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Risk Management

Lever for SME Development and Stakeholder Value Creation

Edited by
Céline Bérard and Christine Teyssier

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Preface

Nowadays, risk management can be considered as a valuable “resource”, capable of generating a competitive advantage for companies. It strengthens the company’s ability to not only better manage risks inherent to its strategic choices, but also to seize various developmental opportunities available and improve its performance (market expansion, technological partnerships, etc.). Risk management not only has a strategic dimension that is crucial for the development and success of companies, but also a global dimension. It must be analyzed as a global process that requires managers to define the level of acceptable risk that their company is able to bear, identify the risks incurred, and assess them in terms of criticality in order to prioritize them, implement appropriate risk management measures, and communicate this approach to the internal and external stakeholders of the organization.

Risk management practices in companies are developing, in particular as a result of new international reference frameworks that consider risk management as their main concern (for example ISO 31000: Risk Management or COSO: Enterprise Risk Management). Even though large enterprises are more likely to adopt a comprehensive and integrated risk management system, in particular because they are more frequently subject to regulation, SMEs (Small- and Medium-Sized Enterprises) are also concerned. Unfortunately, risk management in SMEs, due to the inadequate human and financial resources which characterize them, is unconventional, rather intuitive, quite fragmented, pragmatic, proportionate to the stakes, and often implemented in a reactive manner. Rather than a constraint or an obligation, risk management in SMEs today deserves to be studied with regard to organizational and entrepreneurial dynamics because it constitutes a real opportunity for these companies to improve on their practices and performances. Risk management can be a performance, value creation and innovation lever for SMEs.

This book, which is divided into three parts, brings together 12 chapters in an academic research format. It enables us to understand risk management in the context of SMEs from different perspectives.

As a preamble, Maria CREMA introduces, using an exhaustive literature review, the major questions relating to risk management in SMEs as well as future research approaches.

The first part of the book places risk management in SMEs at the center of questions on governance and creation of stakeholder value, both for the internal and external stakeholders of the organization. In Chapter 1, Martine SÉVILLE and Christine TEYSSIER strive to understand how the actors and governance bodies within SMEs are likely to influence, in an enabling or constraining manner, the way in which risks are managed within the organization. In Chapter 2, Camille DE BOVIS and Sylvaine MERCURI CHAPUIS show that the integration of the ISO 26000 standard in SMEs prompts them to investigate new ways of understanding risks and engage more specifically in responsible and joint risk management. In Chapter 3, Martine SÉVILLE, Caroline CHAMPAGNE-DE-LABRIOLLE and Nathalie CLAVEAU study the economic dependency relationships of SMEs. They express the need to develop a systemic approach to economic dependency relationships in order to better manage negative risks and exploit opportunities. In Chapter 4, Laure AMBROISE and Isabelle PRIM-ALLAZ highlight the specificities of reputation within an SME context and the risks associated with it. They identify several operational levers that can enable SMEs to enhance and preserve their reputation.

In the second part of the book, risk management is analyzed as a lever for organizational development. In Chapter 5, Josée ST-PIERRE and Richard LACOURSIÈRE demonstrate that the introduction of a risk management system in SMEs would, while improving the performance of the company, contribute in demonstrating management quality, reassuring funders and facilitating access to the financial resources necessary for the development of the company. In Chapter 6, Céline BÉRARD and Nathalie CLAVEAU strive to understand how risk management can transform SMEs, while exploring organizational and strategic changes. In Chapter 7, Jacques BERTRAND and Josée ST-PIERRE seek to identify the capacities that need to be developed within SMEs in order to carry out a fair and relevant identification of the risks inherent to new product development. In Chapter 8, Manal EL BEKKARI, Catherine MERCIER-SUISSA, Céline BOUVERET-RIVAT and Lynda SAOUDI propose a literature review on counterfeit risk factors caused by industrial subcontracting at the international level. They highlight the challenges for SMEs faced with this risk to implement a formal protection to protect their industrial property rights or adopt other informal protection forms or practices.

The purpose of the third part of the book is to bring the role of the individual, that of the owner-manager, back to the center of the risk management process. In Chapter 9, Saulo DUBARD BARBOSA and Luc DUQUENNE invite us to reflect on the major role of the supporting systems in the entrepreneurial process and demonstrate the importance of support experts and mentors being adequately trained in order to better understand the cognitive bias of risk management. In Chapter 10, Caroline BAYART and Séverine SALEILLES address the issue of educating entrepreneurs of necessity towards proactive risk management practices. Specific support mechanisms are needed, considering the vulnerability of these entrepreneurs, like those that can be developed in microinsurance organizations. In Chapter 11, Lynda SAOUDI and Stéphane FOLIARD propose a reflection on the consequences of transformation and imbalances that the enterprising SME may encounter and the risks that it must manage in order for the approach to be successful. The development of agility makes it possible to develop the necessary ambidexterity by managing possible frictions. In Chapter 12, Nathalie CLAVEAU, Muriel PEREZ, and Thierry SERBOFF demonstrate that there may be a gap between the manager's perception of failure risk and the company's actual failure risk. The manager's perception biases, in particular optimism and overconfidence biases, are put forward as explanatory factors.

To conclude this book and fuel discussions on this complex concept of risk, Alain Charles MARTINET proposes a set of epistemic benchmarks with emphasis on risk, management, and strategy.

Céline Bérard
Christine Teyssier
September 2017

Introduction

Risk Management and SMEs: an Overview and Proposed Research Agenda

In a period of economic and financial crisis, managing risks inside a firm is becoming a crucial practice that can benefit the internal business and external stakeholders. Risks can be considered from different perspectives. However, according to several scholars "risk" can be defined as the exposure to the possibility of economic or financial loss or gain, danger, damage, injury, or any other positive or negative unexpected consequence due to the uncertainty of the defined business objectives [CHA 83, HAR 03, ISO 09]. Risk is a variation from an expected situation [JUT 03], but it could be both positive as well as negative. Therefore, risk management is the process that allows risks to be understood and their impact minimized [FAI 06]. Its aim is to create business value, maximizing profits and minimizing the firm's costs.

As demonstrated in a limited, but increasing, number of studies, Risk Management (RM) can not only benefit large firms, but it can also be a source of wealth for Small and Medium Enterprises (SMEs). Thanks to early research about RM in SMEs, the role of the owner-manager in RM adoption, the nature of risks in SMEs, the different risk contexts and complex risk environments in which SMEs operate have been investigated. In particular, most of the studies concentrate solely on the risks associated with safety and occupational health and hazards [SUN 15, ISL 06, ISL 12, JAY 12]. The studies are performed in diverse countries and sectors but the manufacturing industry is the most widely investigated.

Introduction written by Maria CREMA.

Considering the number of studies conducted in the last decade, it is possible to state that RM is still in the initial stages of development but that there is a growing interest in RM in SMEs. Issues linked to RM implementation in SMEs are mainly related to the lack of standards and guidelines describing how comprehensive risk management should be applied in SMEs [TRO 04]. In the existing literature about SMEs, there is little research on actual implementations, methods and practices of RM, as well as a lack of general coherence and understanding of RM in SMEs [SUN 15, VER 13, POB 11, HEN 08]. In particular, the analysis performed by Verbano and Venturini [VER 13] demonstrates that there are only a few studies aiming to improve the ability of SMEs to survive and create value over time through RM adoption.

In this introduction, the motivations to adopt RM, the types of risks to be managed, the characteristics of RM and the issues and drivers to implement RM in SMEs are investigated. Towards the end of the chapter, several opportunities for future research to understand how RM can be a lever for performance, value creation, and innovation in SMEs are outlined.

The motivations fostering the adoption of Risk Management in SMEs

The economic significance of European SMEs is clear: they constitute 99.8% of the total number of European companies, 67.4% of the workers in Europe are employed in SMEs and they generate 58.1% of the total gross value added [ECO 12]. According to Bosma and Levie [BOS 10], SMEs are key drivers of economic development. Certain SMEs are also able to survive through economic slowdowns and continue to be a source of flexibility and innovation to generate new job opportunities [ECO 09, ISL 12]. Therefore, they play an important role, at least in European countries. When compared to large firms, SMEs have specific features that distinguish them from others. First of all, the owners play a central role. They are often part of the management team in SMEs and their intuition and experience are determinant in decision-making and managerial processes [MCK 94, DIC 01]. It is also well-known that SMEs are less structured when considered from an organizational point of view and they report significant constraints in terms of lack of financial, technical, technological, infrastructural and human resources [ISL 12]. As a result of this, they cannot employ specialists for all the positions in the firm and generalists are also usually in charge of administrative functions [MAT 95, JAY 12].

Due to their peculiar characteristics, SMEs are more vulnerable to risks when compared to large firms, under a technical production perspective, but also considering their third-party liability, the financial and human resources necessary to survive, and the protection of their intellectual property [VER 13, PET 97]. Such risks are due to both internal and external disturbances linked mostly with deregulation, liberalization of trade and high competition which cause more uncertainties and challenges [VER 13, ROS 15, AUR 13]. Therefore, SMEs need RM much more than large organizations in order to survive, as it allows them to respond promptly to these disturbances through the management of possible risks, keeping the firms viable and productive, and improving their efficiency [YEO 04, KIR 01]. Basically, through RM it is possible to avoid the consequences of disturbances that can worsen business performance, in terms of production, production capacity, human resources, market share and financial losses and even insolvency of the organization [RAG 05, VER 13]. Different studies have demonstrated that companies with more advanced RM achieve more satisfactory economic performance and business success (e.g. [CIN 15]) [COO 02, ROS 15, ROU 11].

Therefore, the importance of RM does not decrease with the size of the firm [AUR 13]; rather, it is particularly crucial in the context of innovation. According to 74% of the 257 medium-sized firms interviewed and analysed by Cineas [CIN 15], RM is a tool to seize opportunities, rather than a cost. Considering the same sample, RM is also useful to simplify relations with banks (64%) and insurance companies (77%). In the context of turbulent markets and rapid continuous changes, risks have to be properly managed to achieve the expected performance, protecting and creating value, not only inside the firm but also through external collaborations with stakeholders, facilitating the innovation process that can be performed both inside and outside the company boundaries.

Different types of risks managed in SMEs

In the literature, different classifications of risks can be identified. Even if each company can adapt and define a customized categorization, according to Floreani [FLO 05] it is possible to distinguish between business risks and pure (hazard) risks. Among the first ones to be categorized are strategic, operational and financial risks. The classification of risks into strategic, operational, financial, and hazard risks is shared by many organizations and scholars (e.g. by the Casualty Actuarial Society [DAR 01, AIR 02]). Strategic risks can affect the achievement of business strategy. They can concern the firm's reputation, ability to pursue strategic objectives, general economic trends, market position, behaviors of customers and competitors, technological innovation, changes in market demand or regulations. Operational risks relate to the company's operative management of internal processes, people and systems; thus, they can impact the efficiency and effectiveness of internal and

external processes. For instance, they can refer to human resource management, supply chain management, product development, information technology and information reporting. On the other hand, financial risks can be derived from typical firm activities regarding its liquidity and credit, and from changes in financial markets (interest rates, commodity price). Outside business risks, pure risks can be labelled as residual or hazard risks. According to Islam and Tedford [ISL 12] a hazard can cause harm, injury, death, damage, or loss of equipment or personnel and it can occur without any real business failure. Following the classification provided by the same authors, hazards can be: catastrophic – provoking death or serious injury of employees or loss of an entire system; critical – producing severe injury or loss of valuable equipment; minor – implying minor injury or minor system damage; negligible – without causing relevant injury or system damage.

There are different types of risks that can be managed in SMEs. In Table I.1, the most studied and perceived risks in SMEs are reported according to the above-mentioned risk classification. For instance, the strategic risks analyzed in the literature come from competitors, customers, the external environment and aspects linked to the innovation process [JAY 12, VER 13]. Operative risks in the SMEs analyzed concern human resources, production methods, process management and information and communication technologies [JAY 12, VER 13, VIR 05, HEN 08]. The last type of business risks, such as financial risks, includes interest risks, exchange risks, risks linked with movements and value of investment, credit, commodity and liquidity risks, and also includes inflation risks and other risks connected with changes in the market and regulatory requirements [VIR 05, VER 13, SUN 15]. There are recent studies about pure risks, in particular regarding occupational health and safety risks in SMEs; for instance, a recent special issue of "Safety Science" is totally devoted to this topic [LEG 15].

Conversely to the results of Jayathilake [JAY 12] and Virdi [VIR 05], in Cineas [CIN 14], Aureli and Salvatori [AUR 13], and financial risks are more relevant than strategic and operative risks in Italian SMEs. The other important risks in this context are IT risks and external risks due to theft, fire, and damage [AUR 13].

Turpin [TUR 02] reports that for European SMEs the risks linked with increasing competition, changing customer demands, lack of market data and personal absences are the most frequent and relevant. According to Verbano and Venturini [VER 13] the most studied risks in international literature on SMEs are the financial and operational ones. The latter considers mostly information technology management, but also production planning and process management. In particular, operational risks are managed within different RM approaches [VER 11]: Financial Risk Management, Supply Chain Risk Management, Insurance Risk Management and Project Risk Management (which is the most studied RM stream).

Business risks			Pure risks
Strategic risks	Operative risks	Financial risks	
Competitors and increase of competition [JAY 12, TUR 02]	Human resources [JAY 12, VIR 05]	Interest risk [JAY 12]	Personal injuries [VER 13]
Customer [JAY 12]	Production methods [JAY 12]	Exchange risk [JAY 12]	Labour unrest [SUN 15]
External environment [JAY 12]	Production planning [VER 13]	Movements and value of investment [JAY 12]	Theft, fire, and damage [AUR 13]
Changes in the market and customer demands [VIR 05, TUR 02]	Process management [JAY 12, VER 13, HEN 08]	Credit risks [VER 13, SUN 15, AUR 13, CIN 14]	Occupational safety and health [LEG 15]
Innovation aspects [VER 13]	IT [JAY 12, VER 13, AUR 13]	Commodity risks [AUR 13]	
Lack of market data and skills [SUN 15, TUR 02]	Regulatory requirements [SUN 15]	Liquidity risks [AUR 13, CIN 14]	
	Personal absence rate [TUR 02]	Inflation risk [CIN 14]	

Table I.1. *The most studied and perceived risks in SMEs*

Analysing the literature, very little attention is devoted to environmental risks, reputational risks, disaster recovery risks, and human resource risks linked with the exclusive knowledge, competencies and experience of a few key people.

The resources and approach adopted to manage risks in SMEs

Due to the scarcity of resources in SMEs, a risk manager is usually not identified and a specific function or department for risk management does not exist [AUR 13, CIN 15]. Generally, the owner-managers supervise and manage all the RM activities in SMEs; only in SMEs with larger size is the administrative or financial director recognized as the person responsible for RM [CIN 14, HEN 06, JAY 12]. Moreover, the percentage of turnover that SMEs can devote to RM is quite low. For instance, in

Italy, which is one of the European countries with the highest number of SMEs, about 3.5% of the turnover is dedicated to RM in SMEs, usually hiring external consultants especially to manage certain types of risks, such as legal, environmental or financial risks, or to obtain certifications [CIN 15, AUR 13].

According to Smit and Watkins [SMI 12], the owner-managers are not aware of the risks that their firm is facing and they do not adopt systematic, holistic and formalized RM. Most of the SMEs studied follow a traditional RM approach that is reactive and less formalized. It mostly consists of typical activities of internal control, rather than being a key part of the business strategy and value creation, as it should be according to Power [POW 04].

Many scholars report that SMEs do not define a risk management strategy and do not link it with the strategic plans of the firm, although this could be critical for the firm's survival and growth [HEN 10, JAY 12, AUR 13, VIR 05, ISO 09, COS 04]. Only a few studies (e.g. [VIR 05]) indicate that the majority of SMEs consider risks in their business plans. However, according to most studies in the literature, SMEs do not usually define a comprehensive business planning system; they prefer a short-term perspective and define and implement RM in its negative sense, considering it as threat management [JAY 12, JAN 06, HEN 10]. By managing risks in isolation, the responsibility of an incident is attributed to the people close to the risk's consequences. Moreover, in SMEs, risks are usually not communicated throughout the company and there is not full and integrated risk reporting [AUR 13, HEN 10].

In summary, SMEs seem incapable of properly managing their risk exposure and do not adopt formalized frameworks such as Enterprise Risk Management (ERM) or ISO standards, even if the adoption of a RM process throughout the firm to identify all the potential risks, which may affect the organization in achieving its enterprise objectives, could mean improvements in terms of decision-making, accountability, reputation, and long-term performance [AUR 13, COS 04, NOC 06]. The issue is that the culture of RM is scarcely diffused in SMEs and there are only a few initiatives taken to this extent, whereas a strong "enterprise culture" prevails, encouraging risk taking and discouraging the adoption of structured RM [VIR 05, JAY 12].

The risk management process and tools

According to ISO 31000 [ISO 09], the RM process should be executed following specific phases. Firstly, the context should be analyzed in order to understand the general situation in which the firm works; in particular, it is crucial to investigate the defined corporate strategy and the pursued RM objectives, and also to gather information regarding the organizational structure, the resources and process

of the adopted RM, as well as the types of risks of the firm. Then, the risks should be identified and analyzed. At the end of the process, the assessed risks have to be dealt with by selecting the most suitable risk response, which can consist of risk avoidance, transfer, mitigation, and acceptance [HIL 03]. In order to assure the execution of the predefined plan, monitoring and reviewing should be continuously performed. Moreover, the different identified risks should be integrated and the firm's risk profile, the RM process and eventual residual risks should be defined. During all the phases of the RM process, communication and consultation should be executed and they should be addressed to both the internal and external stakeholders. Thanks to these continuous activities, which require careful reporting, the stakeholders can be informed and involved in providing input to the RM process and supporting the handling of the risk. As emphasized by AIRMIC, ALARM, IRM [AIR 02], RM has to be cogitated in relation to many varied stakeholders and it should foster an increase in their confidence in the organization, respecting their expectations and overcoming their concerns.

According to the literature review on RM in SMEs performed by Verbano and Venturini [VER 13], the total RM process is studied in only 36% of the examined articles. Risk identification and evaluation are the most analyzed phases, while risk treatment and context analysis are the least studied. Some progress has been made in terms of risk assessment in SMEs, mainly for new product development [HEN 10, ROS 10]. However, following the research of Jayathilake [JAY 12] conducted in Sri Lanka, the majority of the RM phases are performed at lower levels and, according to studies carried out in Italian SMEs, risk identification and assessment are performed in a basic and poorly formalized manner [AUR 13, CIN 14]. Moreover, analyzing the studies about RM in SMEs conducted in different European countries, it is possible to state that there is very little focus on risk response as a general principle, and that risk reporting and communication throughout the firm are rarely conducted; they are usually performed only to comply with the legislative requirements [AUR 13, HEN 10].

Analyzing the tools adopted in each phase of the RM process shows that hazard identification forms (to report industrial injuries), brainstorming and meetings are used and analysis of the experience is usually preferred to analysis of the processes [ISL 12, AUR 13, CIN 14]. In SMEs, near misses are not normally recognized and the identification of root causes and risk sources is typically neglected, while, in some rare cases, scenario analyses are performed [ISL 12, AUR 13]. Rather than evaluating the impact of identified risks on the firm's reputation, SMEs prefer to assess the economic and financial effect of risks and only in some cases evaluate the likelihood of risk. Generally, SMEs do not adopt sophisticated tools (e.g. fuzzy sets or neural networks). They rarely use an

ad-hoc RM tool or software and mostly use excel sheets to monitor the trend of the main disturbances; usually without integrating different tools and techniques in the same RM phase [AUR 13, CIN 14, JAY 12, LEO 06].

With regard to the last phase of the RM process, the types of risk treatment are mentioned in the literature, but indications about the selection and combination of different solutions to treat risk are not provided [VER 13]. In SMEs, risk retention is usually performed which establishes risk reserves in the balance sheets or creates redundancies (e.g. safety stock and over capacity); on the other hand, insurances are selected mostly to transfer risks derived from external events, but they are sometimes also selected for treating operational risks and still seem to be the RM instrument most adopted in SMEs [AUR 13, THU 11, PET 97, CIN 14]. These insights testify the reactive approach typically followed to manage risks in SMEs where risks are mainly treated to comply with regulations and international standards. Nevertheless, some recent studies demonstrate that risks can also be treated thanks to new strategies. For instance, building relationships (with staff, suppliers, customers, competitors), increasing transparency (with the staff), and business continuity are recognized as practices able to mitigate and share risks, especially for innovative activities [SUN 15, VER 15]. Moreover, following the example of large companies, the growing implementation of lean production principles in SMEs should foster the transition from a reactive RM towards a more preventive one in the future, in order to properly manage the emerging supply chain risks provoked by the adoption of these new managerial approaches [THU 11].

The influence of firm characteristics implementing risk management

The adoption of RM could be influenced by the industrial sector, the firm size, and the experience of the owners and their network capabilities. Although the sector does not deeply differentiate the type of RM adopted in firms, it does have an effect on the magnitude of the risks faced [HEN 10, AUR 13]. However, according to Jayathilake [JAY 12], RM functions do not depend on the industry type or the nature of the firm's ownership. On the contrary, the entrepreneurs' experience, risk knowledge, network capabilities, and their beliefs and attitudes are the most critical factors that influence the type of RM implemented [JAY 12, SPA 00]. Several scholars agree that RM is adopted differently depending on the firm size [HEN 10, ROS 15, GUP 15, CIN 15, JAY 12]. In particular, RM is more formally and systematically developed when the SME is larger. This is mainly due to the characteristics that distinguish the micro firms from the medium-sized ones. Besides the diverse number of employees, they report different management styles,

capital structure, credit risk characteristics, access to external finance and default probability. Moreover, the management accounting function only plays a significant role in medium-sized firms. Basically, RM in SMEs tends to become more formal and of higher quality when the firms are larger and more experienced.

Considering all of these reasons, several authors suggest studies be conducted on micro-, small-, and medium-sized firms separately [GUP 15, ROS 15, CIN 15].

The issues and drivers to adopt RM in SMEs

In order to properly adopt RM in SMEs several issues emerge that have to be overcome.

