs are taken into account.

In May 2009, the DGCIS (French Directorate General for Competitiveness, Industry and Services) showed that SMEs involved in competitive clusters were more focused on foreign markets. Indeed, competitive clusters are no longer limited to a regional or even national scope, but rather they engage in an internationally oriented cooperation policy. A study by the Richelieu Committee, a French association of innovating SMEs, shows the importance of competitive clusters which can facilitate the creation of international links.

OPEN WIDE case study (Note 5)

Created in 2001 with the support of Thalès and Schneider Electric, OPEN WIDE specializes in "the industrialization of open source technologies". This SME has a R&D center which enables it to remain an expert in the field and develop its role as an "integrator in the field of the urbanization of information systems".

Although Open Wide does not carry out any prospection abroad, Patrick Benichou, its founder and managing director, explains that the technological content which the firm possesses enables it to be present in various countries. He goes on to explain the methods which he puts in place to take new markets:

- It must be a provider for firms which have an engineering and design department abroad.*
- It must be able to train stakeholders in and users of this technology and thus enable technology transfer.*

- It must create a joint venture with a (Chinese) partner to reach target customers interested in a specific skill: railroad supervision.

Mr Benichou emphasizes that his membership of the competitive cluster System@tic has enabled him to adapt his offering and “to make himself known abroad”.

PHASICS case study (Note 6)

Following a thesis from the LULI laboratory, which specializes in the use of high-intensity lasers, Benoit Wattelier created Phasics.

This SME uses patented technology to manufacture and commercialize high-resolution wave front analyzers used both in biomedicine and in the field of optical metrology.

Endowed with its own R&D team, Phasics seeks new ways to apply and adapt technology to its customers' needs.

The partnership forged between the LULI laboratory and the SME enables PHASICS to benefit from state-of-the-art instruments. In return, LULI “benefits from the know-how of the engineers and researchers” of the SME and sees its work furthered in this way.

Insofar as it benefits from international renown in its field of excellence and it plays host to many foreign experts, LULI allows Phasics' analyzers to raise their profiles. The manager underlines the usefulness of this partnership, which “has brought many contacts abroad and helped with development”.

Third scenario (C): Innovation is built or organized through internationalization (as it characterizes the ways in which products, services or distribution channels are organized to reach a diverse target audience). There is a complex interaction here between innovation and internationalization.

Creativity and innovative potential favor internationalization (Fillis, 2000).

Mathez case study: Truffles for every taste (Note 7)

The MATHEZ chocolate factory (50 people, 10 million euros) manufactures truffles (in every possible flavor, with more than 50 varieties). Its main outlets are traditional networks (chocolate retailers), designers of food parcels and own-brand retail.

One investor with an international outlook insists that exporting should be an “absolute priority”, convinced as he is that “MATHEZ's future is international”. All that is required is patience and to insist on (“remaining determined over time”). To penetrate markets, the firm uses international trade fairs, which allow it to build a brand reputation. In commercial terms, this is the best way to establish contacts. Today, MATHEZ continues to maintain a presence at a dozen trade fairs. The internet plays the modest role of guiding prospective customers to the business and helping them to choose the products which interest them.

Apart from countries where negotiation with importers was required, MATHEZ maintains direct relationships. When it settles in a store or store chain, it is often contacted by competitors wishing to compete on the products offered to their customers. This method has allowed MATHEZ to develop a strong presence in Asia. Overall, exports represent 70% of the business's turnover.

Besides the creativity of its products and the specific formulae behind them, MATHEZ has managed to meet the needs of suppliers wanting a private brand (flexibility in packaging and market preparation).

In this case, innovation assists with internationalization opportunities, and is in direct response to customers' needs. It is not a complex or costly type of innovation. It pivots upon a certain expertise in terms of diversification of tastes and packaging, and relies on a willingness to “stick to demand” and a strong ability to adapt.

VULLI case study (Note 8)

This manufacturer employing 70 people is famous for “Sophie the giraffe”, a rubber toy which has featured in the lives of millions of newborn babies in France. The toy was created in 1961 and is a miracle product: it is long-lasting and uses tried and tested technology.

However, internationalization required another form of creativity. The export department was created only in 2008 so that the business could move beyond the few sales it had previously made in Belgium and Switzerland. Although they were tried and tested, usual exporting methods did not bear fruit: the main retailers were not interested. The company then considered recruiting a “mum” who had dual nationality and liked Sophie the Giraffe. It designed a web site before visiting the country's top store, where many celebrities shop, with a stock of 20 giraffes, to have the stars photographed with the toy to generate publicity including via internet-based forums. With no advertising the retailers which initially rejected the giraffe ultimately agreed to stock it.