One of the first problems concerns the cost of RM. Its first implementation and continued application requires adequate funds, resources, and management [ROS 15, GAO 13, ASS 13, AUR 13]. The shortage of financial, technological, and infrastructural resources of SMEs can undermine the adoption of a positive and systematic RM approach. Without suitable human capital and adequate decentralization, the firm's activities are instead concentrated on a few key people [HEN 08, HEN 10, AUR 13]. Moreover, information networks, investments in R&D, professionalism, managerial and technical experience, skills and knowledge about RM tools and processes as well as an understanding of their benefits and possible outcomes could be crucial during RM implementation but they are often absent in SMEs [HEN 08, AUR 13, ROS 15]. Furthermore, SME investment in RM training and consultancy is very low and the complexity of the necessary analysis and inhomogeneity of the methodologies for risk assessment make a formal RM approach quite complex for these firms [ROS 15, GAO 13, AUR 13, HAG 09].

Two catalysts, often absent in SMEs, are risk culture and awareness of the importance of RM. Inadequate culture of practicing RM, different risk perception among actors within the company, reaction and resistance of users in the RM process and the need to change the manager's mindset are often the cultural obstacles that hinder the adoption of a proactive RM approach [HAG 09, AUR 13, LEO 06, ROS 15].

Most researchers demonstrate that the risks identified inside the SMEs are not properly integrated into their mission and business plans [HEN 10, JAY 12]. As a result, determining the firm's risk position and threshold, and prioritizing their objectives and related activities become tricky [HEN 10, ISL 12]. The point is that the owner-managers usually do not hold the skills and competencies to perform such strategic activities and they do not devote enough time to the definition and development of a risk strategy [HEN 08, ISL 12, WAN 07]. Owner-managers are

involved in RM, but they usually do not have full awareness of the firm's risks, do not define a risk limit threshold and do not fully control and supervise the firm's risk exposure, devoting little time to all the RM activities [ISL 12, AUR 13, JAY 12, SMI 12].

However, the lack of guidance for RM implementation is evident not only inside the firm, but also outside. Unfortunately, standards or guidelines from professional bodies have not been developed and there are not any regulations that explicitly request comprehensive and formalized RM [HEN 10, ROS 15, OHA 05, JAY 12]. For instance, the Basel II does not require a strictly formalized RM system and other standards and professional bodies do not provide guidance for the development of a holistic RM approach [ROS 15, HEN 10, BAS 03]. Nevertheless, the evolution of the legislation and regulations inherent to RM and the increasing attention of stakeholders and banks to RM encourage the adoption of even more developed RM systems [AUR 13]. Moreover, the recent crisis and the occurrence of new and even more diversified risks are other drivers that trigger the implementation of holistic RM [AUR 13, CIN 14]. The development of a strategic RM function in SMEs should also be favored by the size and managerial structure of SMEs that encourage the establishment of close relationships among their employees [SMI 12].

In summary, RM training to define a risk culture and risk strategy, time to perform RM activities, and the involvement of key stakeholders in the RM process should be the main triggers for enhancing the RM process in SMEs. Adopting an enterprise-wide approach, efforts for RM adoption should be sustained at all levels of the firm and the alignment of strategy, process, people, technologies and knowledge should be assured in order to enable the evaluation and management of all the threats and opportunities [DEL 00, AUR 13, BEA 05].

The agenda for future research on RM in SMEs

Thanks to this introduction, it is possible to state that RM in SMEs is less developed compared to the systems implemented in large companies. This is mainly due to problems linked to the resource and cultural constraints of SMEs. However, it does not mean that RM is less important for SMEs. On the contrary, it could be considered more relevant and facilitate the compliance with regulations, but, mostly, it could allow SMEs to reduce the risk of failures, reduce the cost of capital and volatility of cash flows, define intervention priorities, reduce uncertainty in enterprise management, increase flexibility to changes in business

conditions and improve the firm's image and reputation. Therefore, RM adoption provides protection for SMEs and allows direct and indirect costs of risk events to be avoided, allowing investments to be made in other more crucial and innovative activities.

However, according to the Association for Project Management (APM), [ASS 13] the implementation and sustainability of RM in SMEs is unrealistic due to the huge resources required. Some other authors recognize RM in the daily management activities of SMEs where risk issues are faced effectively without explicitly referring to risk [COR 09]. On the other hand, the respondents of the research conducted by Aureli and Salvatori [AUR 13] agree that holistic RM for SMEs could lead to cost optimization, increased efficiency (reducing redundancies and facilitating the decision-making process about risk treatment), improvement in the ability to identify transversal risks and implementation of attitude towards RM, and integrated risk reporting.

The controversial results of the research performed on RM in SMEs demonstrate that it is still a debated topic in literature. RM is certainly not well developed in SMEs and is still an emerging research topic to be dealt with.

Varied research could be conducted in future concerning for instance:

– the improvement of strategic planning systems of SMEs;

– the training and support of owner-managers to improve their knowledge and awareness of RM;

– the development and adoption of tools and practices adapted to SMEs to manage and communicate risks;

– RM implementation and investigation in SMEs in different countries, comparing the outcomes obtained in diverse contexts;

– the definition of shared guidelines on RM in SMEs;

– analysis of the different modes of RM in SMEs, defining the profiles of RM, their characterization and the distinguishing elements;

– quantitative analyses performed in large samples to enhance the understanding of RM in SMEs considering all the RM paths.

One of the main challenges concerns the development of an adequate ERM in SMEs, integrating and managing all the different identified risks in these firms. New frameworks and models suitable for SMEs are required and they should be developed to facilitate the establishment of structured and integrated RM; moreover, they could be diverse depending on the company's size (micro, small, or medium), experience and context.

In addition to all of these research opportunities, there is an extensive need to understand how RM can be a lever for performance enhancement, value creation and innovation in SMEs.

By protecting the business, RM can also be fundamental aspect and an incentive to innovate and collaborate with other firms without fearing the risks connected with the openness of the firm's boundaries. RM could be adopted in SMEs to invest in, manage, and protect innovative projects that are critical for the firm's success but that also involve risky activities and decisions [VAR 11, SCI 15]. Collaborations could be useful to share and reduce the risks of innovative activities [VER 15] and RM could be helpful for SMEs to analyze and assess the risks of potential relationships; selecting the right partners, and developing a suitable form of collaborative organization [CRE 14]. As underlined by Harland *et al.* [HAR 03], the actors that constitute the firm's supply network should be involved in the RM strategy formulation, as well as risk sharing, to the greatest extent possible.

In accordance with AIRMIC, ALARM and IRM [AIR 02], RM in SMEs should be developed to protect not only the firm's activities, but also the stakeholder interests, with the final aim to add value to both the organization and its stakeholders.

Considering the benefits of RM implementation compared to its costs, it should be considered as a strategic activity rather than a regulation constraint. For this reason, RM has to be performed and guaranteed inside the firm since it has the potential to become a lever for SME development and for stakeholder value creation.

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Part 1

Risk Management, Governance and Stakeholder Value Creation

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

1

Role of the Governance System in Strategic Risk Management

1.1. Introduction

It is often argued that risk management does not exist in SMEs or that it is at the sole discretion of their manager. However, for some years now, it has had a strategic and global dimension: strategic, because it is crucial for companies' development and sustainability [LIE 03, COS 04, HOY 11, FAR 15]; global, since it is now accepted that the risk management process must start upstream of the strictly understood risk treatment phase and continue downstream in order to learn from the experience gathered [MCC 00, AIC 08]. This global and strategic process is broken down into different phases, during which the manager must be able to do the following: (1) select the appropriate type and level of risk that the company is capable of supporting; (2) identify the risks incurred by their company and evaluate them in terms of likelihood of occurrence and severity in order to prioritize them; (3) plan and implement appropriate risk management mechanisms and (4) communicate about these different phases within the organization and with its external stakeholders. This set of tasks implies the implementation of both informational and policy processes: informational through the nature, quality and volume of information used and exchanged to identify risks and assess their impacts; policy through power relations between the groups of actors with different roles and interests that will intervene in the prioritization and implementation of the treatment mechanisms.

The strategic risk management process implies, therefore, that a large number of actors are involved and that the action or reflection that managers alone can have in this subject is overlooked. They must be able to take fully informed decisions while considering all the different types of constraints within their company and in accordance with the policy balances within it. Some studies have suggested the

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major role of management teams and governance bodies in the adoption of integrated risk management mechanisms [KLE 03, BEA 05, DES 07, IHB 09], as well as their interactions on risk management performance in the company [BRO 09], yet these studies mainly concern large companies and not medium-sized enterprises [VER 13]. The issue of strategic risk management in SMEs, and more precisely that of the link between risk management and the governance system [MAN 10], therefore remains. For this reason, we focus on understanding how the actors and governance bodies of SMEs are likely to facilitate or constrain strategic risk management. We assume in this regard (1) that if managers of SMEs alone can shape the risk management of their company, this may affect the company's performance and (2) that risk management could be more effective when the managers rely on an extended system of governance involving, in particular, the members of their management team, a board of directors or an advisory committee.

The chapter is organized as follows: in section 1.2, we discuss the effects of governance arrangements on risk management in SMEs, adopting the dual logic proposed by Anthony [ANT 88], whereby two types of influence, enabling or constraining can act as regards risk management. In section 1.3, we compare the proposals established regarding the case of nine French SMEs in the Auvergne Rhône-Alpes region.

1.2. The role of managers and the governance system in risk management: enabling and constraining influences

Governance arrangements can have two types of influence, enabling or constraining [ANT 88], on risk management in SMEs. Governance systems can function as levers (enabling function) by enabling the accumulation of new information, knowledge and expertise essential to the identification and assessment of risks by offering the possibilities of individual actions or by improving the coherence and effectiveness of the collective decision-making process. On the contrary, they can limit procedures for the acquisition of new knowledge, reduce the variety of actions designed to better understand or manage risks, or constrain the effectiveness of collective decision-making processes (constraining function). It is from the perspective of these two types of influence (enabling and constraining) and the two types of process (informational and policy) that we discuss successively the role of managers (section 1.2.1), then the governance system extended to the management team of the company on the one hand and to the supervisory bodies on the other hand (section 1.2.2) in strategic management of risks in SMEs.

1.2.1. *Managers of SMEs shape risk management in their company*

In SMEs, managers aggregate most of the powers [HAM 87, FIN 92, CAR 04, LI 17]. They stand as real "key persons" and play a leading role in strategic

decision-making [LI 17] and, by extension, in their company performance [ADA 05]. Through their speeches and decisions, they also shape the control environment, that is, the culture and spirit of the organization [COS 04]. They therefore represent a powerful lever to disseminate the "culture of risk" in SMEs.

However, they may be required to impose, more or less involuntarily, "the" risk management approach that they consider most appropriate. They may underestimate the risks and/or their impacts, if they themselves are over-confident, or if they tend to overestimate the quality of the information available to them for understanding the risks incurred. On the contrary, they may overestimate the risks and, through overly prudent strategic choices, slow down the development potential of their company. The concentration of ownership and management powers and, as a corollary, the weakness of disciplinary governance mechanisms, also imply a reduction in the accountability of managers to internal and external stakeholders [BRU 07], making them less vigilant as regards the formalization of internal control and risk management procedures or, on the contrary, too cautious by increasing the number of preventive measures or by limiting investment projects, which they personally consider too risky for the sustainability of the company. We therefore suggest the below proposal 1:

PROPOSAL 1.– Managers of SMEs have an enabling influence on the informational and policy processes that underlie strategic and global risk management, but this influence may become constraining when they are in charge of this function in isolation.

1.2.2. *Extended governance system as support to managers of SMEs in the strategic management of risks*

According to a concept of governance that goes beyond the purely disciplinary role of governance bodies, in favor of an advisory and resource-providing mission [ZAH 89, CHA 06, WIR 11], the governance system can be considered as a support to the management of the company and should thus constitute an aid to the strategic management of risks [MAN 10]. Two components of the extended governance system can more specifically play a role in risk management within SMEs: the management team and the board of directors.

1.2.2.1. *The central role of SME management teams in risk management*

Risk management initiatives within organizations appear to be successful only with strong support from the management team [BEA 08]. The often family-based nature of the team can influence the risk management process, as can its functional diversity or ability to extend to new members or functions.

According to Hambrick and Mason [HAM 87], there is a strong consensus on the strategies to pursue in a homogeneous management team that shares common values. In the case of a dominantly family management team, this consensus is based on the altruism, loyalty and commitment of the family members [ENS 05, GOM 07], who will be able to share private and consensual information with regard to risk. This suggests that in view of imminent risk, the family management team could take decisions regarding actions to be implemented faster than non-family management teams because agency conflicts would be limited [CHI 14]. Conversely, the coexistence of family and non-family managers in the management team could have a negative effect due to conflicts emerging in the strategic arena to prioritize risks. Too much family involvement [LEB 11] could result in new agency costs due to divergent objectives between the team members [GON 16]. We therefore adopt the following proposal:

PROPOSAL 2a.– The presence of family members in the management team would have an enabling influence on the informational and policy processes that underlie the global and strategic management of risks, but this influence could become constraining when family involvement becomes too strong.

Functional diversity within the management team, that is the range of skills of team members in a variety of areas of expertise, is often recognized as a source of growth [HAM 96] because it increases the number of alternatives considered within a team and enriches the assessment process. Heterogeneity would thus provide a cognitive diversity, a spectrum of values and multiple perspectives that can increase the wealth of information [SAH 16] and allow a more creative strategic design [AMA 97, FOR 99] in terms of solutions with regard to risks. However, diversity can sometimes slow down the production of a collective response and its implementation. Excessive heterogeneity [SAH 16] may, indeed, become an obstacle in view of imminent risks by making it difficult to reach a consensus on the acceptable risk threshold within the organization or on the corrective actions to be implemented. The diversity of the team would therefore be a double-edged sword: on the one hand, it would broaden perspectives on how to assess and prioritize risks as well as offer alternatives to manage them but, on the other hand, it would be a source of potential dissention and inefficiency if it exceeds a certain threshold.

PROPOSAL 2b.– The functional diversity of SMEs management team members would have an enabling influence on the informational and policy processes that underlie the global and strategic management of risks, but this influence could become constraining when this diversity becomes too strong.

The decision to assign responsibility for risk management to a risk manager, an internal auditor, or even simply to a management controller, influences the direction given to risk management within the organization [ARE 10]. It has thus been

shown that the recruitment of a risk management specialist in the company is positively associated with the implementation of an ERM (Enterprise Risk Management)-integrated risk management approach [ARE 10, PAG 11, PAA 12]. By promoting the dissemination of information, the risk management specialist plays the role of facilitator and coordinator within the company [ARE 10] and, in this sense, such a role differs from that of functional risk specialists (for example, in the financial area or IT systems) and may be complementary to them. The Director of Internal Audit can also be one of the major actors in risk management [ARE 10]. He/she most often is in charge of the risk assessment phase, but sometimes also of the entire process [FRA 07].

PROPOSAL 2c.– The expansion of the SMEs management team to new functions focused on risk management would have an enabling influence on the informational and policy processes that underlie strategic and global risk management.

1.2.2.2. *The presence and composition of the board of directors in risk management within SMEs*

In France, public limited companies (Ltd) have an obligation to choose between a board of directors (within which the functions of general manager and president can be separated or not) or a dual system with a management board as well as supervisory board. Apart from this form of company, nothing obliges SMEs (including simplified joint stock companies) to set up a board of directors and to implement structured governance. This decision is therefore fundamentally the will of the managers. It is often the arrival of an institutional investor that causes managers to change their practices. Its establishment can be done gradually, by creating a relatively informal advisory committee, before introducing more formalized rules and structures. Therefore, all SMEs do not have a structured board, but when this is the case, it is often considered as an extension of managerial responsibilities [FOR 99], particularly in terms of risk management. The influence of the board in this area also depends on a number of factors, such as its composition (presence in the board of a family pool of shareholders, equity investors and independent directors) or the setting up of an audit committee under the authority of the board. These factors influence informational exchanges, interactions and decision-making and are all determinants of strategic risk management in SMEs.

Among the prerogatives of the board, the specific control of risk management is one of the least studied [BRO 09] whereas the support of the board seems to be a decisive factor in the implementation of integrated risk management [BEA 05, GOR 09]. The operational implementation of risk management may not be the responsibility of the board, internal or external auditors, but that of the company's management. However, directors must assume some responsibility ("risk governance responsibility") [VIS 16] in this area such as follows: provide general guidance, ensure the existence of risk management systems and the necessary

controls on the relevance and effectiveness of such systems (possibly via the audit committee) and make sure that risk management procedures implemented by the general management are in line with the defined strategy and level of appetite. In the event of deficiencies or inefficiencies in the implementation of the procedures, the collective civil liability of directors may be called into question [IFA 09]. The advantages obtained by setting up a board (including for SMEs not subject to it by law) are numerous, among which are the expansion of skills and networks, increase in rigor and rationality in the control of the strategy and results, the improvement of stakeholders' confidence and reduction of the isolation of owner-managers. Through its dual role of monitoring and advising, the board ensures that the manager sets up a risk management process that is better informed and in respect of the balance of power, in particular with regard to shareholders, thanks to the wealth of cognitive resources (network and experience) that directors can provide.

PROPOSAL 3a.– The presence of a board (or dual system supervisory board) in SMEs would have an enabling influence on the informational and policy processes that underlie the strategic and global risk management.

When such a board exists, its composition (number of family members, presence of external investors or independent directors) could influence strategic risk management.

In SMEs, owners, board members and management teams are sometimes the same people, often belonging to the same family [COW 03, BRU 07]. However, family-run firms are generally considered to be resistant to change, sometimes paralyzed by family conflicts, anchored in a defensive attitude intended to promote longevity and efficiency [CAR 05, BRU 07] and marked above all by the search for a social and emotional well-being of the members of the family [GOM 07]. Any event likely to significantly degrade it could therefore be avoided. Yet, the more the family is involved in the system of governance, the more likely the risk of bankruptcy becomes a threat for the career, future and reputation of the family members [REV 16]. In this context, the latter, often constituting a dominant coalition, will tend to favor the financial well-being of the company. They will less likely tend to recruit or invest, even if this implies a lower level of economic performance [CHR 12]. Thus, in companies where the family is strongly and humanly committed, there would be a risk hierarchy: the risk of social and emotional loss as well as the financial risk would be at the top of concerns, before the company's economic and strategic risk.

On the other hand, the presence of independent members of the family or external investors in the board (such as business angels or private equity funds) could lead to a "political" balance between the economic objectives and the objectives of the family, between strategic risks and financial risks [GON 16]. This diversity in the composition of the board would provide greater objectivity and expertise, by providing cognitive

resources that are favorable to strategic risk management [BRU 07]. The external members could then challenge the decisions of the family pool manager to prevent the family from focusing solely on social and emotional well-being at the expense of economic value over the long term or, on the contrary, from expropriating the wealth of the firm [GON 16]. Thus, the enabling role that the board can play in managing risks within SMEs is even more important because the board would contain a large number of independent directors of the family pool [FIE 05, BEA 05, BJO 16]. Authors also observe a positive relationship between the implementation of ERM-integrated systems in enterprises and the presence of institutional investors [HOY 11] in the business capital.

PROPOSAL 3b.– The opening of the board to external investors or independent directors would have an enabling role in the informational and policy processes that underlie strategic and global risk management.

In a company, the audit committee, which frequently emanates from the board, has often been considered as a forum for the discussion of management and risk assessment issues [VIS 16]. It should be noted that the existence of an audit committee, which was previously recommended by MEDEF, became mandatory for companies listed on the ordinance of December 8, 2008. Other companies may voluntarily use it. However, several studies have shown a positive relationship between the presence of an audit committee and risk management [BEA 05] [KLE 03, PAA 12]. The audit committee is a place of coordination between the directors, company's management and external auditors. It can influence the board to ensure that the required attention is paid to risk management processes and that the necessary resources are allocated to them [PAA 12]. The existence of an audit committee in the company is therefore naturally favorable to the structuring and formalization of risk identification, assessment and treatment tools. Through its interactions with the board, management team and operational stakeholders, it is able to spread a real risk culture within the organization; it shall therefore play an enabling role in strategic risk management.

PROPOSAL 3c.– The presence of an audit committee at the service of the board would have an enabling influence on the informational and policy processes that underlie strategic and global risk management.

1.3. Comparison of proposals in nine SMEs cases

1.3.1. *Presentation of the sample*

Nine company managers from the Auvergne Rhône-Alpes region were interviewed, face-to-face, on the basis of a semi-directive interview guide (duration

1 hour 30 minutes to 2 hours) that is entirely focused on risk management in their company. The interview guide provided the following four parts: (1) contextualized perception of the major risks that the company must encounter; (2) description of risk management practices and processes in the various phases of the overall process, stakeholders involved, organizational and performance impacts; (3) role of governance bodies, risk management influence on company management modalities, role of external stakeholders and (4) specific management of customer risks and reputational risks. The interview was accompanied by six close-ended questions on risk management impacts (on the composition of governance bodies, choice of partners, decision-making processes, etc.) and requiring a response on a scale of 1 to 5 depending on the degree of agreement. An identification sheet with close-ended questions concluded the interview, particularly to rate managers' risk-taking level, their degree of optimism and their confidence in their skills relating to the various areas of company management.

The qualitative survey methodology based on semi-structured interviews is particularly adapted to our study because it requires a holistic and contextualized understanding of the individual, collective, informational and policy processes at work during risk management. Mindful of the fact that this subject is sensitive and even considered by many managers to be confidential, face-to-face interviewing was easier than administering a questionnaire by post or via the Internet.

The SMEs studied (see Table 1.1) belong to different areas of activity in industry and services. Our sample consists of seven SMEs and two medium-sized companies (MSC)[1]. They are located in growing markets (biotechnologies, digital, specialized industries and services) that are favorable to revenue growth (seven of them are witnessing growth and the other two are stable). Two MSCs (EDILOG and REDOTO) have been selected for our sample because they have the low limit criteria that characterize an MSC, suggesting that they have more proximity to SMEs than large companies. Selecting them also enables us to identify a possible change in the managers' risk management behavior when their companies grow to become an MSC. The data collected are used here to not only corroborate or invalidate the proposals, but also to encourage new ideas or strategic and global risk management characteristics within SMEs. The passages in italics are extracted *verbatim* from the interviews with managers.

1 SMEs in the European Community employ less than 250 staff and either have a turnover below €50 million or a total balance sheet of less than €43 million. An MSC employs between 250 and 5000 people and realizes either a turnover less than 1500 million euros or a total balance sheet of less than 2000 million euros. The criteria for the number of employees and turnover (or total balance sheet) are cumulative. The definition of SME in the community sense is more restrictive than the definition accepted in the USA and in Canada for which SMEs may include up to 500 employees.

	PLASTOC	EDILOG	ANTISUC
Company age	≈ 80 years	≈ 30 years	≈ 10 years
Area of activity	Plastics processing	Software development	Biotech / pharma
Market type Quotation	BtoB Yes	BtoB Yes	BtoB Yes
Staff*	Between 250 and 300	Between 400 and 450	Between 100 and 150
Turnover for previous financial year	Between 30,000 and 35,000 K€	Between 55,000 and 60,000 K€	Between 25,000 and 30,000 K€

	DODROIT	MONBUS	SERVIMO
Company age	≈ 15 years	≈ 90 years	≈ 20 years
Area of activity	Medical equip.	Transport	Real estate Services
Market type	BtoB	BtoB and BtoC	BtoB and BtoC
Quotation	Yes	No	No
Staff*	Between 30 and 50	Between 600 and 700	Between 30 and 50
Turnover for previous financial year	Between 5,000 and 10,000 K€	Between 40,000 and 50,000 K€	Between 3,000 and 5,000 K€

	REDOTO	BARAMUSI	E-PUB
Company age	≈ 45 years	≈ 20 years	≈ 18 years
Area of activity	Technical equipment	Services	Internet Advertising
Market type Quotation	BtoB Yes	BtoB and BtoC No	BtoB No
Staff*	Between 600 and 700	Between 200 and 250	Between 150 and 200
Turnover for previous financial year	Between 140,000 and 160,000 K€	Between 10,000 and 15,000 K€	Between 10,000 and 15,000 K€

* Staff in full-time equivalents

Table 1.1. *Characteristics of the nine SMEs studied*

1.3.2. *Findings and discussion*

1.3.2.1. *Risk management, a strategic concern for SME managers, aware of their own biases*

The managers interviewed consider risk-taking to be an integral part of their business, a priority and, for some, the driver for the development and performance of their business. Managers play a major role in the process of integrating risk culture into their company by encouraging employees to take risks in order to improve the performance of the company, without fear of a sanction in case of failure.

> *I am paid to take risks, not for anything else! We have a policy: we say to our employees: "Take risks, you will not be sanctioned for taking the risk to innovate and increase the performance of the company. If you take initiatives to improve the performance of the company and you don't succeed, you will never be sanctioned. (REDOTO)*

Most managers do not wish to be surprised by the sudden occurrence of risk and consequently tend to implement a proactive information monitoring strategy, formulating pessimistic assumptions in order to better anticipate the potential risks incurred, or even slowing down the development of their business. This behavior is all the more marked if the company has undergone a major risk during the course of its existence that the manager had not anticipated and which had a strong impact on the company's chances of survival.

> *I will automatically imagine all sorts of possibilities to avoid being surprised. It is risk management slightly carried to extremes, since I will imagine situations that will never happen, but for which I want to protect myself. Maybe I also slow down the business ... I feel like I'm loony. All this is because there is a situation that happened that I had not imagined. (SERVIMO)*

However, SME managers are aware of the biases generated by the centralization of powers in terms of risk management. This is why they are aware that assuming risk management alone is not feasible. Eight out of nine managers either agree or strongly agree that risk management places a high number of requirements on their managerial function and that the sharing of this task within a team is paramount. However, in actual fact, risk managers belong to a restricted circle of a few members of the management team, including the administrative and financial director who often represents the first safeguard against the imprudence of the manager.

> *It is a company that I always carry to the end, almost a breakdown, I will look for the growth rates that bring in people, funding, organization, a breakdown, while trying to stop just before. And many times, it was really at the limit. (EPUB).*

> *Most importantly ... let's say for a company manager, when he has a Chief Financial Officer, it is to eventually ease his ardor. I could entrust him a number of things. He directed me on certain points, I was leaving ... I was not crazy but he brought me back to reasonable things. (SERVIMO)*

In general, managers have an enabling influence on the informational and policy processes that underlie risk management. This influence may become constraining when the manager is looking for high growth rates and imposes extreme risk-taking strategies on the company, even if it leads the company to the borders of failure. In this case, the sharing of risk management within a management team is paramount. Proposal 1 can be corroborated.

1.3.2.2. *A restricted circle of management team members around managers and the Chief Financial Officer, linked by ties of proximity*

The managers of SMEs owned and managed by a family pool (three of the nine studied) did not spontaneously mention a specific influence that the family composition of the management team or board could have; it was therefore not possible to directly test proposal 2a with the empirical material used.

The functional diversity of the management team members and the regular reconfiguration of its perimeter are, on the other hand, clearly considered by the managers interviewed as a guarantee for the success of the strategic approach to risk management. This functional diversity does provide a broadening of the cognitive skills and capacities of the team, enriching the risk management informational processes. However, for the SMEs studied, the perimeter of the team concerned by risk management remains limited: risk management concerns only a few members and remains very clearly centered on the Chief Financial Officer (CFO). The Chief Financial Officer is indeed, by his/her function, the first to identify a major weakness, by monitoring the financial performance of the company, and the first to channel risk-taking.

> *In a small medium-sized company, unfortunately, we do not have the means to have a specialized service, so it falls under the finance department; in terms of risk mapping, that is, risks that are easily identifiable, it is the responsibility of the finance department and it is directly related to risk mapping (PLASTOC).*

> *We are small, so the company manager makes his decisions alone. I receive a lot of assistance from my CFO and some members of the team who have important roles, whether IT or any other (SERVIMO).*

Proposal 2b is corroborated: the functional diversity of the members of SMEs management team has an enabling influence on the informational and policy processes that underlie global and strategic management of risks. However, it is not actually the size of the management team that plays a positive role in risk management (a limited number of members around the manager and the CFO seems to work well), but the close relationships between the members. In the strategic management of risks in these SMEs, one of the specific characteristics of the latter is the role of "proxemics", in the sense of the physical distance that is established between people involved in an interaction. Proxemics facilitates the mutual adjustments needed for risk management, which appears here as a daily task to be assumed collectively. Professional affinity between team members, promoting mutual knowledge and understanding, is also mentioned as having an enabling influence on informational and policy processes. Moreover, the informal dimension of risk managers is raised by management, even when risk management is no longer only centralized by the manager but extended to other members of the management team. Some managers even raise the idea of "subjectivity" in managing strategic risks.

> *The three people who talk about risk are in offices next to each other. It is obvious that there is a CFO, the business group IT manager and the boss. For me these are the two bodies on which proximity ... it is especially risk that makes me go to their office before anything else ...; I will immediately see them to look, to ask them ... Regarding this management team, its first job is risk management. (SERVIMO)*

> *The four of us* (3 managers and the CFO) *cover everyone, all subjects ... each knows what the other is doing. We are three scientists, are all capable, and we have ideas on scientific subjects, with slightly different cultures, so this is rich enough to predict which are the risks, opportunities and uncertainties. In the financial area, V. has enough affinity with us for almost 15 years to know how to manage and how projects are handled. (ANTISUC)*

Of the nine managers, seven responded that they agreed and fully agreed with the assertion that the management of major risks had led them to require new skills. Indeed, in view of the major risks they face, which vary greatly from one company to another (regulatory, technological, IT risks, etc.), SMEs equip themselves with new skills. However, these new skills are not necessarily synonymous with a systematic extension to cross-company functions focused on risk management. The managers do not have the means with regard to the size of their structure and do not

feel that it is necessary. It is indeed the major risks within the company that determine the type of new functions that will be created. Thus, new management positions focused on "quality", "regulation" or "security of information systems" are responsible for managing the major strategic risks that concern them, while ensuring transversality within the structure. They will in fact act as a coordinator between the various functional managers. For example, in MONBUS Company, the CSR and safety manager is in charge of major risks related to vehicle regulation and non-conformity.

> *No, our company is too small to have a specific function, but we brought in the regulatory quality manager at COMEX, this was not available at the beginning. We have well-informed service managers. (DODROIT)*

> *Regarding risk on the platform (intrusions, maliciousness, hackers), we have an IT security officer who has an absolutely specific action with respect to this, that is to train the employees, alert them about potential risks and what attitude to adopt in view of a dubious email. (EDILOG)*

Some managers even go as far as justifying the absence of a specific function focused on risk management in terms of issues relating to decentralization of responsibility, as does the manager of BARAMUSI: *In fact, each manages risks within its perimeter, decentralization of responsibility is practiced,* or, as done by the manager of SERVIMO: *No function focused on risk management, especially the CFO. From the moment we had a CFO, it changed radically.*

Proposal 2c is therefore only partially corroborated: within SMEs, risk management is reflected by an expansion of the management team to new functions, but these are not necessarily focused on integrated and transversal risk management. They are rather functionally oriented on major risks faced by the company with regard to its activity. These new functions, however, have an actual enabling influence on the informational and policy processes that underlie strategic and global risk management.

1.3.2.3. *The controversial role of the board in strategic risk management*

SME managers have contrasting views on the role of governance bodies and that of the board in particular. What the managers discuss is not so much the impact of the composition of the board (proposal 3b cannot be directly tested) but rather the role of the board in risk management. Some managers perceive governance bodies as real opportunities to improve risk management, since they would provide

informational processes as well as policy processes related to decision-making. This is the case of the manager of SERVIMO who consults the members of his board of directors, during meetings that he wishes to be "informal", in order to have their opinion on the creation of new products and associated risks.

> *In my capital, I have shareholders. They request a certain number of things: that we communicate at least 2 to 3 times a year, check whether the plan is respected, verify if the strategy is maintained, etc. They follow these up, which is quite normal. As a result, we take advantage of this, considering this business is new, it is a bit specific, imagine other possibilities. There is a great deal of creativity at that moment. What is interesting is seeing how they react to new products. I seize opportunities during these moments to talk about new products and see how they will react. (SERVIMO)*

The board is also seen as a solution to the common problem related to the fact that there is no distinction between the management and governance in patrimonial SMEs in terms of strategic risk management.

> *Nowadays, companies of our size face a fairly common problem, distinction between governance and management, because we have a dual role to play. Today, some supervisors are also shareholders and sometimes, things are so mixed up. And what I am trying to organize is to create dissociation between governance and management. However, it has been said that subjects relating to strategy must be addressed in governance, and from the moment decisions are made, implementation must be carried out by management. But presently, it is more an issue related to management committee, risks. (BARAMUSI)*

Furthermore, for some managers, the operational nature of risk management may not be compatible with the supervisory prerogatives of the board of directors. Since risk management is considered as part of the company's daily life, it will not have a place in the board of directors or supervisory board. Thus, there has been no board of directors within MONBUS for more than a year, since the company is an SAS (simplified joint stock company), it has no obligation in this regard. The manager asserts that if *a greater formalization of risk management is required within the company, it does not have to be done within the framework of a specific board of directors, a management committee dedicated to this effect shall be sufficient. Specifically, risk management is a daily routine in our company. (MONBUS)*

Proposal 3a is thus partially corroborated: the presence of a board of directors or supervisory board could have an enabling influence on the informational and policy processes that underlie risk management by dissociating what belongs to management from that which belongs to governance. For the time being, however, the SMEs studied prefer to rely on their management team, apparently not only for proxemics but also for power and control. Losing control of risk management for a manager or team is probably accepting the loss of some of their prerogatives on the running of the company.

Two examples studied confirm that the creation of an audit committee can play an enabling role in risk management. However, it turns out that the role of the latter is often limited to risks related to compliance with accounts and accounting regulations. The manager of EDILOG asserts that *the audit committee's influence on risk management is very low, except for risks related to accounting, accounts; for example, sales and expenses that are not real. The audit committee which is assisted by two auditors addresses the risks of accounts which may be false or not sincere (EDILOG).* The committee's stake in strategic risk management would therefore be reduced to certain types of specific risks (compliance with accounting and financial regulations). This finding is confirmed by the manager of ANTISUC, which is characteristic of highly innovative biotechnology companies requiring significant financial resources. The establishment of the audit committee favored the management of risks associated with the company listing on Alternext by providing the necessary expertise to meet the requirements of the financial markets. Proposal 3c is partially corroborated: audit committees have an enabling role, but they seem to be more focused on the management of particular risks related to accounting or financial aspects.

> *Audit committee. That is the reason why we recruited this director because she had made a number of quotations at the stock exchange. She is, among other things, on the board of directors of large companies. She had a good mastery of the business regarding the risk of listing at the stock exchange. She was recruited prior to our quotation at the stock exchange. The issue of audit and account are unavoidable issues where one was not sure to have the best practices and considerable expertise. From this point of view V. (CFO) was somehow alone with us. (ANTISUC)*

The case of REDOTO is specific, since in this "small" MSC, the composition and role of governance bodies are much more developed and in direct contact with risk management. The board of directors is made up of the two key executives (sons of the founder) and a daughter of the CEO representing the family. However, the board is balanced, since it is open to six external members who give advice on various topics, such as governance/transmission, human resources, distribution, etc.

Moreover, a strategic committee constituted at the level of governance, made up of external managers, has the duty to advise and challenge managers on the development of the company. REDOTO is typical of the transition experienced by SMEs which become MSCs and must reconstitute their governance mode in order to be more in line with the requirements related to their size.

> *We cannot talk about pressure, instead, we must to be able to exchange and practice transparency. The work that is being carried at the level of the board of directors on the evolution of the management and control of these risks is important. The board of directors keeps us informed on this issue twice a year.*
>
> *This strategic committee is managed by external managers who monitor the company and draw our attention to various subjects, on how to improve and on how to organize differently, especially with regard to security. I chose them for their performances. For example, they told us during the last committee that perhaps we should have an internal control officer. We meet every 3 months, 4 times a year. In the strategic committee, the rule is an emotional discussion for the wellbeing of the company. We are facing challenges. The influence of these bodies on the implementation of risk culture or management within the organization is direct.*
>
> *We have moved from governance by father and two sons with 100% of the directors' fee allocated to the grandmother as retirement benefits; this might be a caricature but it is actually what happened 20 years ago. Today, we have moved to governance that is relatively rare compared to the size of our company: we have a strategic committee, board of directors, real COMEX with independent managers of the company and a real audit committee under their responsibilities. We went from the artisanal mode to a mode with external directors. We are up to standards with regard to the feminization of the board and we are equally beyond the minimum in terms of the number of independent administrators. (REDOTO)*

1.4. Conclusion

To conclude, and without claiming to be exhaustive or general, the study presented in this chapter prompts SME managers to be aware of the role that extended governance plays in strategic risk management. First, managers must take

up their major role in disseminating awareness on risk culture and risk management within the company. It provides the necessary impetus for the implementation of mechanisms, with not all necessarily being formalized, which are essential for risk identification, assessment, prevention, management and internal and external communication.

However, managers should not underestimate the role of the different governance bodies because of their enabling influence on the informational and policy processes that underlie risk management. On the one hand, they must form a functionally diversified management team, structured around a financial director in charge of monitoring financial performance and availability of financial resources to seize development opportunities. The integration of new functions into the team, with skills that are specifically geared towards major risks that could endanger the company, seems to be a major asset. These new functions, like the dedicated and cross-company functions of risk management that can be found in the largest companies, must play a coordinating role among the various functional managers. On the other hand, the role of the supervisory bodies (board of directors or supervisory board) should not be neglected. The presence of a board, the opening of this board to external and professional members and the creation of a strategic committee or an audit committee are all assets in SMEs in terms of accumulation of new essential expertise, risk identification and assessment, as well as effectiveness of the collective decision-making process. However, there is a need for further clarification of the division of work and missions among these different risk management bodies on the one hand and between them and managers to avoid the costs of possible redundancy or dispute on the other hand.

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2

Integration of ISO 26000 International Standard by SMEs: Toward a Better Understanding of Risks

2.1. Introduction

At all times, small and medium-sized enterprises (SMEs) have encountered risks. But the end of the 19th Century saw the rise of a successive body of legislations[1] making it possible to apprehend a set of risks, in particular through the implementation of protective measures for all employees and the creation of bodies to control work situations. These laws and institutions were just simple practices that became commonplace in the course of the year 2000. The occurrence of some industrial disasters, coupled with the development of environmental awareness, reinforced steps back and the need for better integration of risk management.

Since the year 2000, specific practices and policies have been developed, such as the integration of Sustainable Development and Corporate Social Responsibility (CSR). All these instruments aim at understanding risk in a wider context, integrating organizational vulnerabilities [ROU 10] or even developing High Reliability Organizations (HRO) [ROB 90] and resilient systems [KOE 07]. This control of risk situations is contrary to the theory of normal accidents [PER 99],

Chapter written Camille DE BOVIS and Sylvaine MERCURI CHAPUIS.

1 Non-exhaustive list: protection of women and children at work, creation of labor inspectorate, principle of the employer's systematic liability in respect of accidents at work, etc.

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

which is dubious when it comes to the possibility of preventing risks because related technologies and complexity make organizations incapable of coping with degenerating situations. On the other hand, an acknowledgment of this postulate enables companies to better detect latent errors and prevent risks before they become a crisis. The difficulty in the process of mitigation or even risk prevention lies in the position that the organization decides to adopt. Should it adopt processes, apply rules or standards? What is the actual share of risk anticipation and prediction for each organization? Should it act alone or interact with its stakeholders? For SMEs, it is a matter of associating a probabilistic and rationalist vision with a vision of uncertainty.

The ISO 26000 standard, which is atypical to its counterparts[2], is an interesting starting point for SMEs to engage in a responsible and joint risk management.

Ever since the publication of this standard in 2010, which specifically addresses social and environmental issues, some SMEs have seized these opportunities. Despite a still low adoption rate, benefits are already visible throughout the world, particularly with regard to the United Nation's Sustainable Development Goals [ISO 16]. The integration of this standard by SMEs prompts actors to question the apprehension of risks in their working environment and consider new actors as well as the stakeholders who incur and reciprocally pose risks to the company [IGA 17]. This is what the French Ministry of Foreign Affairs quickly retained in the last few months of the ISO 26000 standard negotiation, indicating that "the risk factors or opportunities for a SMO can appear at 10,000 as well as 10 kilometers, and materialize tomorrow even though they have been in existence for ten years" [FRA 10][3].

Management practices, highlighted by ISO 26000, prompt SMEs to consider new ways of approaching and engaging more specifically in a responsible and joint management of risks. For this reason, we will discuss and illustrate two key questions: how does the vision of global risk structure the typical considerations of SMEs? And how does the ISO 26000 standard, a management tool [CHI 13], develop its acuity? In support of our observations, we shall proceed in a methodical way by adopting an approach that analyzes the elements of the

2 ISO 9001, OHSAS, ISO 18 000 for example.

3 Introduction to CSR, available at: http://www.diplomatie.gouv.fr/IMG/pdf/1_4_PAPL1_Introduction_a_ISO_26000_cle87f4af.pdf

ISO 26000 standard with regard to the ISO 31000 standard. In section 2.2, we will see how risk leads to reliability. In section 2.3, we will clarify the role of the ISO 26000 standard and show how it can help in better understanding risks. Section 2.4 will indicate its interest in sustainable and joint risk management within SMEs.

2.2. When risk leads to reliability

The uncertain etymology [CLE 06] of the term "risk", a pejorative semantics relating to "pitfall", "something that cuts", underlies danger. The situations that organizations face are not controllable neither can they be mastered, while the modern world, its conventions and its legislations commit to their responsibilities. For risky events or events under tension, which are often difficult to detect (which can then be described as weak signals [ROU 00]), they usually manifest themselves long before the adverse consequences show up. They can originate from all areas of the company which constitute a real headache to their managers. That is why the desire to identify these risks is primordial. This is a major concern which seeks to be addressed using a pragmatic approach considering that more than 62 methods of risk analysis are referenced and analyzed [TIX 02].

However, the Arabic term *rizq*, relating to "unexpected gift" [LIT 86, MAA 09], conveys a more positive vision. The same goes for the Chinese risk ideogram, which is made up of two elements: threat and opportunity. Rather, the idea is to view situations as opportunities that are available to organizations. They shall or shall not mobilize them, successfully or unsuccessfully, depending on the vision that they can develop and the ability to quickly build highly effective and reliable solutions. Theorization related to HRO [ROB 90] is primarily concerned with risks in a reliability perspective supported by collective mechanisms. Researchers study organizations with different operation systems, but with a common characteristic: "a great potential in making operational errors that can degenerate into catastrophes" [ROB 93]. This theorization identifies their unique ability to prevent or respond to disasters and render risk consequences ineffective [WEI 99].

HROs center on two dynamics: one is based on routine processes that must be supervised and anticipated; the other is reactive which can absorb shocks and deviations by maintaining collective commitment. Thus, it is a question of finding equilibrium between opposing procedures, for example anticipation versus reaction, recommendations and standards versus improvisation or stability versus flexibility and reconciliation of tensions [VID 11]. Standards such as ISO 26000 are similar to

supervised and anticipated processes, but they are also at the origin of improvisation and do-it-yourself capacities. As Roberts [ROB 09] points out, HROs do not mobilize pre-conceived revenue. As regards organizational behaviors, issues relating to sensemaking, leadership, organizational learning, change and innovation are predominant [ROB 09].

HROs operate in a close coupling complex system and find solutions to their problems without reducing the systems [ROB 93]. They succeed in containing malfunctions that occur. In order to deal with the existing complexity, members of HROs have to increase their vigilance or advertence [LAR 06]. Advertence is associated with two concepts: the notion of heedful interaction[4] and the notion of situational awareness.[5] It helps in the setting up of mechanisms that facilitate small adjustments in order to avoid and prevent the accumulation of errors [WEI 99].

Collective intelligence, for risk prevention, is based on three interacting dimensions of the heedful interaction which are contribution, representation and subordination: "actors in the system plan their actions (contribute), while envisaging a social system of joint actions (represent), and interrelate the constructed action with the system that is envisaged (subordination). Ongoing variation in the heed with which individual contributions, representations and subordinations are interrelated influences comprehension of unfolding events and the incidence of the errors" [WEI 93]. This planning helps to integrate expertise and skills as well as coordination, especially since external actors sometimes find it difficult to understand. SMEs have every interest in creating mechanisms that include their members' collective intelligence in order to develop their reliability and sensemaking. Indeed, engaging in corporate social responsibility is a means of sensemaking. Reliability is defined through the individuals who will be at the origin of social forces in the group's life, conventions, understandings of and reactions to these conventions [WEI 93]. This collective intelligence system allows resilience and the ability to avoid organizational shocks by building continuous action and interaction systems designed to prevent immobilism. Collective intelligence encourages free dialogue and acceptance of decision as well as commitment to actions that can come from both the local and global level. This is an important challenge for SMEs, which are rather marked by a very powerful perception of the manager.