This retail pattern was repeated in 47 countries.

Last type of favorable scenario (D): internationalization leads to opportunities for innovation (through observation of technology, know-how or commercial needs in other countries which encourage the creation of new products, processes or services in the original company). These may include harbingers of future ideas (idea detection), benchmarking (adaptation of “good practices”) or the importing of skills detected (or even bought) on international markets.

PAUL MAS case study (Note 9)

The Paul Mas Domains are a family property covering more than 200 hectares of vineyards around the villages of Pézenas, Montagnac, Ceyras and Limoux in the south of France. The wines produced here embody rural luxury, with a blend of tradition and innovation, creativity and authenticity.

By making 98% of its sales abroad, in 2006 the firm was awarded a prize for international business. It works with retail agents without seeking to create subsidiaries or joint ventures. Paul Mas secures market share by adapting to local consumers’ needs and new trends (for example, the company focuses on organic products).

Above all, Jean-Claude Mas concentrates on innovative marketing. In addition to the quality of his products, the business seeks to provoke through imagery, selling a wine called ARROGANT FROG (abroad, the French are sometimes called frog-eaters), with an offbeat label and a screw cap.

Jacques ROSTAING case study (Note 10)

This two-hundred-year-old family business used to manufacture gardening gloves which were stocked in all garden centers with a 30% stake in market shares. This company lost its competitive edge, however, to Asian counterparts (from China, India and Pakistan).

In 1995, the manager was called to the rescue by his father. He loves Asia, and has traveled there a great deal for import and export purposes. He decided to settle in VIETNAM with his wife and child and to build a factory near HO CHI MINH CITY. He manufactures gloves, but also shoes, leather bags, and silk ties. He provides for luxury brands and develops top-of-the-range products.

The company continues to provide 54 jobs in France (design, prototypes and marketing). Its other employees are based in VIETNAM and MOROCCO.

This is not only a matter of relocation. By settling in Asia at the heart of the competition, the company can maintain further jobs in France and develop new products in step with local opportunities.

A variant of the previous situation (D’): in some cases, settling abroad (in an active cluster or a network of active agents) enables the firm to establish an optimal technological innovation base.

Research by Julien and Martin (1996) explains that SMEs’ tendency to internationalize is directly linked to their ability to forge relationships and contacts which enable them to get involved in networks and benefit from skills.

ALIOSCOPY case study (Note 11)

The company ALIOSCOPY, which employs 25 people, was created by one of the pioneers of three-dimensional television. Thanks to Chinese LCD screens, it offers 3D spots without glasses and has 12 patents.

The business began exporting very quickly and opened subsidiaries in Singapore (employing three people) and San Diego (employing two people) to benefit from key moments in the market developments taking place. “Singapore is the ideal platform from which to canvass markets in China, Korea, Japan, and also India.” It is in these outsized cities that the most sophisticated creations can be initiated, especially when they rely on “demanding and costly technologies”. Today, ALIOSCOPY provides top-of-the-range screens for professional use in the fields of advertising, architecture and medical imaging, and it is currently testing 3D digital display. It will supply more widely in the future.

3S PHOTOTONICS case study (Note 12)

3S Photonics (formerly Alcatel OPTRONICS) is a company with 166 employees which is one of the world leaders in optoelectronic components for telecommunications networks. Nearly all of its turnover comes from exports.

It set up in Nozay, in the heart of the OPTIC VALLEY, thus developing a true technological and industrial cluster.

Alexandre KRIVINE, the Chairman of the Board of Directors, insisted on relocating to Thailand, particularly for assembly purposes, by creating a subsidiary.

Thailand boasts strong skills in electronics, which “allows the quality of the products to be harnessed on a global scale”. Although political instability leads to other problems (with supply, for example) and the law is constantly

evolving (which means that specialized lawyers have to be hired), Thailand remains a must for 3S PHOTOTONICS: it is a geographical crossroads, and offers a cheap workforce with real skills.

4. The Transition from One Type of Internationalization to Another, with a Shift in the Innovation-internationalization Balance

Many SMEs go through successive stages in which the balance between internationalization and innovation shifts over time.

For example, we can observe cases in which there is a shift from Scenario A to Scenario C.

Tikamoon case study (Note 13): The greater the mastery of production, the wider the distribution can be

The company Tikamoon sells Indonesian furniture by designing it in situ but from the company's own country. At start-up, the founder had accumulated 16 years' experience in furniture sales; now, three years later, a team of 11 people manages a warehouse covering 1,200m².