The analysis of the environment and people involved in the action will be conveyed through the knowledge of other actors, stakeholders, by their ability to perceive weak signals and propose a rapid response [DEB 07]. It is necessary to put

4 Heedful interaction, see [WEL 93, p. 770].

5 Situational awareness: a temporal and spatial perception that includes understanding the significance of these systems and their projections in the future [WEL 93].

in place situational cognitive awareness processes. The vigilance linked to the situation is an active process. Whatever the work situation and, more specifically, if it is considered as sensitive, the actors must self-discipline themselves to critically challenge, analyze and imagine possible futures along with their consequences [WEL 93]. The standards, and particularly ISO 26000, make it possible to create these links between observing the organization of SMEs on a daily basis and projecting the desired future.

Within this context, we realize that risk assessment is an essential step before their management, to achieve reliability. It is this perception that will determine collective intelligence. The ISO 26000 standard is a means of guiding SME employees towards this apprehension.

2.3. Toward a better understanding of risks by actors: the role of ISO 26000

2.3.1. *Risk-specific standards are not effective for SMEs*

As claimed by proponents of HRO, risk design is multidimensional and integrates considerations such as voluntarism, control, catastrophic potential, equity and consequences for future generations (SLO 16). In a very intuitive way, this statement has a link between risk management and a socially responsible position. This link with the CSR can be applied concretely through the ISO 26000 standard, which is one way of involving stakeholders in the governance of the company.

Initiated in 2001 by consumer organizations concerned about working and living conditions, the ISO 26000 standard is not specific to risk prevention, but focuses on the CSR. Two founding principles are associated with it. On the one hand, the standard is voluntary and is neither intended nor appropriate for certification or for regulatory or contractual use. On the other hand, it is not intended to establish a non-tariff barrier on trade and not intended to serve as a basis for litigation, complaint, defense arguments or any other claim in international proceedings. Its elaboration consists of three main phases: definition of the technical object of the standard, elaborated in international working groups; specification of details within the standard (consensus search) and formal approval of the project [IGA 09].

If we are specifically interested in the applicable standards for managing and mitigating risks, companies, especially large ones, have several options. Risks with environmental consequences will be covered mainly by the ISO 14001 standard, risks having consequences on products and services by ISO 9001, those related to

safety will be addressed in the OHSAS[6] and MASE[7] standards. Risk and crisis management is tackled in ISO 31000 and COSO[8] (Figure 2.1). The myriad of possibilities offered to SMEs makes their use more complex, especially in a constrained environment.

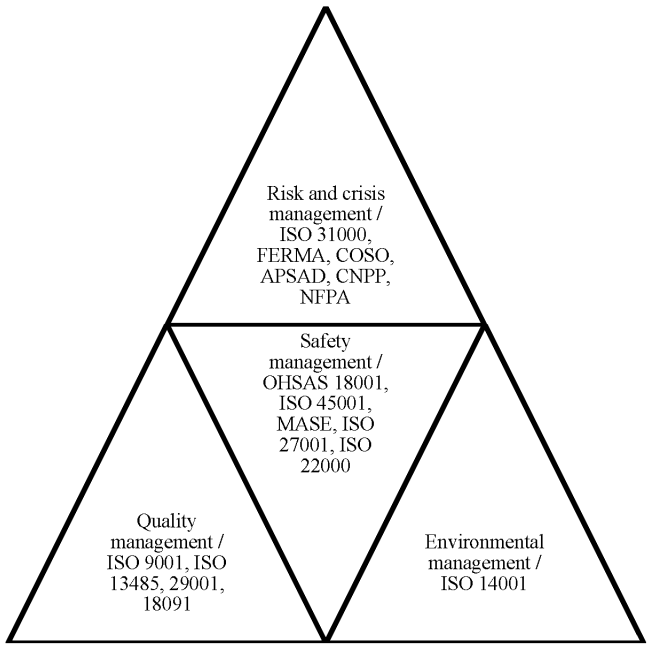

Figure 2.1. *Standards and procedures for apprehending risks in companies.*

Among all these possibilities, the ISO 31000 standard on risk management leaves no ambiguity. Its purpose is to provide principles and guidelines, as well as propose implementation processes at strategic and operational levels. Practically speaking, SMEs cannot always designate collaborators to this task. The application modalities of the standard based on the alignment between risk management and strategic, operational and productive objectives are more complex to define because they are less formalized and institutionalized. The 31000 standard has the

6 Occupational Health and Safety Assessment Series.
7 Manual for the Improvement and Safety of Environment.
8 Reference to Sponsoring Organizations of the Treadway Commission.

disadvantage of concentrating on a specific area: research on risk is generally carried out in congruent areas and therefore very segmented areas [LUN 04]. Specific areas and designated persons increase the risk of supervision biases. Interestingly enough, section 4.3.3 of the 31000 standard is entitled "Accountability".

The ISO 26000 standard, on the other hand, with a much wider prism, allows the various stakeholders to participate, thanks to a vigilant attitude, in the apprehension of situations. This is of paramount importance given that SMEs cannot dedicate specific resources in terms of workforce and are subordinated to the commitment of all. They have little opportunity to protect themselves or mitigate risk consequences.

ISO 31000 provides initiation and leadership roles for structuring debates on injunctions in a structured and institutionalized risk management process, while ISO 26000 deals with the development of dialogue between management and stakeholders, according to an integrated position (Table 2.1). The text suggests implementation processes referring to the modalities of joint regulation [REY 00]. In this case, the ISO 26000 standard serves as a support for the co-establishment of social standards specific to the organization.

Since 2015, ISO 31000 has been revised and a new version has been published in 2018. In 2017, actors like OPPBTP[9] highlighted some improvements[10]: "The new standard shall include more details and specific examples, less jargon, simplified and easily applicable concepts". This will have an impact especially in terms of organizational learning: in the 31000, the discourse is structured in an injunctive manner initiated by the internal management bodies whereas, in the 26000, the discourse is carried out through dialogue and a stakeholder synthesis.

Several options are available to SMEs as regards risk management. ISO 31000 provides a framework for managing all forms of risk. A strategic intent relates to the allocation of specific resources to seize environmental opportunities and face the threats that it entails. The ISO 26000 standard is a more attractive option for SMEs. A quick view of this standard makes it possible to identify 57 occurrences for the word "risk". Unlike ISO 31000, it considers resources to be flexible, mobile, convertible and malleable, enabling them to learn from the unexpected, as some authors advise for risk control [SUT 03, REB 16].

9 French Professional Agency for Risk Prevention in Building and Civil Engineering.

10 "In order to define the changes that will be considered as priority, international experts studied more than 1330 analyses from companies of all sizes which are already using this risk management tool": https://www.preventionbtp.fr/Actualites/Toutes-les-actualites/Entreprise/La-future-norme-ISO-31000-est-ouverte-aux-commentaires.

Stakeholder comparison factors	ISO 31000	ISO 26000
In-depth of text	34 pages	147 pages
Role of management	Initiation and control *"Management identifies, approves and communicates the objectives of the organization" (page 9).*	Support and dialogue *"The organization should actively foster the adoption of ethical behavior" (page 14).*
Stakeholders' attitude	Injunction *"Effective communication and consultation (...) should ensure that the stakeholders and those responsible for the implementation of the risk management process understand the principles of decision-making and reasons why certain actions are necessary" (p. 14).*	Awareness *"An organization should be aware of the impact of its decisions and activities on the interests and needs of its stakeholders. It should take due account of its stakeholders and their capacity as well as varying needs, get in touch and interact with them" (p.23).*
Place of information	To serve the interest of the organization *"The organization should develop and implement a plan on how to communicate with external stakeholders. This should involve the participation of appropriate external stakeholders and ensure an effective exchange of information" (p.12).*	To serve the interest of stakeholders *"Stakeholders have the necessary information and understanding to make their decisions" (page 23).*
Targeted objectives	Those of the organization *"Organizations of all types and sizes faced with internal and external factors and influences are unaware of whether and when they will achieve their goals. The impact of this uncertainty on the achievement of an organization's objectives is known as risk" (p. V).*	Those established with stakeholders *"Although the objectives of the organization may be limited to the interests of its owners, members, customers or corporate officers, other individuals or groups may also have rights and express specific claims or interests"* (p. 14).

Table 2.1. *Comparative summary between ISO 31000 and ISO 26000*

The ISO 26000 standard also advocates for collective decision-making to deal with risks [WEI 93, SNI 93, WEI 99]. It makes the actors more accountable and proactive. It appeals to their vigilance which is an unavoidable feature to prevent risks. It is not a matter of allocating specific resources but rather mobilizing conventional resources to preserve the equilibrium and well-being of SMEs.

Like some of its neighbors (ISO 14001, ISO 9001 or OHSAS 18001), the ISO 26000 standard is included in the Global Reporting Initiative or, in France, the New Economic Regulations (NRE) law. These regulations include preventing risks rather than waiting for them to occur: "The quality of information on how companies take into account the social and environmental consequences of their activity and access to such information are most important conditions for good corporate governance (...) [The Government] will study the possibility of including in the companies' training programs subject to this obligation, modules on the environment, sustainable development and risk mitigation" (Article 116). Less anxiety-prone for SMEs, the ISO 26000 standard offers a wide range of subjects to be tackled in order to improve management practices and make them more "accountable" vis-à-vis employees and stakeholders. Human Resources Management (HRM) plays a key role (Table 2.2). Everyone can be concerned by the standard through a subject that is close to his/her comfort area. In addition to reassuring actors who implement it, it does not require heavy investment (both human and financial) and it gives more consideration for SMEs characteristics. The ISO 26000 standard helps in the integration of incremental risk, acquisition of new knowledge and improvement of competencies through the sharing of experience.

Policies and practices of human resources	Promotion of ethical and moral values and development of a prevention culture
	Definition of risk acceptability
	Stakeholders' knowledge and awareness
	Implementation of new managerial practices, innovation practices
	Supervision of human resources managers
	Questioning the nature of risks (segregation)

Table 2.2. *Supporting ISO 26000, adapted from [DEB 14]*

The completeness of this standard also enables a panoptical view of the subject, giving actors the freedom to seize opportunities that they wish to prioritize. SMEs that understand risks are open to their environment. They are not afraid to face their

own dysfunctions and are in favor of any form of change. Even if the demand for socially responsible practices is sometimes presented as an initiative by citizens or external outsourcers (like the Global Performance© System of the Center for Young Business Leaders) [BON 16], SMEs are also outsourcers in this field.

2.3.2. *ISO 26000: reading grid for SMEs*

Generally, the first few chapters are devoted to definitions. Recommendations follow to ensure that stakeholders are categorized. They are illustrated by various specific examples (associations of small shareholders, professional trade unions, Défenseurs des Droits[11], ADEME[12], DREAL[13], student associations, ORÉE[14], INERIS[15], etc.) that make the standard very operational (for example, under the *employee* category, there is a distinction between *management/manager* collaborators, *employee/operational* collaborators and *interim or temporary* collaborators, as for the subcontractors' category, rank 1, 2, etc. shall apply). For SMEs, knowing their stakeholders distinctly enables them to co-establish a solid social contract [QUA 05] while developing a collective and extended risk responsibility.

CSR principles are defined as the basis for behavior or decision-making. They are seven in number [IGA 09]:

– *Accountability* implies being answerable to those affected by decisions and activities, as well as to the company in general.

– *Transparency* refers to the activities, decisions, standards and criteria used to assess performance, impact of decisions on the company and environment and finally identity of stakeholders, as well as the criteria used to identify and interact with them.

– *Ethical behavior* is explained through the values of honesty, fairness and integrity. It should be emphasized that ISO 26000 does not only recommend the adoption of standards (in line with the standard) but also the setting up of alert, control and monitoring mechanisms.

– *Respect for stakeholders' interests* requires consideration for the relationship between stakeholder interests' and best interests of the company.

11 French Equal Opportunities and Anti-Discrimination Commission.
12 French Environment and Energy Management Agency.
13 Regional Directorate for Environment, Planning and Housing.
14 Organization for the Respect of the Environment by the Company.
15 French National Institute for Environmental Technology and Hazards.

– *Respect for legality* requires the organization to comply with all local laws and regulations in force.

– *Respect for international standards of behavior*: the glossary contains the following definition: "expectations vis-à-vis the behavior of a socially responsible organization, proceeding from customary international law, generally accepted principles of international law, or inter-governmental agreements (such as treaties and conventions) that are universally or almost universally recognized".

– *Respect for human rights*: reference here is made to the International Declaration of Human Rights adopted by the General Assembly of the United Nations in 1948. This principle refers to cases where national legislation "does not provide adequate protection for human rights" and requests that the company operating in that country considers the international standards of behavior as prevailing.

The ISO 26000 standard also makes a distinction between core issues and fields of action [MER 14]. Thus, SMEs are prompted to raise questions first on central governance, human rights, working relations and conditions, environment, good business practices, consumers and its corporate commitment. Each core issue necessarily has a certain degree of relevance, since it is at a high level of generality. However, it is necessary to specify and answer each question and, in this case, the ISO 26000 standard indicates that the fields of action are specific. These can usefully serve as a framework for analysis and they have to prompt SMEs to ask questions. In the case of working relations and conditions, they must consider their conduct, even if they do not violate human rights. Do they profit from violations orchestrated by others? Do they protest against the authorities? We see that this example of a list of inquiries questions the place and role of SMEs in the countries with which they interact because they are globalized, directly or indirectly (via the subcontracting and supply chain) connected to the rest of the world.

According to Afnor[16], the March 2017 assessment in France issued a report on 400 organizations that had undergone an evaluation based on the ISO 26000 standard (model AFAQ[17] 26000). Among them, 20% were large groups, 34% were very small enterprises and 46% were SMEs operating in sectors as diverse as wholesale trade, construction and landscaping or management consultancy.

Organizations were divided into four levels which marked the commitment path: initial (1%), progression (32%), confirmed (52%) and exemplary (15%). Over the last 18 months before March 2017, 47.6% of the companies newly supported by Afnor were SMEs and commitment from this type of organization is fairly stable.

16 French Agency for Standardization.
17 French Association for Quality Assurance.

More specifically for SMEs, those considered under "progression" make up a bit more than 23% compared to those placed under the "exemplary" category (15%). Confirmed SMEs account for about 66% of organizations. SMEs using the standard at an initial level, that is to say in its free version of rights, constitute the majority (about 84%). This number of users indicates a real interest for the tool: "It offers a new and 'naïve' eye to ask the right questions" and also offers benefits. "It fits into the activity of the company without hindering it". As seen earlier, the notion of advertence (vigilance) or sensitivity to the environment for risk prevention is paramount. This Socratic position brings out the right questions and renews its interpretation of the environment, which converges with the ISO 26000 methods.

In the Auvergne Rhône-Alpes region, between September 2015 and March 2017, some SMEs like Brake France Service (inter-company and community services), Ecodis SAS (natural fire safety, lighting, ventilation and smoke extraction), Loire Habitat (housing), Recyclea (recycling and/or upgrading of connected equipment), Dauphinoise for housing (corporate landlord) or Tarvel (green spaces) have thus been labeled "Committed CSR", which is the terminology used for organizations that choose to integrate the ISO 26000 standard, associated with a personalized Afnor mentoring.

The objective of this evaluation is simple and is given as follows: to determine the level of integration of socially responsible practices by any type of organization. Above all, it is necessary to judge their effectiveness and relevance and, in a virtuous logic and constant improvement, promote the sharing of good practices. Afnor summarizes the purpose of this evaluation as follows: to demonstrate the organization's ability to identify its own social and environmental responsibility issues according to its context and expectations of its key stakeholders (collaborators, customers, suppliers, funders, local authorities, etc.), develop managerial and operational practices that are consistent with these issues and monitor results in order to improve on its overall performance [AFN 17]. It is interesting to note the overall performance terminology used by both Afnor and the Center for Young Business Leaders, which refers to sustainable performance [BON 16]. The sustainability inherent in ISO 26000 is of paramount importance to many organizations. Its democratization is favored through the method proposed by Afnor, which facilitates access by both online diagnosis and free self-assessment scores and report.

Historically, it was in November 2011 that ISO 26000[18] adopted the following definition for CSR: the "accountability of an organization vis-à-vis the impacts of its decisions and activities on the society and environment, resulting in transparent and ethical behavior that: contributes to sustainable development including the

18 The ISO 26000 definition is in line with that of the EU and the Green Paper.

betterment and well-being of the company; takes into account stakeholders' expectations; complies with applicable laws and is compatible with international standards; and which is integrated in the entire organization and implemented in its relationships" [MIN 16]. This definition provides a set of topics that have recently been tackled in academic publications specific to risks in SMEs. As regards ethical issues, they are analyzed by Berger-Douce [BER 08], underlining, however, mixed results in terms of risks related to diversity at work. The betterment and well-being of the company is studied in SMEs by Bachelard and Abord de Chatillon [BAC 06], while specific risks linked to the well-being of the manager are studied by Torrès [TOR 12] and Lechat and Torrès [LEC 16]. The legislative and regulatory dimensions are favorable to sustainability, which minimizes risks for SMEs.

As soon as SMEs are able to understand risk, develop vigilant behavior and advertence for sustainable and responsible management, the conceptual differences between the ISO 26000 standard and the HRO theorization shall all be considered. Fields as varied as sociology, psychology or philosophy are mobilized, and make it possible to visualize these links, particularly by observing the semantics used (Table 2.3).

ISO 26000	Related conceptual and legislative elements
Collective establishment of work reference	Collective intelligence [WEI 99] Sensemaking [WEI 94] Situational awareness and advertence [WEI 93, WEL 93, LAR 06] High Reliability Organizations [ROB 90] Context of freedom in the commitment theory [JOU 89, REY 00] Continuous improvement [IGA 09] Theory of social regulation [REY 00] Concept of accountability [JON 90, Directive 89/391/EEC, 12 June 1986 (Labor Code)] Concept of prevention (code of labor, article L230-2) Identification of weak signals [ROU 00] Heedful interaction [WEI 99] Objectivization, development of perceptions and balance as well as internal and external perception [DEB 06]
Identification of stakeholders and referencing to major themes	
Dialectical capacity between global and local vision	
Ability to reconcile dynamic vision, geographical vision and temporal vision of risk	
Large prism therefore an ability to integrate the uncertain	
Voluntary commitment, a non-certified standard	
Objectives for continuous improvement	

Table 2.3. *IS0 26000: conceptual guidance*

2.4. Toward a better understanding of risks by responsible actors

Beyond a quest for legitimacy, recognition, a form of isomorphism or conformity, the ISO 26000 standard is a social and environmental indicator and corresponds to an information tool [ELA 10]. Unlike the ISO 9000 and ISO 14001 standards, it does not offer certification or management systems for the CSR i.e. a specific organization aimed at fully mastering a management role, quality or environmental management (in the ecological sense). Rather, it is a question of integrating environmental and social concerns in the usual management mechanisms.

The ISO 26000 "stands as a more global and international initiative" [HEL 10, p. 56]. It places its stakeholders at the center of the process and focuses on dialogue, which is defined as follows: "a given response […] within the framework of formal or informal meetings, in various forms […] individual interviews, conferences, workshops, public hearings, round tables, advisory committees, participation in forums, adherence to community groups [...] it is not simply a question of listening to what stakeholders have to say, a learning objective or prospects for cooperation are anticipated" [IGA 09, p. 91]. It makes it possible to reconcile management with its employees by going beyond the control/sanction approach, which will not be applicable in the logic of shared responsibility. Instead, it is within the framework of setting up collective intelligence, with its culture of learning from errors. It is also a means of exchanging good practices, which are among the main objectives of this standard and mark a profound change in behaviors [IGA 09].

In this work, collective intelligence is exercised through a diversity organized around heedful interaction. On the one hand, this vigilance-advertence helps in the organization of autonomous regulations [REY 00], on the other hand, by directly involving stakeholders in its efforts to position itself in a freely consented dependency dynamics, it allows a greater involvement in the adoption of the mechanism [JOU 89]. In terms of risk, it is important to integrate convergent communication [ROG 81], i.e. an interactive long-term process including values, and taking into account the way in which the protagonists are affected by the process (this must be structured as a dialogue, not as a monologue). For example, ISO 26000 provides a better understanding of the situation in order to know who to contact and how to contact in the event of a degenerating situation as well as knowing the location of resources and skills to be mobilized.

The standard focuses on the implementation of social and environmental responsibilities under favorable conditions. Addressing the issue of responsibility collectively and during a stress-free period facilitates sensemaking [WEI 94] and prevents its collapse. This organizational behavior is therefore associated with the heedful interaction process proposed by Weick *et al.* [WEI 99] and Weick and

Roberts [WEI 93]. In this light, discussing ISO 26000 with stakeholders and choosing the approach make it possible to adopt a guiding concept that will promote continuity [ROB 89].

All these elements show us that, regardless of the risks involved, one of the crucial issues is to be able to perceive risks. The principle of vigilance or advertence can be of help and the ISO 26000 standard is one of its instruments.

2.5. Conclusion

Companies have created many tools and methods in order to cope with risks. Standards are some of them. This great diversity reveals the difficulty of ontologically locating risk in the reality of companies and particularly SMEs. Adopting a deterministic view of risk leads to the creation of risk measurement instruments; when adopting a broader view of risk, considered as the sum of predictability and uncertainty, the use of a standard seems more appropriate. It makes it possible to situate risk in a set of common and established values and make available cognitive spaces that facilitate the understanding of some of the uncertainties, thus enabling the stakeholders to position themselves as mirrors of real collective work.

Standards are also means of identifying knowledge embedded in daily work practices. These management tools shape the company's culture and values, as well as the culture and values that influence their formalization [CHI 13]. The study on standards helps us to distance ourselves from the affective aspect of values: they are concerned with what is useful and realistic in concrete action [CLA 03]. Thus, values are of a cognitive order, they correspond to the representations of individuals and their ability to know. Standards are means of creating common language and understanding for sensemaking [WEI 79]. They give meaning to their action and facilitate commitment. They are the result of interaction between action and reaction. The co-establishing mechanism recognized in the implementation of the ISO 26000 standard has led to its natural adoption by stakeholders. These values are promoted on behalf of all and can be easily legitimized (Figure 2.2).

The prescriptive aspect of standards facilitates the association of the penalty and evaluation system in terms of conformity or non-conformity [CLA 03]. The ISO 26000 standard is not subject to certification and yet many organizations refer to it and wish to either use it or be assessed according to its principles. This use and adoption of the standard is common. This incentive-based system rather values the culture of positive error or learning-inducing culture [WEI 93], recommended for developing high reliability, encapsulating risks and rendering them inoperative. Its wide reference also prevents supervision biases, memory biases or interpretation of

situations biases to the prism of a narrow and compartmentalized vision. The ISO 26000 standard questions, plans and projects as future desires, in order to make collective decisions. These series of questions, based on values, remain the basis of an open questioning because they cannot be close and unilateral.

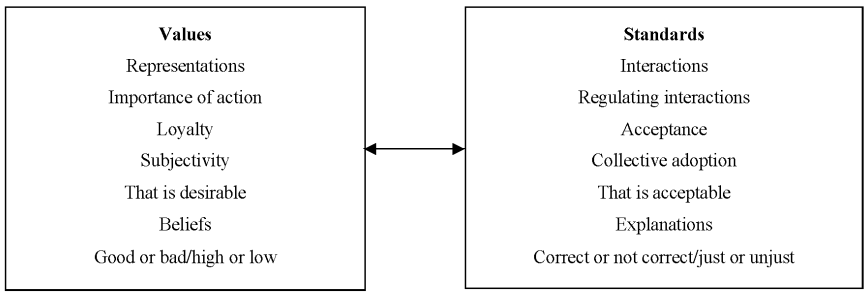

Figure 2.2. *Between values and reality [MER 14, p. 61]*

It is therefore essential for SMEs to question the upholding of this dynamic. As a matter of fact, HROs are organizations that are experts in the management of paradoxes, where functional structure, hierarchy and strict standards coexist smoothly with flexibility, do-it-yourself and innovation. Interrelationships are important. The use of the ISO 26000 standard freely helps the organization to be structured clearly and specifically, while at the same time initiating a better knowledge among the stakeholders. It is therefore a facilitator for smooth communication. There are individuals, security holders and actors in the implementation of the ISO 26000 standard who are at the center of the system. Bon [BON 11, p. 57] recalls this by stating that the "last chapter of the standard reflects on the pragmatism of designers, who take into account managerial constraints and difficulties". This promotes delegation of decision-making to local experts; this constitutes the HRO [MAD 06] and recalls that managers are called upon to take into account the capacities and resources of the organization. Even though the ISO 26000 standard falls within a rational approach to change, this does not exclude the possibility of subsequent dynamic mobilizations. It gives SMEs the opportunity to be interested in the risks that they may face by prioritizing them in order to address topics according to their current and future expectations. Finally, it is an excellent way of addressing the issue of stakeholders' values and a method for instrumenting the three components of heedful interaction, contribution, representation and subordination, in the mould of HROs [WEI 93].

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3

Managing SMEs' Economic Dependence Risks: in Favor of Disciplinary and Relational Governance

3.1. Introduction

The economic dependence state is defined as "the impossibility for a company to have a technically and economically equivalent solution to the contractual relations it has established with another company" (Court of Cassation, Commercial Chamber, February 12, 2013, appeal No. 12-13603). More generally, the *Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes* (DGCCRFL) [DGC 16] identifies five criteria that must be simultaneously present to characterize a position of economic dependence of one company in relation to another: the share of the company in its partner's turnover (usually above a threshold of 25%, but this threshold is not legal and may therefore vary according to the circumstances), the importance of the partner's market share, reputation of its brand, existence of alternative solutions and the factors that led to the position of economic dependence (strategic choice or constraint). A company can therefore be in an economic dependence relationship with its suppliers, customers and also with any other partner with which it has established contractual relations.

Many SMEs are in a position of constrained economic dependence, as they are often subcontractors of a single large group or large-scale distribution suppliers. However, in the French large-scale distribution sector, four purchasing centers alone occupied 90% of the supply market in 2016. SMEs that constitute a large part of

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these large-scale distribution suppliers find themselves in a position of strong economic dependence. It is believed that large groups can abuse such situations.

A French law was therefore proposed and adopted at first reading on April 28, 2016 to better protect SMEs from this risk of abuse of economic dependence, in particular those of the agri-food sector. Admittedly, abuse of economic dependence has been prohibited since 1986, but the number of convictions has been very low since then because of the difficulties of actually characterizing abuse. The new law, proposed by Bernard Accoyer, was precisely intended to clarify the concept of "economic dependence" and, consequently, the abuse that might be made of it. A position of economic dependence is now characterized, within the meaning of the second paragraph of Article L. 420-2, subparagraphs 2 *et seq*. of the French Commercial Code, when (1) the termination of a business relationship between the supplier and the distributor could jeopardize the maintenance of its activity; (2) the supplier does not have an alternative solution to such a business relationship which can be implemented within a reasonable period of time. The abuse of economic dependence can then consist of "refusal to sell, tied selling, discriminatory practices referred to in Article L. 442-6 paragraph I or product range agreements".

Yet, the legislator was much criticized as regards this law and multiple SMEs, suppliers' federations as well as the Secretary of State for Trade, Craft Trades, Consumer Affairs and the Economy of the time[1] did not hesitate to call it a "false good idea" [PIN 16] whilst others denounced a "destructive rather than protective" law [MER 16].

Thus, while the economic dependence of SMEs relative to other enterprises, large groups in particular, has often been considered risky, it would seem that SMEs are reluctant to implement legal standards that are supposed to protect them. Why such reluctance which at first appears paradoxical? Does this mean that SMEs generally succeed, without recourse to the legal arsenal, in managing their economic dependence relationship and avoid falling into a situation of abuse of dependence? How do they manage to do that? How do SMEs, in a position of constrained dependence, succeed in addressing the imbalance and resulting risks and, conversely, benefit from their relationship with their partner?

Our assumption here is that the proposed law, like those that preceded it, is part of a particular approach to an economic dependence relationship that emphasizes

1 See Mrs Martine Pinville's intervention [PIN 16] during the National Assembly session of April 28, 2016: http://www.assemblee-nationale.fr/14/cri/2015-2016/20160176.asp

asymmetric dependence and initial power differences [PFE 78, PFE 03], that is, the structural characteristics of the relationship. This approach therefore implies monitoring and controlling partners who may engage in opportunistic behavior – the abuse of economic dependence in this case – that must be sanctioned or over which to legislate. This approach neglects, on the other hand, the positive risk of economic dependence relationships and the "embeddedness" that this provides [GRA 85] for the development of SMEs. Such a positive approach to the dependence relationship can be defined in terms of embeddedness and mutual dependence [GUL 07] between the two partners, regardless of their initial resources or powers.

This chapter therefore intends to show the importance of having a dual approach to the economic dependence relationship of SMEs which is most often constrained: a "structural" approach based on the characteristics of initial power and resources (3.2) and a more social or relational approach based on mutual dependence and embeddedness (3.3). We show that each of them is based on very different assumptions, highlights specific risks associated with the economic dependence of SMEs, and advocates for the implementation of risk management tools and specific governance mechanisms for the dependence relationship. We conclude (3.4) by defending a systemic approach to the economic dependence of SMEs, which intervenes at different levels and requires the coordination of different mechanisms of dependence governance, both disciplinary and relational, inspired by these two approaches. We illustrate our approach with various examples of companies borrowed either from the jurisprudence on economic dependence or from the different cases that we have developed around risk management in SMEs[2].

3.2. Structural approach to the economic dependence of SMEs and its implications in terms of risk management

3.2.1. *An approach based on the asymmetry of initial powers and resources*

Resource dependence theory [PFE 78], one of the theories, along with transaction cost theory, most often used to characterize an exchange relationship, supports the idea that all large and small organizations are in a position of resource dependence as regards other organizations, because no organization can have a self-sufficient operation. The concept of interorganizational power [COX 05] helps define more precisely the nature of this dependence and in particular to identify the so-called "asymmetric dependence" situation. Thus, an organization's ability to

2 The cases were anonymous for reasons of confidentiality, economic dependence risk being a very sensitive subject for the managers of the companies surveyed.

exercise power over another actor depends on the actor's dependence on the partner organization and, in particular, on the nature and availability of resources that the latter offers. Power thus depends on (commercial or operational) resource criticality and also on the availability of alternatives to find this resource [TOU 14]. There is therefore a power asymmetry and thus an asymmetric dependence if firm A is more dependent on B than B on A.

Economic dependence, which is based on economic and trade relations between organizations in terms of buying and selling, is one of these forms of dependence. Thus, in the SME–large-scale distributor or SME–outsourcer dependence relationship, SMEs that need the commercial network of the distributor or outsourcer to sell their product are more initially dependent on the distributor (one of the few possible), than the distributor on SMEs which may have many competitors that can replace them. SMEs are thus in a position of economic dependence which is not only asymmetrical but constrained, since they suffer, in the case of large-scale distribution, from the concentration of the latter.

Thus, if the position of dependence regardless of its nature reduces the company's margin of freedom [DUB 96], the structural approach to the dependence relationship seeks to identify more precisely the initial power differences [GUL 07] and their impact on the nature of the relationship: which dominates, which is dominated.

The main risk associated with dependence relationship is therefore the risk of abuse of economic dependence by the company that "dominates" the relationship and thus adopts opportunistic behavior.

3.2.2. *A structural approach emphasizing the risk of abuse of economic dependence which is however difficult to characterize and whose management requires disciplinary governance of the relationship*

3.2.2.1. *Abuse of economic dependence*

The premature termination of commercial contractual relationships, adoption of anticompetitive practices such as refusal to sell, discriminatory pricing practices, product range agreements, imposition of excessive requirements or specifications as well as noncompliance with payment deadlines and intellectual property rights, that is the set of abnormal behaviors that one company can implement over another, are practices of abusive[3] exploitation of the dependence relationship that SMEs might suffer. Box 3.1 summarizes the reasons for resort to intercompany mediator for abuse of economic dependence which was created in 2010.

3 Articles L 420 and L 442-6 of the French Commercial Code.

Reasons for resort to intercompany mediation for abuse of economic dependence most often encountered by mediators

– Noncompliance with payment deadlines (payment beyond the statutory period, relocation of procurement services abroad, voluntary delays in invoicing, etc.)

– Sudden termination of contract

– Misappropriation of intellectual property

– Contractual conditions imposed upon conclusion of contract

– Unilateral amendments of contract

– Firm price contract without taking into account fluctuations in raw materials

– Undue delay penalties

– Unpaid activities (R&D costs, studies, software, etc.)

– Ordering arrangements (complete exclusion of GTCS, cancellation of uncompensated order, noncompliance with order forecasts, etc.)

– Self-invoicing by customer (postponement of invoices issue date, etc.)

Box 3.1. *Reasons for resort to intercompany mediation (source: Press kit – Report of the "Médiation enterprises", French Ministry of Production Recovery)*

Beyond the abusive exploitation practices often mentioned, the "dominant" company may impose restructuring and investments on SMEs that threaten their survival, as shown in Box 3.2 below.

A subcontracting SME of a large group with which it realizes more than 90% of its turnover, must assist the large group in international business when the latter intends to set up in a foreign country. The large group itself does not make any specific investment to help the SME to establish. Whereas, after several months of negotiations with local partners, the outsourcer decides to renounce its establishment in this country and therefore does not conclude new business contracts with the SME within the framework of the latter. Therefore, the SME alone incurs two risks: the loss of a potential turnover and a risk of non-return on irreversible investments. These investments did not allow the SME to find, on its own, new partners locally and new customers, since this new country does not correspond to the specificity of its activity. Nor will this investment be compensated by the signing of new contracts with the large company. The SME, on the verge of bankruptcy, is then forced to lay off ¾ of its staff and close some of its factories, including that of the foreign country.

Box 3.2. *A case of abuse of economic dependence, company A*

In the case of company A, no lawsuit was filed and no damages claimed. Company A wished to continue working with the outsourcer and other potential outsourcers that might be reluctant to contract with it should the abuse of economic dependence it was subjected to be disclosed. The manager was also aware of the difficulty that could exist in view of demonstrating the existence of such a situation of abuse of economic dependence. This reaffirmed his attitude of failing to denounce the abuse.

The abuse of economic dependence, which is based on an asymmetric dependence at the expense of SMEs, constitutes a significant negative risk of the relationship because it increases the vulnerability of SMEs [SAP 89]. The French CDAF (Purchasers Board) also recommended that this risk considered as priority should be included in company buyers' risks mapping. However, the abuse of economic dependence remains difficult to demonstrate and therefore the protection of SMEs against this risk is difficult to put in place.

3.2.2.2. An abuse of economic dependence difficult to characterize

As we have mentioned, various attempts have been made to define what might be considered as abuse of economic dependence. The alleviation of this difficulty seems to lie in an easier characterization of economic dependence situation, as suggested by Accoyer law of 2016 mentioned in the introduction. The case of a DHL subcontractor presented in Box 3.3 in a Court of Cassation judgment underlines the difficulty of characterizing economic dependence and thus the abuse of economic dependence.

An EAS freight company is subcontractor of DHL transport company in the Côtes d'Armor region.

DHL notified EAS of the termination of their contractual relationships with three months' notice and the freight company was placed under judicial liquidation. The liquidator of the subcontractor filed a claim against DHL in view of convicting DHL for "loss of chance of survival," in particular for abuse of economic dependence.

However, the judges admitted that among the five criteria which constituted economic dependence, only the criterion of the reputation of the DHL brand was fulfilled in this case. The court of appeal subsequently rejected the claim for compensation after pointing out that the subcontractor, which already had other customers, could still expand its customer base, and no exclusivity clause prevented it. The Court of Cassation upheld the position of the judges in the first instance and dismissed the appeal.

Indeed, after noting that even though DHL is a leader in the field of transport and freight, its market share in Côtes d'Armor and Morbihan is not dominant with many competitors engaged in a similar activity in the region and recourse to subcontracting is essentially

justified by the fact that it does not have a strong commercial presence in the region, the decision reserved that EAS freight company, which already had other customers, could still expand its customer base and no exclusivity clause prevented it; that in the light of these findings and assessments, pointing to the absence of any legal or factual barriers to the possibility of diversifying the EAS freight company etc., the court of appeal was able to uphold that this company was not in a position of economic dependence with regard to DHL. In this context, the High Court held that "in the absence of any legal or factual barriers to the possibility of diversifying the company etc. this company was not in a position of economic dependence."

Thus, where no exclusivity is required of an undertaking, it is up to such undertaking to diversify its customer base in order to anticipate a possible break up of business relations, at the risk of not being compensated for the prejudice suffered because of the position of economic dependence.

Box 3.3. *Decree No. 151 of February 12, 2013 (12-13.603) – Court of Cassation – Commercial and Financial Chamber – DHL case concerning abuse of economic dependence*

3.2.3. *Tools to manage the risk of abuse of economic dependence before any necessary disciplinary measures but with limitations*

Since the dependence relationship is viewed from the perspective of the initial characteristics of power and risk analyzed in terms of abuse of power, it was logical that the relationship governance mechanisms be essentially disciplinary. The government has therefore put in place a legal arsenal to protect SMEs from such risk and sanction "dominant" companies that would engage in such opportunistic behavior by abusing the position of economic dependence of SMEs.

Yet, the efforts of the legislator were largely contested, notably when the Accoyer law was being voted. This law however aimed to better protect companies in a position of asymmetric dependence and for two reasons [PIN 16]. Firstly, critics of supplementary legal mechanisms have argued that the new law may indeed have a perverse effect with small businesses being excluded from the large groups' supplier panel on which they depend. Distributors may be obliged to refuse to establish closer relations with their suppliers in order to avoid any risk of prosecution or sanction. Secondly, "dominant" companies, usually large groups, should also ensure that suppliers have alternative customer solutions by examining their attempts to find alternative solutions and thus diversify their customer base. This would lead to and could be considered as "interference" on their part in the operation of SMEs [PIN 16].

In addition, it seems very difficult to "objectively" assess the relative power of companies [DGC16] and, for the competition authority, positions of economic dependence are bilateral relations between two companies which must be assessed on a case-by-case basis. They are indeed highly contextualized and evolutionary, depending on the market dynamics and the dynamics of the relationship itself. It therefore seems difficult despite the legislator's efforts, to legally protect SMEs from the risk of abuse of economic dependence they may suffer either because the latter is difficult to be legally characterized (DHL case), or because the SMEs do not wish to do so in order to preserve their reputation, decision-making autonomy and relationship with the concerned outsourcer or other potential outsourcers (Case A). More generally, it is also because most of them see economic dependence in a positive perspective of a mutual dependence relationship that must be strengthened and valued. Indeed, economic dependence is a double-edged sword for SMEs due to the negative risks of abusive exploitation of the economic dependence that this subjects it to, but also the positive risks it represents by the development opportunities it offers. This suggests a more relational or partnership-based approach to economic dependence.

3.3. An approach to economic dependence by embeddedness: towards relational governance

3.3.1. *From a structural approach to economic dependence relationships to an embeddedness approach*

Although many theoretical works on the dependence relationship have made the assumption that it can be studied from its structural characteristics, and in particular the difference in power between the partners, it has been found over time that it could be supplemented by works on the functioning of the relationship itself.

This second approach, which can be described as an "embeddedness" approach [UZZ 02, UZZ 03, GUL 07], does not consider the differences in power or dependence, but conversely examines the sum or interconnection of dependencies within the relationship, the degree of mutual dependence and the ability of stakeholders to carry out joint actions to develop the value created together, even if at the outset, they have very different initial resources or powers. Asymmetric dependence and mutual dependence are thus seen as two different concepts [CAS 05].

Power is not, in this context, a specificity nor the characteristic feature of an organization, but the property of a social relation. The power relations that underlie economic dependence can therefore be evolutionary [EME 62, GUL 07]: actors can gain or lose power and the relationship become (re)balanced.

Therefore there are two approaches to dependence relationships: a structural approach based on asymmetric dependence and a more social or relational approach based on mutual dependence. They are summarized in Table 3.1 below.

	Structural approach to dependence	**Social and relational approach to dependence**
Authors or key theories	Resource dependence theory [PFE 78]	"Embeddedness" theory [GRA 85, ZAH 95, GUL 07] Relational norms theory [DWY 87, MOR 11 DUB 96, ADA 12]
Focus	The structural characteristics of dependence such as the respective power of each	Emphasis is on the sum of the dependencies
Vision of dependence relationship	Asymmetric dependence based on power imbalances	Mutual dependence based on trust and empathy
Partners behavior	Rational and opportunistic, everyone tries to increase their relative power	Social and partnership, sharing, mutual empathy to increase the value of the whole
Nature of risks incurred	Risk of abuse of economic dependence by the most powerful partner	Risk of illegal passenger behavior, risk of disappearance of one of the partners
Risk management tools	Coercive above all	Non-coercive strategies, incentives for cooperation
Nature of governance of the relationship	Disciplinary governance of actors to reduce their opportunism Monitoring, legal sanctions, economic control	Relational governance to help consolidate the relationship without stultifying it Social and ethical control
Operating conditions	Identification of the positions of each	Sharing common values

Table 3.1. *Two approaches to economic dependence relationship (Inspired by [GUL 07])*

An analysis of the two approaches to the economic dependence relationship makes it possible to understand how it can, even if there are situations of abuse that must be sanctioned, constitute a stake for the development of SMEs.

3.3.2. *SME development challenges for embedding their economic dependence relationship with their partner*

A great number of SMEs would not exist if they had not been able to forge economic dependence relationships with large groups. "Without large-scale distribution, our company would not exist," says Augustin Paluel-Marmont who, together with his friend and associate Michel de Rovira, manages the Michel and Augustin Company which specializes in agri-food. Today, small enterprises generate 75% of their turnover with major retailers.

Dubost [DUB 96] and Adams *et al.* [ADA 12] also show that the establishment of a mutual dependence between SMEs and large companies (LC) through a long-term relationship attenuates the link that may exist between economic dependence and the vulnerability of SMEs. When trust is established and the relationship becomes increasingly close and sustainable, economic dependence, which may originally be very asymmetrical, is likely to evolve into a win/win relationship in which small-sized enterprises become strategic partners. Company B in Box 3.4 below is an illustration of this.

Company B, specialist in design engineering, is a subcontractor of the large group X. When it is listed on the stock market, many questions are addressed to it to know the potential risks inherent to its strong dependence on the large group. The manager recognizes that, at first glance, there is a high risk of economic dependence with this large group, in particular the risk that it may terminate the distribution contract; however, he/she argues that the situation is in fact the reverse because, as the large group is in a period of very strong growth, it needs subcontractors which know it very well, that can react quickly to an increase in demand and which are close to its own customers. The added value of the company consists in perfectly knowing the customers of the large group and ensuring some level of "adherence" with the strategy of the latter. There is therefore a consolidation of the relationship because there is a consolidation by the large group of its network of partners to which it will increasingly turn. In addition, the supplier must have a sufficient critical size. Moreover, increased cooperation and the large group's growth driving force on that of the SME help to increase the critical size or financial strength of the latter. In other words, the more the share of the SME turnover increases with the large group, the less dependence becomes dangerous because the large group will not give up a partner with financial strength that is now certain and which is capable of achieving a significant penetration of the market "in full knowledge of its needs and requirements". The SME is now seen as a strategic partner of the large group.

Box 3.4. *Company B has become a strategic partner in its economic dependence relationship with a large group*

The tendency to continue and consolidate the relationship depends on the satisfaction of both parties, and also on the comparison that they can make with possible alternatives in terms of partners. This comparison can clearly be in favor of the SME since it has been able to make specific investments and thus develop added value for the large group which the latter would not find elsewhere. The change of partner becomes expensive (high switching costs) for the large group and these investments provide, for the outsourcer, a guarantee to reduce the risk of opportunism of the SME. The theory of relational exchange [DWY 87, MOR 94] suggests that parties involved in relational exchange anticipate high transfer costs of changing partners, which tends to reduce the number of replacement partners to carry out the exchange. The outsourcer gradually concentrates its exchanges with a few or even a single partner. The strategies of reinforcing the relational exchange that SMEs can establish therefore increase the outsourcer's dependence relative to them, since the outsourcer will gradually concentrate its exchanges with SMEs [DUB 96]. Conversely, the risk of abuse of dependence appears to be linked to an inadequate influence of SMEs in the relationship and to scarce resources that they could devote to managing this relationship or to specific investments [ADA 12].