The designer teamed up with the former manager of an online business site, so as to "pool complementary areas of skill". By managing the early stages of the business process (furniture materials and manufacture), the company wants to "multiply its distribution channels, through contacts with distributors and specialists in remote sales". It is investing in the German market, where this type of product is warmly welcomed, and hopes to boost exports to 30% of total sales within three years.

A German website has now been created, which has also allowed the "original French website to be redesigned" so as to simplify it, raise its profile and target it more carefully.

Here again, internationalization is facilitated by an increase in skills in e-commerce (hiring a partner), which soon makes it possible to create a web-based platform for Germany in light of the German population's taste for Indonesian-style furniture.

We now move on to a case of a shift from Scenario B to Scenario C.

R2IS case study (Note 14): Attractive innovations abroad

R2IS is a Lille-based company with 14 employees which specializes in IT assistance for large retail outlets (tills, electronic transactions). It is now moving into the development of mobile solutions (MOBIL'IT in 2009), with a sky-rocketing turnover.

This innovation brought the business to the attention of an independent American company, following a business trip to the Silicon Valley organized by EURATECHNOLOGIES (ICT incubator of the Lille Urban Community). The American firm offered to become R2IS's official representative for R2IS, enabling the French entrepreneurs to join an influential network (The Mobile Marketing Association).

In 2010, a meeting with a company manufacturing GPS solutions for major retail outlets resulted in an innovating product which trialed successfully. It was then necessary to set up in the USA and raise a significant amount of additional capital to support growth.

In this example, we observe a pleasing sequence of opportunities, with a successful and progressive interconnection of technological and international outcomes (backing of an incubation structure, partnership for the launch of the product, access to networks, opportunity seizing).

5. Weak or Conflicting Links between Innovation and Internationalization

At least four situations can be identified in which innovation and internationalization either simply occur side by side or are in conflict (Scenarios E to H).

In the first type of scenario (E), the firm adds an international element to its original activity through "external growth" by buying a skill (executive, group of employees), a brand or an already internationalized subsidiary. But is this an adjacent skill (juxtaposed), or a penetrating one (which will have to be gradually integrated into the spectrum of the firm's practices)?

EMBALTEC case study (Note 15): A nephew to innovate through the Web

The EMBALTEC group was founded 20 years ago and provides custom packaging services, with a branch in Nieppe (10 employees) and another in Rouen (5 employees). Its traditional customers hail from industry. The manager has diversified through EMBALOG, which operates container offloading. Tempted by the Web, he considers himself under-qualified ("I have always been reluctant, but you have to jump on the bandwagon").

He "sought a new outlook" and found it in his nephew, an ICT engineer had recently assisted with the development of a consultancy firm. He welcomed the opportunity to lead a new subsidiary, EMBALEO, through the internet.

(“The WEB excited me; this is a new market for us”). The new partner’s technological skills enabled EMBALTEC to broaden its potential in terms of both products and customers. Visitors to the website find packaging materials (cardboard, adhesives, plastic bags, bubble wrap, etc.). The project is aimed at individuals but also craftsmen, shopkeepers and artists. Furthermore, there are already “strategies to diversify the product range”. This activity keeps current employees occupied during quieter periods, and only required the purchase of two software programs.

The creation of a website inevitably leads to internationalization, starting with Belgium and the Netherlands. The manager believes that “the WEB is a huge area for development. Logistics is important in e-commerce. It is an exhilarating challenge”.

A SME can integrate technological innovation through the hiring of skills. The “well-qualified nephew” shows the need for trust (which comes through family links) when embracing a technology than one does not master oneself.

In a second type of situation (Scenario F), the focus on exporting (or internationalization) drains the means, budget or resources that could have been devoted to innovation.

La Cie GROUP case study (Note 16)

This company is a world leader in the domain of external hard drives thanks to its technical success and its original design; it has won countless awards and generates 89% of its turnover through exports. It has 14 subsidiaries with 450 employees.

During the 2008-2009 crisis, the manager of La Cie Group froze exports to at-risk areas, retaining its financial resources to keep its research and development functions working at a high level. It was more careful to strengthen its innovative potential than to protect export turnover, as it is less dangerous to restrain internationalization (by adapting to circumstances) than to lose ground on technical quality; only this quality makes it possible to win back markets.

A third situation (Scenario G) deals with extensive marketing approaches (much of the same thing). These approaches do not force a business to internationalize at all; rather, the technologies developed encourage it to expand in regional or national markets.

ACM case study (Note 17): Internal then external growth sustained by a promising market

ACM was created by a pharmacist-biologist and his wife in Bellegarde (in the French département of Loiret). It is a small group specializing in microbiological analysis (with 75 employees, a turnover of €7 million, and two fields of activity: ACM AGRO and ACM PHARMA).