The innovation strategy of SMEs is the main strategy for strengthening the relationship because it allows them to reinforce the exclusiveness of their product or service offer. It offers added value by presenting to the large company an innovation that other SMEs or large corporations cannot provide. It is often at the origin of a rebalancing of the dependence relation, or even a reversal of such, as illustrated by the example of company C provided in Box 3.5.

Company C designs onboard electrical systems for the automotive industry. At the origin of its activity, it depends on a large automotive group in its region with which it realizes a large percentage of its turnover. To maintain the relationship, it complies with the demand for regular innovations from the major outsourcer and tests new systems with it. It thus imagines reliable and very innovative systems of onboard electrical systems and gradually becomes the "leading reference" of these systems at the global level for the entire automotive industry. The large group, which was the main outsourcer, remained a loyal customer, but the SME was also able to diversify its customer base towards other outsourcers, particularly foreigners and mainly Germans.

Box 3.5. *The case of company C: innovation strategy as reinforcement and reversal of dependence relationship*

Therefore, SMEs' development challenge involves seeking the best way to govern their economic dependence relationship in a manner that is favorable to them, since embeddedness, though important, is not risk-free.

3.3.3. *An embeddedness that is not without risk for SMEs and which must be managed by means of a suitable governance*

3.3.3.1. *Risks associated with embeddedness in the relationship*

Dependency relationships, which are always divided between unity and diversity, even in an embeddedness approach, can evolve towards two extreme risks [MOR 11] that SMEs must absolutely avoid: 1) premature decomposition of the whole whereas the SMEs have increased their vulnerability by embarking into a real strategic momentum (series of strategies) or (2) rigidification of the whole.

Firstly, if the specific investments that make it possible to consolidate the relationship are necessary, SMEs must not be trapped in a strategic momentum (an uninterrupted series of innovations for example) that keep increasing the outsourcer's requirements and thereby irreversibly increasing the additional risk they take [ADA 12], from which only the large group would benefit. As we have seen in particular in Case A, the SME remains at risk of a premature termination of the relationship. This termination leads to the decomposition of the whole, without the latter having the time to benefit from a return on its specific investments. It is therefore understood why SMEs do not wish to have to denounce possible situations of abuse of dependence which they could be subjected to; SMEs do so in order to avoid such termination. It is therefore essential to put in place appropriate mechanisms for the prevention or sanctioning of such premature terminations. The legal arsenal as well as the charters signed by each must thus, in a disciplinary governance, continue to play this role. This must, however, be accompanied by a definition of the threshold beyond which specific investments made to meet the outsourcer's demand can no longer be achieved and by the search for a fair balance in the specific investments of each of the partners in the relationship.

Secondly, too much embeddedness can lead to rigidification of the whole under the pretext of strengthening unity. This could weigh on the decision-making autonomy of the actors involved. The parties would then be forced to strengthen their links to the detriment of opening externally, which would reduce the capacity for innovation and adaptation of the whole to the demands of the outside world. Mechanisms that preserve both the will to work together as well as decision-making and strategic autonomy must therefore be developed.

On the whole, while the economic dependence of a supplier has today become a risk constituting a real reason of concern for both small and large companies, does this risk justify the fact that the latter diversify at all costs their suppliers, even if it means giving up part of the loyal and effective relationships they had established with their suppliers in a win/win relationship, as the terms of the 2016 law might suggest? It seems to us that, on the contrary, it is necessary to imagine and develop a governance of the relationship that goes beyond the curative or preventive tools so far proposed, these being based above all on the threat of existence of alternatives whose limits were clearly stated by the actors themselves. This means developing tools for monitoring the functioning of the relationship, revitalizing it and in a nutshell governing it. Relational governance [ZAH 95, GUL 07] or partnership [CHA 98] that complements the other disciplinary governance mechanisms is necessary in an embeddedness approach.

3.3.3.2. *Relational governance that recognizes the inequality of initial resources, emphasizes trust and commitment of the parties*

In an embeddedness approach, various elements are essential to support the functioning of the relationship: trust between the parties, an ability to exchange information and the implementation of joint actions that revitalize the relationship. These elements must allow for fair and permanent negotiation [MOR 11] of resources and functioning modalities of the relationship. Relational governance must therefore be able to intervene at two levels: trust and monitoring of joint actions among which we integrate the exchange of information. It must also lead the parties to accept the existence of unequal resources at the outset and its consequences.

3.3.3.2.1. Accepting the initial existence of unequal resources and recognizing the diversity of actors

In some games (in bridge and poker, for example) or in certain social relations, the distribution of resources may be uneven at the outset [MOR 11]. This is the case of asymmetric relationship of economic dependence in which many SMEs are involved. A social relationship is then, in some way, a regulated play area, in which everyone must, however, be able to play, even if at the outset the distribution of resources is uneven.

Governance is meant precisely to be a recognition of diversity, or even a stimulation of this diversity; it is a fair and permanent negotiation between the parties whose interests and resources may diverge [MOR 11].

For governance to materialize, we must accept the initial distribution of resources, which constitute the initial data or the starting rules of the game. It is then up to governance to enable the sharing of resources to evolve and become a win/win game by organizing the relationship and making it function [MOR 11]. The transparency of the resources that each of the parties can invest in the functioning of the relationship and of the risk thresholds acceptable to each of them is thus an essential prerequisite for the start of a healthy relationship.

3.3.3.2.2. Developing confidence through prospects for sustainable development of the relationship and not just simply the threat of existence of alternatives

Within the framework of a structural approach to dependence, the main mechanism of governance of the relationship is the threat of finding other partners (diversifying customers, developing a supplier panel). This threat may also exist, but more tacitly, in the embeddedness approach, since one can imagine that the large group plays the game of dependence relationship only because the SME offers added value that the large company, in a comparison of possible alternatives, does not find with other SMEs or large corporations. This threat of possible alternatives, whether legally or more tacitly formalized, can in any case weigh on the nature of the relationship and strengthen the opportunism of stakeholders. Conversely, a relationship based on trust allows a more sustainable commitment of everyone.

Relational governance must create and develop this trust. One of the suggested means is to jointly develop sustainable development practices in the context of the relationship [TOU 14]. Touboulic *et al.* [TOU 14] showed how cooperation as regards sustainable development in supply chains could influence and depend on power management within the relationship, and how this was associated with greater performance. They show that it is now necessary to go beyond the concept of a pivotal supply chain firm, which is the function most often occupied by the outsourcer, in order to adopt a more global approach to cooperative relationships between outsourcers and subcontractors particularly through jointly implemented sustainable development practices. The outsourcer in this context can pay more attention to the choice of its suppliers so that they comply with the requirements for sustainable development and, in return, to the sustainable development of the companies of its supplier panel once constituted. The sustainable development approach is thus directly linked to the embeddedness approach. It also has the very important virtue of pursuing the relationship over the long term.

The confidence thus developed can strengthen the parties' commitment in the relationship, thus creating a virtuous circle in the functioning of the relationship.

3.3.3.2.3. Developing the commitment of everyone by the reasoned choice of joint actions

Different means may exist to strengthen the parties' commitment in the relationship. This may be the establishment of shared information systems that ensure transparency of information and the frequency as well as the quality of communication between the parties. This may also include shareholding in each of the parties' capital or even the creation of joint subsidiaries to establish the creation of joint ventures.

All in all, managing the economic dependence of SMEs involves combining two types of governance, disciplinary and relational, as well as preventive and curative risk management tools and also the relationship functioning tools (see Table 3.2). There are indeed four action plans to manage an economic dependence relationship according to the responsible supplier relationship charter [SAL 14]: assuming dependence while monitoring the relationship, preventing this dependence by setting up appropriate prevention mechanisms, limiting dependence by diversifying partners and getting out of dependence by organizing and accompanying this exit and finally monitoring the relationship.

Level of dependence risk management tools	***Preventive***	***Relationship functioning dynamics***	***Curative***
Examples of tools	Charters Definition of supplier panel and alternatives SMEs' defense mechanisms (SME Pact)	**Definition of the initial resources of each** **Implementation of sustainable development practices of the relationship** **Capital shareholding**	Standards, laws, sanctions Intercompany mediation (2010)[4]

Table 3.2. *Examples of risk management tools for economic dependence relationship*

4 Established in 2010, intercompany mediation operates with any company, regardless of its size and activity area, encountering contractual and/or relational difficulties with a customer or supplier.

Box 3.6 shows how a company actually combines different governance mechanisms for its relationship with a subcontractor.

Company D subcontracts part of its production to another structure, which according to the manager is "the main risk of his/her company". The company entered into an agreement of transfer of industrial activities with this structure in order to transfer part of the service provision which the company will carry out for its customers. The price of this service, which also ensures a necessary minimum for the company, is subject to revision each year. The requirements of the upscale company are high-quality standards. The company also became a shareholder of the structure and, in order to increase interest for the subcontractor in the partnership, it granted the marketing of its brand. However, in order to maintain control over the quality of the brand, a clause was added to the contract to be included in their quality assurance manual which provides for certain specific provisions to meet the quality standard requirements. However, the risk of changes in the service provision price remains. The company has therefore tried to dilute this supplier risk by diversifying its products for sale and the number of references for sale. The company also associated with its main competitor to define the conditions under which they can jointly provide the service and thus reduce the subcontractor's weight by asserting this latter possibility.

Box 3.6. *Governance of the supplier relationship of company D*

If, in the case of SMEs which are most often in a dependence relationship, there are already legal curative and preventive mechanisms that have been put in place to prevent or get out of dependence under the best conditions, the relational governance of SMEs remains the "poor" relation on both an empirical and theoretical level.

The legal mechanisms that have been put in place in recent years to assist SMEs were primarily created as regards a policy approach to the relationship (power asymmetry) and less regarding a social or relational approach to dependence. Yet, if the government, legislator and commercial courts must, of course, set the basic standards of functioning of this relationship and verify their application, the day-to-day management of the relationship and its strategic orientation are more a matter of relational governance problems [MOR 11]. Indeed, the relationship in itself is a social process that the actors must manage, taking into account the situation or each case, and which is specific to each dependence relationship within which SMEs fall.

However, SMEs fall within a network of dependence relationships that must be taken into account, as illustrated in Box 3.7:

Company E is a company with 40 employees specialized in the design and manufacture of protective clothing. The company is in a very competitive market where it has to face multiple international competitors who offer a wide range of products and prices. It mentions three types of economic dependence which it has to manage. The first is on the customer side, the second on the supplier side and the third on the production side and the country where its production is established. For this company, customer dependence is a major risk that has been recorded under potential risks. The company took the decision to limit this dependence by an important policy: a customer cannot represent more than 10% of its annual turnover. An internal control was set up to monitor this indicator. This policy is paying off because none of its customers – 1,000 in number – reach more than 5% of the company's turnover. The company chose to diversify its customer base by extending as much as possible its product range (from work clothing to rainwear then hospital gowns, etc.), including the number of its references within this range and by seeking an international customer base. As regards the supplier, the risk had not been identified as major by the company until the day when the only supplier of a rather rare and strategic fabric for the company's activity went bankrupt, and its competitors could not and did not wish to manufacture it. As the company did not anticipate this bankruptcy, it had to stop the manufacture of certain protective clothing requiring this type of fabric and inform its customers that it could not meet their order. It then became aware of the need to expand its supplier portfolio by creating a base of five reference, quality, reactive and financially stable suppliers on which the company could draw. This base is reviewed annually by the management committee from the information gathered and checks carried out upon each delivery on prices, quality, period and nature of the relationship between the supplier and the company (nature and frequency of communications, transparency regarding incidents and information, etc.). This base is made up of suppliers presenting similar products but coming from different countries. Finally, the company is very dependent on the economic conditions of the host country of its production facilities, an African country subjected to political risks of coup d'etat and blocking of transport means. To deal with this, it took shares in the capital of these factories in order to better control them (more than 50% of the capital), chartered its own transport means and purchased a business interruption insurance.

Box 3.7. *Multilevel economic dependence, associated risks and type of risk management of company E*

As can be seen here, SMEs must simultaneously manage several economic dependence relationships that are distinct from one another by the nature of the risks they pose to SMEs. SMEs therefore have to set up three types of risk management separately: strategies for diversification, innovation and internationalization to manage the risk of economic dependence as regards customers; creating and controlling a supplier panel to manage the economic dependence relationship with them; and finally, investing in infrastructure and capital as well as purchasing insurance to manage economic dependence regarding production units.

SMEs must carry out a real segmentation of multilevel economic dependence risk and targeting of the most appropriate ways of managing such risk. They must be able to exploit a set of risk management tools ranging from anticipation (the creation of a supplier panel) to the transfer of risk (insurance purchased) or tools for the treatment of this risk (diversification strategies to reduce or eliminate it). SMEs must also increasingly consider their relationships not in a dyadic way (themselves with large companies), but in a more global and strategic approach, for example within a triad in which SMEs are a pivot (large group – SMEs – other competing SMEs or other supplier SMEs). Touboulic *et al*. [TOU 14] invite us to further study the triads in which SMEs are involved. It is therefore appropriate to have a more comprehensive and strategic approach to economic dependence risk by considering SMEs integrated within a system of economic dependence and not necessarily narrowing the position of dependence to a specific type of dependence. It is in this way that SMEs will be able to define a risk management strategy combining cooperation strategies with some economic partners and coopetition strategies with others, in particular competing SMEs, whose combination could be fruitful.

3.4. Conclusion: the need for a systemic approach to economic dependence as well as a disciplinary and relational governance to manage the risks of this dependence

While many studies have focused on characterizing buyer–supplier relationships, they are often based on relationships from the point of view of large groups and less from the perspective of SMEs [ADA 12], whereas the manner in which relationships with partners are managed is specific for a given company and SMEs which generally have processes for selecting less formalized partners, fewer resources to devote than a large company, and lower bargaining power because of the low volumes it can buy from its suppliers [ADA 12]. Moreover, the study of these relationships has mainly focused on SMEs' relationships with their outsourcers or with customers like large-scale distribution for example, and less with other partners such as their own suppliers. However, SMEs are integrated in an economic dependence relationship fabric which they must manage simultaneously. It is therefore essential to adopt a systemic approach to the economic dependence relationships of SMEs in order to better manage negative risks and exploit their opportunities.

Is it better to be free and lean or chained and fat? Such is the question posed by La Fontaine's fable, entitled The Wolf and the Dog. SMEs in an economic dependence relationship are subject to the same dilemma. Certainly there is a risk of abuse of dependence on the part of the company dominating the relationship, but it is also an evolving, social and progressive relationship that can ensure its development. The solution to this dilemma presupposes, as regards SMEs, the establishment of relational and disciplinary governance adapted to the economic

dependence relationship fabric in which they are involved and which helps them to develop while maintaining their decision-making and strategic autonomy.

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4

Reputation Risk: Anticipation and Management of Reputation Failure

4.1. Introduction

The reputation of a company is considered today as one of its most important strategic assets, or even as an intangible asset on its own [FOM 15]. This asset is useful for the creation or development of competitive advantages in the market because it is a signal that can attract a wide range of stakeholders, starting with customers, employees or investors [PON 11]. Although the reputation of large companies is the subject of much attention in the professional world, economic press and academic research, its study within the context of SMEs remains insufficient. However, SMEs have specificities compared to large companies which imply unique challenges and objectives in terms of managing their reputation and managing reputational risk. If some SMEs, must preserve the reputation that they have built, just like the large ones, the tools to be put in place in order to manage this risk may differ. But above all, some SMEs can face risks of a very different nature that are not known to large companies: lack of reputation.

This chapter aims to address the specificities of reputation within an SME context and the risks associated with it. For this purpose, the concept of reputation is initially defined, while highlighting reputation challenges for SMEs. A section is dedicated to the two main reputation risks faced by SMEs, namely the risk of lack of reputation and the risk of reputation failure. The final section identifies several operational drivers that can help SMEs enhance and preserve their reputation.

Chapter written by Laure AMBROISE and Isabelle PRIM-ALLAZ.

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

4.2. Reputation, definition and challenges for SMEs

On a conceptual basis, reputation can be seen both as the translation of an organization's notoriety or familiarity, and also as favorable opinions developed towards it [LAN 11]. In fact, reputation is a concept that is complex and multidimensional which needs to be defined precisely in order to better understand the issues associated with it, especially for SMEs.

4.2.1. *Reputation: definition*

4.2.1.1. *Different assertions from different points of view*

The concept of reputation, applied to organizations, initially emerged in economics in the 1960s as part of the game theory. Reputation is thus regarded as an implicit contract of mutual trust which helps in the development of transactions between various actors [CAB 00]. Subsequently, this concept has been developed in different fields (see Box 4.1), especially in management sciences and more specifically in the management of an organization's image and brands.

In economics, particularly in the game theory, reputation is the probability that a manager acts in one way or another and thus constitutes a set of information and signals that enable the observer to predict with more or less certainty, what the manager will do for his/her company.

In the science of organizations, it is a managerial integrator based on identity and corporate culture. The more companies have a culture shared by all employees, combined with a strong collective identity, the more it provides managers with the tools to influence and interact with their environment.

In the sociology of organizations, reputation is a social structure developed in an institutional environment that facilitates the classification of companies (especially vis-à-vis the different stakeholders).

In terms of strategy, reputation is an asset and/or competitive advantage (the fact that it is difficult to imitate results in returns on large investments) as well as an obstacle to mobility (linked to a phenomenon of inertia in strategic approach).

In marketing, the reputation of a company is mainly apprehended through the image and reputation of its offerings and brands. It also refers to the ability of the company to meet the expectations of the market and its customers.

In terms of accounting, reputation generally results in the difference between asset value and market quotation. Reputation is thus defined as the excess value in relation to the sum of tangible assets.

Box 4.1. *Different assertions of the concept of reputation based on different disciplines (according to Cailleba [CAI 09])*

In view of these various assertions, it seems that the reputation of a company is the result of a comparison process between the objectives, values and goals of the organization on the one hand, and its behavior and actions in accordance with the expectations of the stakeholders on the other [GAU 11]. It is therefore at the crossroads of the perceptions and judgments of a group of actors, including management teams, employees, consumers, social partners, economic partners, public authorities, subcontractors, shareholders, associations, etc. They all contribute in building the overall reputation of the company.

For Gaultier-Gaillard and Louisot [GAU 06], reputation corresponds to the "foundation of trust around which an image articulates and fluctuates" (p. 430), while Cailleba [CAI 09] defines it as "a general impression in which a population holds in esteem" an entity (p. 12). Concretely, a good reputation helps build confidence vis-à-vis the partner. As Chouk and Perrien [CHO 03] point out, "reputation is a vector of a company's past which provides some revealing clues [about the partner's future behavior]. Thus, trust, which is often defined as an expectation of the partner's behavior (and hence a future state), is partly based on reputation (a past state)" (p. 9). In fact, reputation is often considered as a precedent of trust, which itself is seen as a key element in the company's relationship with all its stakeholders [DON 07].

Moreover, reputation can be seen through different prisms: "being known," "being know in a favorable way," "being known for something" [LAN 11]. The first prism corresponds to a necessary condition for the existence of a reputation, although it does not enable the appreciation of this concept as a whole. The issue of "being known" refers rather to the concept of notoriety. Reputation corresponds to the interpretation and evaluation of the results (conscious or not) of a set of perceptions (see Latin etymology of the term reputation "*reputatio*" which means "evaluation"). It is therefore the overall result of a cognitive process based on the aggregation of all images [FOM 96, BOI 08], resulting in the formulation of a necessarily subjective opinion ("good" or "bad" reputation corresponding to "being known in a favorable way"). Thus, reputation refers to the belief that the partner is an expert, honest and concerned about the interests of its partner [DON 07]. Applied to companies, it corresponds, for example, to a firm's ability to fulfill its promises, considering that a company succeeds in forging a good reputation when it fulfills its commitments over time [NGU 01, CHO 03]. McAllister [MCA 95] speaks of cognitive-based trust which can guide actors in their choice of partners [DEL 07]. Finally, "being known for something" refers to the idea that the assessment of a company's capacity can have different dimensions: it can have a good reputation for the quality of its products, but a bad reputation for customer relationship management. It is therefore necessary to detail the different dimensions on which a company can fulfill its promises.

4.2.1.2. *The dimensions of reputation and their background*

Belleguic *et al.* [BEL 11] point out that "reputation is both strategic and ethical" (p. 23). Therefore, its appreciation is obtained from the notions of trust, but also from integrity, ethics and reliability. It often refers to compliance with commitments towards customers, integrity of governance, transparency and integrity of communication, social responsibility, respect for people, regulatory compliance, etc. This is a multidimensional concept whose perception of dimensions is apprehended differently by stakeholders.

Fombrun *et al.* [FOM 15], in their study on reputation risk measurement, have identified seven areas in which stakeholders have expectations vis-à-vis companies and in which reputation is built. These domains can be grouped into three categories corresponding to:

Reputation at the operational level: the associated areas mainly relate to the quality of the offerings, but also to the company's expertise and innovation capacity. A good reputation depends on:

– products/services: the high quality and reliability of the products and services, the congruence of the offer with consumer and market expectations and an adequate quality–price ratio [HEL 10, SEL 93];

– innovation: the ability to innovate and adapt products/services, pioneering position in the market, the fact that the organization is considered innovative [FAN 11].

Reputation at the organizational level refers to the quality of the company's relationship with its various stakeholders and the performance of its organization. A good reputation depends on:

– work environment: the attractiveness of the workplace, well-being, recognition, fair treatment of employees and symmetry of attention[1] contribute to a "good reputation" and a greater commitment/loyalty of employees with respect to their organization;

– leadership: charisma and integrity of managers, visionary capacity as well as organizational and managerial efficiency;

– performance: profitability, outperformance of the business sector and growth prospects are commonly interpreted by stakeholders [LAN 11].

1 The symmetry of attention refers to the fact that employees are increasingly being asked to "take care" of customers, but that this can only work if "employees are simultaneously taken care of" [GAB 14].

Reputation at institutional level: these dimensions correspond to commitments of the company towards the society and territory as well as the probity of its governance, particularly that of its manager [FOM 15]. A good reputation depends on:

– citizenship: stakeholders tend to respect and admire companies that are perceived as carrying out "good actions": respect for privacy, environmental responsibility, positive social influence, support for societal causes;

– governance: openness and transparency, ethical behavior and probity in the management of the company are recognized as essential elements of reputation management.

Lange *et al.* [LAN 11] note that, depending on the stakeholders involved, it is not necessarily the same elements that will dominate reputation: for example, customers will pay particular attention to product quality while investors will focus on corporate governance.

4.2.2. *Reputation challenges for SMEs*

A good reputation, especially through the trust it generates, reassures and facilitates contact as well as relationship development. As Gauzente *et al.* [GAU 14] point out, commitment in a relationship requires prior minimal trust. Within the particular context of SMEs, reputation is a crucial issue and can be a lever for building this minimal trust with various stakeholders of the company.

4.2.2.1. *Reputation, customer attractiveness and loyalty lever*

A good reputation is an excellent factor in attracting, maintaining and developing business relationships with customers [HEL 10]. It seems important to emphasize that the reputation lever effect allows a minimum of prior trust necessary for the relationship, as it provides reassurance on the quality of products and services and their ability to meet the needs of customers [FOM 15]. Customers who do not have previous experience with a given company rely mostly on the reputation and word-of-mouth of other customers to make their first purchase decision [HEL 10]. In the specific case of online sales, which involves a growing number of SMEs seeking to expand their potential market, Volle *et al*. [VOL 15] demonstrate that reputation is a crucial determinant in the selection phase of the sites examined (see constitution of consideration set).

Once the relationship is established, reputation then participates in the reinforcement of the commitment, which is itself a determinant of loyalty [SEL 93]. Helm *et al.* [HEL 10] show that, within the context of mass market consumer goods, reputation is a record of consumer satisfaction and commitment to the brand. Although it is a necessary element in the relationship with customers, it cannot however substitute good customer experience with the firm. The latter must both preserve and strengthen its reputation, but it must also work to achieve a high level of customer satisfaction.

Studies have begun revealing that these effects are not only observed in large firms, but are also valid for small- and medium-sized structures. Steenkamp and Kashyap [STE 10], in a study on New Zealand SMEs, show that the managers of these companies believe that the reputation of their organization – and the satisfaction of their customers – contribute to improving the acquisition and retention of customers. Beyond these conventional mechanisms, the reputation of a company also favors its recommendation by customers [HEL 10].

4.2.2.2. *Reputation, lever for attracting resources*

Reputation is also a lever for attracting resources that are essential to the company [BOI 08], particularly employees with high potential for the company and partners to support its development.

Attract and retain good employees

The fact that a company is perceived as a pleasant workplace and proposes interesting and renowned tasks is crucial to its attractiveness and ability to recruit high-caliber staff [FOM 15, GUI 16]. From a human resources perspective, corporate reputation is therefore the belief of a potential employee based on how other people evaluate that employer. It is used by potential employees as a signal relating to the attributes of the vacancy, and as a criterion for anticipating the pride and satisfaction they will feel in occupying the position. Consequently, the good reputation of a company reduces the amount of information sought by potential employees regarding the vacancy and may encourage them to accept a lower salary, thus contributing to the company's financial performance [VIO 14].

Viot and Berraïss-Noailles [VIO 14] emphasize the importance of developing an employer brand capital for SMEs and start-ups, and even more so for those SMEs that target the same profiles as large companies. This capital depends on the identity and reputation of the company, but also on the social values and diversification within the company; all this capital encourages employees and potential employees to identify with the organization [GUI 16]. This seems to

be all the more important considering the arrival of Generation Y in the labor market, which is described as particularly sensitive to brands, including the employer brand [SOU 11]. The study by Steenkamp and Kashyap [STE 10] on New Zealand SMEs consolidates these elements, demonstrating that corporate reputation is a factor of attractiveness, motivation and retention of employees.

Attract partners

To develop innovation projects, companies often need to build networks of partners with complementary resources and competences [PUT 06]. This cooperation with suppliers, distributors and pilot customers is even more important when it comes to SMEs [FRE 04]. However, these alliances are characterized by uncertainty relating to the future behavior of the different partners, especially when the partners can, in parallel with this collaboration, find themselves in a competitive situation. Thus, actors' reputation can be one of the criteria of choice. Puthod and Thévenard-Puthod [PUT 06] show that in the case of an innovation network set up around an SME, actors' reputation plays an important role in anticipating and managing relational risk within the network. "Their performance (employee prestige, technological excellence, experiences of members of the organization, etc.) and their relational competence (alliance management experience, achievement of objectives in previous partnerships, etc.)" (p. 185) are important determinants of the quality of partnership relationships.

Attract investors

The issue of financing is crucial for SMEs [STP 99]. Therefore, a major challenge for these companies is to encourage their financial partners to assist them in their business, or even attract the interest of investors to support their development projects. Thus, attracting investors is crucial because it is at the origin of a virtuous financing circle. The presence of an investment fund in the capital of an SME can help strengthen its reputation and thus mitigate the risk perceived by stakeholders (banks, customers, employees, etc.) [MAR 16]. The opening up of capital represents for an SME, especially if it has a family nature, different interests beyond the immediate financial contribution. Its backing from a private equity or venture capital organization is generally accompanied by the establishment of control mechanisms; a third party in the capital plays the role of potential guarantor, increasing its credibility and reputation and thus enabling it to access new financial resources [LEV 10], in a virtuous circle.

The company's funding can also be through bank financing. While focusing on the creation of very small companies, Foliard [FOL 11] argues that it is difficult for account managers to rely on previous financial statements and the history of a relationship; they must instead rely on information known as "soft." This information is based on the interactions that the account manager has with the

entrepreneur and his/her company, but also with other stakeholders (e.g. customers and suppliers) as well as "his/her knowledge of the territory and the community through which information indirectly circulates in the form of reputation […] Prior knowledge of the entrepreneur's file by a stakeholder's adviser provides information on the quality of the network mobilized and of the project in general" (p. 178).

In light of all these elements, it seems that reputation management is a challenge and a key asset for SMEs. Nevertheless, the "Reputation @ Risk" study carried out by Deloitte points out that companies are poorly prepared for the risks associated with them; 87% of managers believe that reputation risk is the most important strategic risk that their companies face.

4.3. Reputation risk for SMEs

While reputational risk has largely been studied for large firms, academic research has done little within the context of SMEs. However, the specificities of SMEs make them face risks whose nature is not always similar to those of large companies. In this case, these risks can be classified into two main categories: lack and loss of reputation. Although the second point has been researched, the first seems to be absent from the literature, despite it being crucial within the context of SMEs.

4.3.1. *Lack of reputation*

The main difficulty of SMEs is often to build up a reputation. The majority of them suffer from lack of notoriety and this weakness can be really harmful in terms of access to markets and potential customers. Thus, in the case of online sales, Volle *et al*. [VOL 15] make a rather general observation that Internet users rarely visit websites they do not know. This situation is shared in all types of market, whether B2B (Business to Business). Moreover, in addition to a lack of notoriety, SMEs also suffer from a lack of availability of information about them, which makes it difficult to identify them on the market or create a shared favorable opinion.

This risk associated with a lack of reputation is not directly and explicitly addressed in the literature review, but only by mirror effect, that is, by observing practices that counteract this lack of reputation. For example, Buckhart [BUC 16] is interested in SMEs that wish to form alliances. The author highlights the key role of private equity companies as "guarantor(s) of the financial stability of SMEs that it assists and as provider(s) of objective information to potential partners as to the seriousness and soundness of the know-how of the financed SME" (p. 77). Here, the private equity company has to compensate for the lack of reputation.

The study by Géraudel and Chollet [GER 09] shows that the use of social networks by SME managers can be a means of disseminating company information to the environment and serves as a recommendation to potential partners with little or no information about them. One reason for this lack of knowledge is that a large proportion of SMEs present websites that are poor in content (a showcase site, single page, or lack of blog or interaction interfaces, etc.). Many of them were late in embarking on the web marketing train, and this has penalized them. However, the longer a site has been installed on the Internet and has a certain volume of updated content, the more its natural referencing is improved upon. This lack of visibility by SMEs necessarily entails a lack of commitment by their stakeholders, which also constitutes reputation drivers (see recommendations from customers, suppliers, etc.).

4.3.2. *Loss of reputation*

Reputation, even though it is the result of a long process, remains very fragile: a favorable reputation boosts the credibility of the company, but once it is tarnished, the durability of the firm is questioned [CHO 03]. Thus, although a lot of time and investment is needed to build up a good reputation, even the slightest mistake may undermine all efforts made [NGU 01]. Reputation risk is discussed in the literature review within the context of crisis situations. However, it is possible to distinguish two types of loss of reputation, depending on whether it is reputation failure or reputation damage.

In the first case, the loss of reputation is all the more important, in that it questions the core business of the company or organization. For example, the last few years have witnessed two crises linked to SMEs in the agro-food sector: Spanghero and William Saurin. In January 2013, Spanghero was faced with a very serious crisis which led to its collapse (the company was under liquidation in April 2013), because the quality of the products and consequently the integrity of the company's know-how were questioned, reflecting "the increasing concern by the general public with regard to risks, and therefore intolerance when these risks turn into crisis" [DEL 11] (p. 17). In the recent case of William Saurin, the elements revealed at the end of 2016 incriminate the managerial qualities of senior management, without there having been efforts for any personal enrichment. From the point of view of reputation alone, these elements – which do not affect the core business of the company – will not necessarily be unavoidable.

In the case of a tarnished reputation, the company must generally react to statements made by external actors with the aim of questioning or compromising its reputation. They may be unsatisfied customers, competitors, suppliers or even employees. These negative statements made by third parties are generally things that have been witnessed, and the company must more or less control them [VIO 14]. As

Gaultier-Gaillard and Pratlong [GAU 11] point out, "a good reputation requires constant attention between stakeholders' expectations and company's achievements and therefore a global approach to identifying and managing risks in order to achieve this goal" (p. 277).

The consequences of this loss of reputation are generally an overvaluation of the reputation attributed to the company in relation to the reality of its services or organization [ECC 07], and potentially an overevaluation of future revenues generated by the company. They can of course have very negative effects on the scores attributed by assessment bodies in charge of corporate reputation.

4.4. Actions and tools to build and preserve reputation

A review of the literature has enabled us to show the importance of reputation, its challenges for SMEs and the two major categories of reputation risk. Now it is important to ask ourselves about the tools available to build and preserve it. The different dimensions of reputation lead to various levers of action which help SMEs work towards the "building of a reputational shield." Following the logic of constitutive dimensions of reputation proposed by Fombrun *et al.* [FOM 15], we take into consideration their three main categories while also focusing on the image of managers, and show how, for each of the categories, actions and tools can be implemented within SMEs.

4.4.1. *Quality of offerings and expertise*

In order to build and strengthen its reputation, it is essential to provide quality even innovative, offerings, and make it known [GER 09]. The obtaining of certifications can be seen as a positive signal that builds the company's reputation [BAU 99]. Certifications (ISO in particular) and other quality labels make it possible to reduce information asymmetries related to the non-observability of the quality level.

The acquisition and highlighting of these certifications can be supplemented by communication of partnerships that the company has concluded with other recognized market operators [GER 09]. It can also ask its reputable customers to recommend it. This association can go one step further through a co-branding operation, thus facilitating transfer of reputation and credibility amongst the brands/partner companies. This can be an effective way for SMEs to attack new markets through the strong reputation of their partners [ROD 11].

SMEs also have a strong interest in applying for different prizes (especially innovation prizes or quality prizes) in order to make themselves known and highlight the quality of their products and/or processes. Although the procedures for awarding prizes do not always have an unquestionable level of objectivity, the award of prizes is performed by committees which are generally made up of representatives of the profession, and its award to an SME constitutes social recognition by peers. It is also a strong guarantee of credibility in the eyes of customers [CUL 05]. In terms of innovation, Horizon 2020 labeling and financing is a key asset for SMEs to acquire and/or strengthen their reputation. This European Union program which aims to develop collaborative research programs gives priority to SMEs. The selection criteria combine excellence, magnitude of the expected impact of innovation and applicants' ability to implement the project [FIL 16]. To be retained and labeled H2020 is an excellent signal sent to the market and all stakeholders.

Chabaud *et al*. [CHA 05] also point out entrepreneurs' interest in being integrated into an incubator to strengthen their legitimacy and credibility of services with the aim of accessing certain markets (as well as capital and government aids). The fact that the company is in an incubator phase helps it, *through* a reputation effect, to reinforce its reliability image and thus the trust it inspires, as well as access certain relationship networks. Thus, quality can only be related to the product or service, but encompasses all inter-firm relationships [BAU 99].

4.4.2. *The role of the quality of the relationship with different stakeholders*

Trust and strong commitment from stakeholders, including customers, are also key constituent elements of the reputational shield. Thus, Kumar *et al*. [KUM 13] suggest that the business reference value for each customer be considered. These authors point out that in a B2B context, the use of "customer reference" is a widespread practice and has a considerable impact on the processes of acquiring new customers and the profitability of a customer portfolio in general. Based on the theory of social influences, decision makers in companies integrate into their selection and decision-making process the fact that a potential supplier has, or does not have, other companies in its customer portfolio that it considers relevant to its own situation. Thus, customer reference can play a crucial role within the context of SMEs. In addition, Kumar *et al.* suggest that sales managers should individually identify "customer references" according to a profile of prospects based on segmentation. It seems that decision makers will mainly refer to customers with the same position in the company, wanting to buy the same type of product/service, coming from the same line of business. These authors also demonstrate that customer referrals have a much greater impact on prospects when they are in video or audio format rather than written; similarly, the possibility of being

able to contact the referent directly is a very important guarantee of credibility in the recommendation process.

Within the context of services to SMEs, Gammoudi [GAM 09] also shows that reputation reflects the quality of a relationship (in their case, a business relationship) that results, in part but directly, from the interactions between the customer and its supplier over time. He suggests that the nature of relationships be studied through the theory of social contract. In the same way, Ambroise *et al*. [AMB 11] show how the social contract theory initially developed by Macneil [MAC 80] makes it possible to contribute to the efficiency of the various types of partnership relationships through the management of contractual standards. The definition of these contractual standards provides a flexible and comprehensive analytical framework for integrating both formal and informal aspects of relationships. It constitutes a reading grid that prompts questions relating to functioning and dysfunctioning as well as the organization of relationships with the various stakeholders, keeping in mind that the stronger the relationship, the more it will be resistant to crises [AMB 11, GAM 09].

4.4.3. *Enhance commitment in the city and territory*

To create or maintain their reputation, companies may have an advantage in showcasing their symbolic assets [GOT 01, DEM 15]. One of the characteristics of an SME is its proximity and link to its location; as a result, one of the avenues of action is the improvement of its territorial anchorage. Another way, very commonly accepted today in the world of SMEs, is a commitment in corporate social responsibility.

4.4.3.1. *Territorial anchorage*

The importance of territorial anchorage in dealing with reputational crises is particularly marked in the agro-food industry, following the various health crises of recent years (mad cow disease, horse meat, etc.). As a result of these crises, the level of consumer requirements has increased and proximity seems to be a guarantee for them. To strengthen their reputation, SMEs can rely on their geographical origin. When the image of the territory and its reputation are favorable and relevant, they reinforce those of the company. Consequently, the corporate reputation associated with that of its territory becomes a key determinant of the purchase while authenticity plays a reassurance role [LOU 13]. This territorial anchorage can have variable geometry: locality, region, country, etc. A study underlines, for example, that the “Swissness” label is an international selling point, especially for Swiss SMEs (SIES, 2013).

The territory (or terroir according to the qualification adopted by business sectors; the terroir label is particularly recognized in the agro-food industry) may represent an intangible resource and constitute a factor of competitiveness [LOU 13]. Thus, when a territory is clearly associated with specific crafts or goods, this can be important information for stakeholders [BOU 15]. Moreover, actors of a territory can organize themselves to make territorial anchorage a collective force. Clusters are an excellent example of this. Saives and Desmarteau [SAI 05] show that the territorial anchorage of clusters can be associated with different dynamics that create value for socio-economic operators: (1) capitalization of knowledge in an area that is too restrained to be identified and accessed by all; (2) cost-optimization dynamics; (3) dual competition and cooperation; and (4) governance dynamics.

4.4.3.2. *Commitment to social responsibility (CSR)*

Corporate reputation depends on a business's propensity to "give meaning" to its actions. Consequently, its ability to publicize and improve on its CSR commitments is a strong contributory factor to reputation, especially for SMEs [BER 08]. The achievement of CSR objectives can be seen as a form of performance in itself: studies have shown that corporate citizenship (or its level of commitment to CSR) provides it with protection – a reputational buffer or shield effect – during crisis, especially against falls in stock market values [MIO 12].

Recent studies on SMEs show that managers of small firms often adopt sustainable practices not just out of conviction, but rather because they derive or hope to derive economic benefits such as cost reduction, increase in employee loyalty, and improved relationships with suppliers, investors, local authorities and other parties in the value chain [MOR 09]. However, the two aspects are interrelated.

The effect of the company's commitment to CSR is sometimes reinforced by obtaining sector-based CSR labels or certifications such as ISO 14001 relating to the environment or, more generally, ISO 26000 on social responsibility. Even if these labels, which are often still little known and recognized, are not the main motivation, some authors emphasize the importance of their improvement through the preparation of a CSR report [GAU 16]. These authors note, however, a potential deviation of companies both in the implementation of these practices and communication around them, and fear that the CSR center of gravity will be geared towards external environmental and social indicators, to the detriment of internal social indicators. These potential deviations are all points of vigilance that SMEs must work on so that their actions in terms of CSR can fully play their role in reputation management.

However, in view of these different elements, a proactive approach to CSR seems to be a means of reducing companies' risk taking in relation to their reputation, while enhancing their "trust capital" at the level of stakeholders [BEB 08].

4.4.4. *Managers' image*

Generally, SMEs are highly represented outside and inside the organization, through the image of their managers. The latter often hold a leading position in the management of relationships with the various stakeholders [POZ 13] and play a key role in managing the reputation of their company. The reflection of a manager on the image that they convey can thus help build and/or preserve the reputation of their company.

A manager's reputation as an individual is intimately linked to that of the organization that they administer. The manager/CEO's personality and skills are therefore fundamental because they reflect what stakeholders perceive of the company. Puthod and Thévenard-Puthod [PUT 06] take the example of an SME manager who, despite his company's bankruptcy, has no difficulty in finding new financing from CNC or ANVAR because his reputation remains excellent regardless of this failure. In this case, three personal qualities seem to support this view: (1) this manager is considered within his professional community as a true pioneer; (2) endowed with a true prospective vision and great honesty; (3) his great culture and quest for quality are also seen as important determinants of the trust he inspires. Giraud [GIR 12] shows that the interpersonal skills of managers (communication, negotiation, etc.) strongly contribute to their reputation and affiliation to networks; this is particularly true as the network is closed and accessible by cooptation.

In addition, it seems that SME managers are the keystone of communication when it comes to preserving/enhancing the reputation of their companies. In the event of a crisis in particular, they must not only be answerable to their employees, customers and shareholders, but also the press, general public and sometimes even the courts, a new exercise for which it has now become imperative to prepare [DEL 11].

4.5. Conclusion

Strong reputation brings about stakeholders' trust. When a company inspires trust, customers buy and recommend its products; prospective investors and employees aspire to get involved in this venture; and the communities welcome its operations. Thus, reputation management is a crucial issue for companies, especially for SMEs. In order to be able to rely on their reputation, SMEs must be visible and

perceived by stakeholders as reliable. But the problem of notoriety and familiarity is clearly a challenge for SMEs which makes them perceive the management of their reputation differently. Generally, the reputation of large companies is based on their brands and corporate image, while SMEs need to reflect specifically on the distinctive elements on which their reputation can be based, but also adopt a proactive approach towards all stakeholders in order to promote this reputation.

However, it is clear that in this digital era, corporate reputation is increasingly difficult to manage, and can be easily tarnished by a multitude of factors [AMB 17]. Good reputation management and its associated risks do not necessarily require very large investments, but rather a proactive approach to the issue. This chapter has highlighted various drivers that can improve or contribute to the reputation of a company, and serve in the event of failure or loss of reputation as a shield of trust with regard to the various stakeholders. The diagram below (see Figure 4.1) illustrates the integrating framework proposed by this thought.

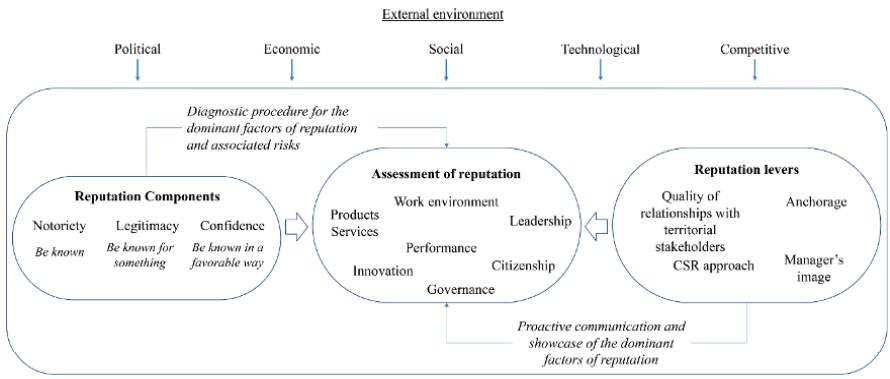

Figure 4.1. *Constituent elements of good management of SMEs reputation and reputation risk management*

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Part 2

Risk Management as a Lever for Organizational Development

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

5

Proactive Management of Operating Risks: A Lever to Improve External Funding for SMEs?

5.1. Introduction

The modern business environment is characterized by high volatility, resulting in a high level of uncertainty and a multiplicity of risk factors that may compromise the achievement of objectives set by company managers. In such a context, proactive risk management in organizations is becoming increasingly important.

Proactive risk management not only facilitates the achievement of the company's objectives, but also enables it to better respond and adapt to the surprises and disruptions attributable to both its external and internal environment. Therefore, the company should benefit from greater stability in its profits, helping in particular to increase the level of funders' confidence and facilitating its access to external funding.

Though not a panacea against any unexpected adverse event, risk management makes it possible to avoid several risks or mitigate their effects. It promotes better control over company operations, more optimal allocation of resources and a greater ability to successfully carry out activities with high uncertainty, including some innovation and internationalization activities, and better navigation with "success" in a turbulent environment. This is increasingly expected of SMEs on which is based the economic vitality of many countries [EUR 16].