The firm is experiencing significant growth. According to the manager, “the market for analysis in the agri-food industry is undergoing major development. Some crises have accelerated the need for safety and traceability”. The business’s main activity is to look for microbial or pathogenic contamination in traditionally made products, mass catering, slaughterhouses and agri-food industries. For the PHARMA branch, it also works on pharmaceutical and cosmetic products.

Competition is fierce, but the firm capitalizes on its “reactivity, flexibility and the range of services offered to its customers”. It wins over a number of the markets abandoned by public sector laboratories depending on General Councils.

A leader in its region, ACM intends to strengthen its operational network by broadening its geographical scope through the taking-over of other small family laboratories. The firm has built a new head office in line with its ambitions. “Firms such as ACM are supported by the market provided they manage to move with or anticipate it”.

Finally (H), selecting the countries in which to internationalize does not always involve specific innovations or technological developments. Such decisions sometimes even undermine the products rather requiring that they be improved (such as when there is a preference for countries where technological or quality requirements are less stringent).

This does not prevent businesses from making initial technological adjustments (which are neither too costly nor complex) to meet specific requirements. However, once these have been carried out, the flow of the products (bottom-of-the-range or low-priced) requires above all an ability to supply in great quantities (capacity development).

GAUDET bakery case study, 55 employees (Note 18)

Specializing in bottom-of-the-range and middle-of-the-range products, this firm exports a spiced plum tart to India with a view to its being sold over the course of a month during an important religious celebration. On the whole, the

business has to send at least 250,000 pies weighing 500g each, which are transported in about 15 containers. In addition to its production capacity, the firm has managed to manufacture a cheap tart which can withstand storage for six months without refrigeration.

6. General Conclusion

In conclusion, these case studies have led us to observe the following:

- Fundamental technological innovations, especially upstream (prior to internationalization).
- Technological innovations with a view to adjustment and adaptation, or aiming to secure international niche markets, which interact with the internationalization process.
- Marketing or organizational innovation to penetrate certain markets, work with internationalization or speed up development by building in specific services meeting international customers' needs.
- Circumstantial or incidental innovations arising from opportunities encountered (by chance or by design) in the countries where the company has operated (through synergies with partners or ideas for new products).

The companies examined show how internationalization uses mixed (technological and managerial) innovation devices in complex combinations, depending on the type of company, the operational context and their business trajectory.

These adjustments bear witness to a need for joint creativity in the fields of engineering, trade and management which venture beyond the advice commonly given concerning technical quality (for products and services) and a potential partnership network (for international distribution).

"A relevant analysis of the "internationalization of SMEs" must be achieved through a careful definition of the procedures involved in joining the dynamic of the Global Industrial System (to which businesses contribute). This means we must not rank firms which export and import, or ones which export but do not import, to the extent that the internationalization of trade is not a relevant indicator, or at least not a sufficient indicator, of the Global Industrial System's capacity for integration. This capacity for integration becomes even more widespread if the manager is able to accommodate the various aspects of the international process and to use this strategy to achieve the level of performance which he or she desires." (Perrault & St Pierre, 2008)

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Notes

- Note 1. Data from the Observatory of European SMEs (2008) and OSEO (2008), taken from Economie et management No. 131, April 2009.
- Note 2. The mental wanderings of the celebrated author prevented him neither from exercising subtlety nor from taking on managerial responsibilities (he was mayor of Bordeaux).
- Note 3. According to F. DEDIEU, L'Expansion, June 2011.
- Note 4. www.lespmeexportent.com.
- Note 5. Interview with Patrick BENICHO, Journal du Net.
- Note 6. Taken from L'Entreprise No. 295, December 2010.
- Note 7. www.lespmeexportent.com.
- Note 8. www.lespmeexportent.com.
- Note 9. Case study adapted from L'Entreprise No. 277, April 2009.
- Note 10. L'Entreprise, November 2010.
- Note 11. L'Entreprise, June 2011.
- Note 12. Adapted from L'Entreprise, No. 302, July-August 2011.
- Note 13. T. BAUME, Journal des Entreprises, 8 October 2010.
- Note 14. T. BAUME, "R2IS, direction les USA avec applis mobiles", Journal des entreprises, June 2011.
- Note 15. G. BERTRANDE, Journal des Entreprises, 8 October 2010.
- Note 16. L'Entreprise, April 2009.
- Note 17. Taken from Journal des Entreprises, 2011.
- Note 18. Case found on the internet.