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Thus, increasing their commitment to innovation, expanding their markets abroad and creating jobs have become the priorities of many SMEs and this leads them to face more and more risks. These activities will require soliciting financing from funders who will have difficulty in accurately measuring the risks involved [ABD 11]. We also recognize, however, that measuring the risks of SMEs is not a simple exercise and, although it is the subject of numerous studies, they still fail to account for the complexity of SMEs and the problems caused by the fact that the risk they present to funders is reduced mainly to a financial dimension.

It should be recalled that in order to provide capital to SMEs, funders mainly focus on a reading of the financial data and quantitative information used to "measure" company risk. However, this information is not infallible and reading it alone can lead to errors of judgment.

The purpose of this chapter is to demonstrate that this risk measurement could be enhanced: rather than focusing primarily on financial data in deciding whether to provide funding to SMEs, funders should concentrate on analyzing and evaluating the type of organization they adopt and the business practices they put in place. As we will see, financial data determinants, including business practices and routines adopted in companies, offer a better predictive capacity for possible difficulties and earlier indicators of SMEs vulnerability.

Before addressing risk management and the impacts on the financial health of SMEs, we will first recall the context in which funding decisions are made and discuss the tools that are primarily used by funders.

5.2. Decisions for funding SMEs and risk measurement

Despite the fact that they constitute the basis of the economic vitality of many regions and that they have become the main job creators in the private sector [EUR 16] over time, SMEs have limited access to external funding necessary for their development [RID 12]. There are many reasons that account for this situation but, in particular, we can retain the risk that these companies present to different funders, including the banks which constitute their main source of external funding [ORG 13]. Knowing that banks are subject to strict constraints in their risk taking, and that such constraints were tightened in the last Basel III agreements [EST 14], it is understood why the financial system is "allergic" to risk. Banks must now have sufficient liquidity to operate for a month in the event of a potential crisis and self-finance their activities with stable sources. In order to meet these standards, they select funding files mainly on the basis of their risk level.

5.2.1. *Assessment of SMEs risk by funders*

Thus, in order to make their decisions in view of a funding application, funders must decide on the "credit" risk that comes with the adding of a file to their portfolio of assets, that is, the risk that the borrower will not meet its commitments. To assess risk, funders mainly use technological tools that require financial information to which may be added non-financial information obtained from different sources (e.g. networks, rating agencies, financial partners) as well as within the framework of the ensuing relationship of trust that developed over time between them and the company manager [UCH 11].

The development of such tools has been able to greatly benefit from advances in statistics and computer science in order to model human judgment (expert system) or to reproduce on the new applicants the behaviors observed on the previous customers (payment history, financial profile of bad payers). From the comparative analysis of historical data on good and bad payers, we can establish a discriminant equation or a discriminant score which is then applied to new borrowers[1]. These technological models or tools are intended to allow faster decision-making and require less information than what is usually used by an expert, while eliminating the subjectivity which such experts may exhibit, considering his/her tacit knowledge of the field and the incompleteness of financial information [ABD 11].

While this may be an advantage in terms of the rationality of the decision, the standardization of the response produced by these systems also has some limitations. A significant gap many authors have pointed out with regard to these tools is that they do not always respond well to the realities of SMEs, which demonstrate, in the eyes of funders, high opacity in terms of financial data [MCC 15]. As a result, funders would benefit from the search for non-financial information (soft information) by developing proximity relationships (soft lending) with SME managers to complement and qualify the financial data they usually use to analyze a funding application [BHA 11, CHE 15, MCC 15, UCH 11].

However, financial data remain dominant in the determination of credit risk despite the fact that their predictive capacity is limited and that their temporal stability may prove to be low, especially among SMEs. However, the stability of these data is one of the requirements for their effective inclusion in a bankruptcy prediction or credit risk determination model [KUM 15]. It should be added that financial indicators are lagging indicators, that is, they express the financial impacts

1 Bankruptcy prediction and credit decision models are derived from these quantitative analyses on historical financial data and form the foundation on which are based the new models developed from more sophisticated tools available today [ABD 11].

of previous actions (Cohen *et al.*, 2008, in [KOT 12]), whereas the organizational consequences of a situation will be more quickly visible [KUM 13].

5.2.2. *Risk measurement: financial and non-financial data*

The limits of financial data to assist in decision-making have been the subject of much debate. In particular, they are criticized for being too past-oriented, short-term, not adapting quickly to changes in the environment and having little ability to predict the future [PAR 15]. Moreover, Sun and Li [SUN 09] recall that financial data are good indicators of distress only when the symptoms of distress are present in these data, thus reducing their predictive capacity over a sufficiently long term to be able to put in place appropriate remedial measures. The inaccuracy of the financial data thus gives rise to statistical errors in the assessment of SMEs' credit risk, that is, the error of refusing to fund a "good" customer (type I statistical error) or granting funding to a "bad" customer (type II statistical error) [DIE 13].

The soft information found in the entire organization can provide better indicators of future risk than financial data. Upstream of these financial data, there are strategies for managing the company, efficiency of production activities, coordination of activities, decision-making quality, etc. For example, high profitability in a growing niche market could conceal gaps in staff management, which could prove disastrous when actions of competing firms lead to a decline in this growth.

The European Commission [EUR 05] has identified some information that SME managers might gather in order to further elaborate their funding application file. According to the Commission, such information should enable bankers to better understand and assess the degree of risk that project funding may represent, as well as to qualify an assessment based solely on the bank's internal criteria. This enrichment could thus reduce the possibility of losing "good customers" who would have been subject to restrictive funding conditions, based solely on financial information. As shown by St-Pierre and Bahri [STP 11] in the Canadian context, funding conditions for manufacturing SMEs are more reflective of the size of companies than the different risk dimensions they can present to a funder. The risk premium, amount granted and guarantees required differ according to the size of the borrowers, while their commercial, managerial and technological risks, which are indicators of their vulnerability, are independent of size.

Thus, in a recent study using both financial and non-financial data, Chen *et al.* [CHE 15] have shown that SMEs having employees and customer retention ability prove to be less prone to payment defaults. Other non-financial data used by these authors to improve the predictions of scoring models include information on human resource management practices, managers and their team's skills, management practices, customer management, suppliers and quality, marketing practices and the company's reputation.

We will come back, in our empirical demonstration, to non-financial information which could be leading and relevant indicators of SMEs' vulnerability. First, we will discuss in the next section the various risks that can affect SMEs as well as their sources and ways to control them.

5.3. Risks, risk sources and risk control

Since risk is a multidimensional concept that has given rise to many non-consensus definitions [KER 12, STP 04], we will consider the pragmatic definition formulated by St-Pierre [STP 04] that risk consists of "the possibility that the expected results of a project or an investment is not achieved as planned and generate(s) undesirable consequences for its sponsor" (p. 146). Seen from this perspective, risk could emanate not only from a project or an investment, but also from any activity that could jeopardize the operations of the company, whether at the commercial, technological and operational as well as financial or management level. We will then talk about risk factors.

5.3.1. *Different risk sources*

Risk sources, which some authors also refer to as risk factors in the context of business management, concern "any (tangible or intangible) element that alone or in combination with others has intrinsic potential to generate risk" [ISO 09] (section 3.5.1.2), which will ultimately affect the company's financial situation. Ultimate risk would be the disappearance of the company, following its inability to meet its financial commitments. However, financial difficulties can originate from a wide range of situations more or less controlled by companies.

Thus, without striving to draw up a complete list, several authors have sought to identify the various risk factors relevant to the reality of SMEs. Let us see what some of these studies reveal. A survey by ICAEW [ICA 05] carried out in England

with a sample comprising 261 SMEs operating in different sectors (manufacturing and services) found that the main risk factors were related to employees (e.g. departure of key employees), information technology (e.g. information loss), changes in markets (e.g. product obsolescence), credit (e.g. payment default by a customer) and reputation (e.g. negative media attention). In a qualitative study of 40 SMEs in the manufacturing and service sectors (United Kingdom), Gilmore *et al.* [GIL 04], for their part, find that the most common risk factors mentioned by entrepreneurs relate to the lack of liquidity (risk of increased dependence on funders and loss of autonomy), growth (risk of non-payment of major contracts), new markets or products (risk of not recovering investment) and delegation of responsibility to employees (risk of information loss in the event of departure of employees). In a study of 32 New Zealand manufacturing SMEs, Islam and Tedford [ISL 12] identified various risk factors that they describe as "disruptions": absenteeism, mechanical breakdowns, lack of materials, defective products, work accidents, handling problems, etc. These disruptions can affect results not only in terms of production, but also in terms of company safety and performance (employee turnover rate, profit, growth). These authors also demonstrate that the different risk factors have consequences on several risk indicators, which show the importance of an integrated approach[2]. Finally, in a study of 144 European manufacturing SMEs (France, Italy, Austria, Germany, etc.), Chiarini [CHI 17] identifies 11 risk factors related to operations. These factors include: misinterpretation of customer requirements; non-compliant technical results in the design of new products; inadequate risk assessment; non-compliant products from a supplier; problems of continuity of suppliers activities; errors of production planning and control; production of non-compliant products; failure of information and communication technologies (ICTs); machinery and equipment breakdown; lack of training, skills and employee awareness; natural disaster (act of God). Added to this are the possible relationships between these different sources. In this regard, according to Chiarini [CHI 17], the lack of employee training and skills is closely related to the production of non-compliant products, misinterpretation of customer requirements and inadequate risk assessment.

5.3.2. *Risk management practices*

SMEs therefore face multiple risks affecting different aspects of the organization. Since each author who studied risks has adopted a position specific to his/her discipline, there is no single nomenclature on the various risks and risk

2 For example, staff absenteeism affects productivity, product defect rate, production shutdowns, work accident rate, profitability and growth.

factors. Moreover, existing nomenclatures are often established in a particular context and are difficult to transpose into another and, above all, cannot be generalized. Although the web offers a range of documents to help SMEs manage their risks, none contains a list that allows managers to organize their information system such as to obtain a simple and efficient management tool. Let us recall Abdou and Pointon's [ABD 11] assertion that the various proposed tools or measures are rarely based on solid theoretical foundations, such that their content varies from one author to another. Thus, it is clear from the above that SMEs do not currently have access to any risk management tool adapted to all their needs and to the limited resources at their disposal.

Since risk management in SMEs is a field of research that is still developing [FAL 15], few studies are available to identify the best practices to be implemented in order to ensure good risk management and reassure possible funders. In this field of knowledge, we find the same shortcomings as those which preceded the entire stream of literature that emerged in the mid-1980s on the determinants of organizational performance. While financial performance was criticized for its inability to quickly reveal the shortcomings of large organizations, performance management models were proposed and were enhanced by practices to be implemented and contributing to performance (known as determinants).

In addition, previous work demonstrating the extent and diversity of the sources of risk faced by companies explains the difficulties in identifying all the relevant practices for risk control or mitigation. It is in this perspective that we studied a group of manufacturing SMEs in order to check whether the application of certain management practices can help reduce their vulnerability and thus improve their performance due to better control of the risk factors to which they are exposed.

5.4. Methodology

The objective of this chapter is to show that the financial data used by funders to measure the risk of SMEs could be enhanced by a closer examination of their operating mode and the practices they apply to limit their operating risks. Implementing such practices would allow SMEs to better control their costs, achieve more stable results and reduce the risk perceived by funders.

5.4.1. *Presentation of sample*

In order to carry out this demonstration, we used a database established from information provided by Quebec manufacturing SMEs in a comparative diagnostic exercise. The owner-managers of participating companies had to complete a 15-page questionnaire containing information on: practices related to different functions in the company (finance, human resource management, marketing/sales, production, research and development), the extent and diversity of its markets, profile of owner-managers and their strategies. The questionnaire to which the financial statements for the three most recently completed fiscal years were attached was forwarded to a university research laboratory (LaRePE) for confidential treatment. Data from 440 SMEs were used for the purpose of this research. The profile of these companies is presented in Table 5.1. It can be seen that these are relatively large, innovative and exporting companies, and therefore may require risk management practices to secure their development.

	Average	*Median*	*Minimum*	*Maximum*	*Standard deviation*
Number of employees	62	43	4	405	61
Turnover (M $)	8.7	5.2	0.1	90.4	107.6
Return on assets (%)	7.0	6.1	–6.0	78.0	10.8
Innovation rate (%)	37.5	27.3	0.0	100.0	33.4
Export rate (%)	26.7	10.0	0.0	100.0	26.4

Table 5.1. *Profile of companies surveyed*

5.4.2. *Identification of variables*

As explained by Islam and Tedford [ISL 12], deteriorated or unsatisfactory financial performance could result from inadequate strategies in the use or allocation of resources. Where appropriate, they should be closely and diligently monitored. It is in this regard that we have identified various business practices whose absence could affect financial performance. Based on the risk factors mentioned in the literature, we have identified, from the information available in the database at our disposal, certain practices that enable the reduction or mitigation of risks incurred in different ways.

Since our analysis focuses on risk rather than on performance, we have recoded the answers obtained to different questions in values 0 (if the practice is not implemented in the company or its deployment is insufficient) or 1 (if the practice is implemented in the company or is satisfactory). For example, it is asked how frequently – never, rarely and often – different management and planning tools are used. Respondents who responded never or rarely are assigned code 0, the practice being considered insufficiently deployed to allow good risk management, and code 1, in case it is used often.

Moreover, in order to organize the information to facilitate its analysis, we grouped the practices identified according to the risk categories identified by St-Pierre [STP 04] for manufacturing SMEs. This nomenclature was created in response to a request from a government agency which wanted to assist SMEs in reducing their operational risks to improve their funding conditions. Given the poor financial management skills of SMEs and the limited resources available to them, the income statement[3] was used to identify and categorize risks. Table 5.2 presents the content.

Risk categories	Brief description of risk
Commercial	Actions or situations that have an impact on the company's turnover. This concerns products, markets, customers' reactions and needs as well as the possible reactions of competitors.
Technological and operational	Actions or situations that could compromise production activities (deadlines, costs, quality). This concerns procurement, supplier choices, investment in equipment, technological choices, staff skills and control of the various costs associated with them.
Management	The company's general management activities including human resource management (excluding commercial and production activities), planning and monitoring practices.
Financial	Actions or situations that may affect the company's financial capabilities and the generation of liquidity necessary for its operations.

Table 5.2. *Risk categories and description (adapted from St-Pierre [STP 04])*

3 Presentation of an income statement in Canada is based on the nature of company activities and not only on the nature of their expenses. This basis of presentation corresponds to the logic of activity-based accounting.

5.4.3. *Analysis tools*

Finally, studies on SMEs often use contingency theory to explain their heterogeneity and analyze the diversity of their behaviors. As risk management practices are likely to vary depending on the companies' characteristics and their business environment [BRU 16, HEN 06], we will first carry out a typological analysis aimed at regrouping the companies that use the same sets of practices. This will prevent us from making this selection ourselves since there is no theoretical basis on which to rely. Three separate groups of SMEs have thus been constituted from the sample (see Appendix 5.8.1). Variance tests will then be used to show whether the differences between the observed groups are significant.

5.5. Presentation of results and discussion

5.5.1. *Presentation of results*

Table 5.3 illustrates the implementation rate of the different risk management practices in each group created. It is found that Group 1 SMEs implement most of the practices to a larger extent than Group 2 and Group 3 SMEs, except for a few relating to management control tools. Group 2 SMEs, for their part, fall between the other two groups, that is, they implement most of the practices to a lesser extent than Group 1 SMEs, but to a larger extent than Group 3 SMEs, except for the few control practices.

Companies...	**Group 1 (*n* = 167) (%)**	**Group 2 (*n* = 159) (%)**	**Group 3 (*n* = 116) (%)**
Commercial risk			
Invest in R&D	42.4	31.0	26.6
Regularly process customer complaints	43.5	27.8	28.7
Regularly prospect for new customers or markets	53.9	23.5	22.5
Consult with customers/suppliers on products/markets	42.8	32.2	25.1
Consult with product/market sales staff	44.4	29.5	26.0
Invest in sales staff training	74.8	16.0	9.2
Use a compensation program with p/b for sales staff	60.3	17.3	22.4
Evaluate sales staff performance	59.6	9.3	31.1
Technological and operational risk			
Plan production	< 1.0	< 1.0	100.0
Consult with customers/suppliers on technologies	45.5	28.5	26.0

Measure improvements in product quality	42.4	31.1	26.5
Ensure control of production costs	43.6	32.3	24.1
Ensure control of purchase and procurement costs	43.2	33.5	23.2
Ensure control of transport costs	45.3	34.9	19.8
Use cost estimate	< 1.0	2.6	97.4
Management risk			
Invest in managers training	57.8	32.1	10.0
Invest in executive training	60.0	30.0	10.0
Invest in office workers training	58.3	32.0	9.7
Produce financial statements prepared by an external auditor	39.3	37.4	23.3
Produce audited financial statements	48.2	26.5	25.2
Produce projected financial statements	1.3	6.3	92.4
Disseminate information about organizational changes to employees	40.8	34.2	25.1
Disseminate economic information to employees	46.3	26.8	26.8
Disseminate productivity information to employees	45.2	27.7	27.1
Disseminate strategy-related information to employees	44.1	28.4	27.5
Use a compensation program with premiums and bonuses	45.6	28.2	26.1
Financial risk			
Use an accounts receivable management tool	< 1.0	4.0	96.0
Use a stock management tool	< 1.0	4.0	96.0
Use discount offered by suppliers	42.3	32.9	24.8
Analyze the quality of payment for new customers	43.8	33.6	22.6
Intervene in case of late payment by a customer	50.0	39.9	10.1

Note: due to rounding effects, the total of each line does not always equal exactly 100.0%.

Table 5.3. *Business practices implementation rate in different groups and according to risk categories*

These results confirm that the behavior of SMEs is not homogeneous and that they place a greater or lesser emphasis on different management practices that help reduce the risk of their activities and, consequently, provide some financial stability.

So what about the performance of SMEs depending on whether they more or less significantly implement risk management practices? In order to answer this question, it seemed essential to analyze companies with some degree of similarity and therefore belonging to the same group. Arbitrarily, we used Group 2, which is close to the other two groups. This group was subdivided into three subgroups based on the number of practices implemented: SMEs with less than 40% implemented practices (subgroup 1), those with more than 60% implemented practices (subgroup 2) and the others (between 40% and 60%) which we have rejected to avoid interference with the interpretation of the results (practice implementation rates are presented in Appendix 5.8.2).

Table 5.4 shows a significant difference between the risk level presented by companies of the two subgroups: subgroup 2 shows a better stability (or a lower variance) of its net margin than the companies in subgroup 1, a higher safety margin (number of days the company can operate without a new inflow of funds) and greater efficiency in assets use while their net margin rate is not different. The less risky companies, that is those with a greater stability in their net margin, are also more dynamic with a significantly higher export rate and employment growth.

	Subgroup 1 Weak implementation of practices	**Subgroup 2 Strong implementation of practices**	**Student test Significance (*p*)**
Risk (stability net margin)[Ψ]	0.0599	0.0293	0.037
Financial safety margin (number of days)[§]	17.83	31.65	0.029
Return on assets	0.0334	0.0758	0.035
Net profit margin	0.0218	0.0364	0.630
Export rate	0.0223	0.1341	0.015
Employment growth	0.0152	0.1249	0.028

[Ψ]Standard deviation of the net margin rate (net profit/sales) over the last three years.

§Available cash/daily expenses of companies.

Table 5.4. *Risk and companies' performance according to their degree of implementation[4] of risk management practices (cluster 2 subgroups)*

4 We do not seek to establish a causal relationship between the presence of certain practices and performance or SMEs risk, but rather to see if there are links between these types of information. To confirm the beneficial effects of practices on performance, longitudinal studies would be more appropriate.

5.5.2. *Analysis and discussion*

The results presented above allow us to answer our research question, which is whether the implementation of different risk management practices in SMEs has consequences on the risk and performance of companies.

To answer this question, we proceeded in two steps. Firstly, we grouped companies according to the nature of practices they have implemented. Our results show that SMEs do not have homogeneous behavior in terms of risk management. In conformity with what has been noted in other studies [BRU 16, HEN 10], our results reveal that some SMEs show more proactive behavior by using practices that can be associated with a healthy risk management more intensively. This is the case for Group 1 companies which have implemented most of the practices to a larger extent than the companies of the other two groups whereas, on the contrary, Group 3 companies have only implemented most of these practices to a lesser extent, except those involving the use of management and planning tools. However, let us not criticize these choices without a deeper understanding of the results.

Thus, although this is not the subject of our research, the three groups of companies identified in our sample could reveal distinct strategic behaviors. Their choice of practices could conform in several respects to those of the strategic profiles identified by Miles and Snow [MIL 78], namely "Prospectors" (group 1), with more advanced practices such as performance-based remuneration, investment in R&D and measurement of improvements relative to product quality; "Defenders" (group 3) with focus on cost control and resource monitoring practices; and "Analyzers" (group 2) who are in an intermediate position. This original result sheds light on the diversity of SMEs behavior that should be taken into account in risk studies, as has been done in works on performance and its determinants, or on the diversity of objectives pursued by SME owner-managers and their consequences at the strategic level.

Secondly, in order to answer our research question, we have shown that companies that implement risk management practices to a larger extent perform better than others, while their profits are more stable. This result may seem surprising inasmuch as subgroup 2 companies are also the most dynamic in terms of export and employment growth. Indeed, these strategies by themselves create uncertainty as well as risk and should lead to some financial fragility, unless they are controlled and monitored by particular practices. This seems to be the case here where more proactive SMEs put in place more tools of control and financial

management. These tools can ease control over the costs of different activities, especially to avoid waste, while the presence of financial management tools facilitates liquidity management, which is particularly favorable to self-financing. These more proactive SMEs have a safety margin almost twice as large.

Proceeding with risk management and implementation of mechanisms to facilitate such management (e.g. practices to prevent production interruptions, machinery breakdowns, bad debts, lack of liquidity, etc.) can help SMEs reduce the risk perceived by funders. By better monitoring and controlling processes that seem particularly important for value creation, the company ultimately achieves better financial performance (or some profit stability), which enables it not only to generate liquidity to cover part of its needs, but also to obtain funding more easily from funders, and possibly on better terms.

Regarding the identification of risk management practices suitable for different types of companies, further studies will be required. While this study provides an overview of some practices and their potential influence on SMEs' performance, several factors need to be taken into account when setting up a risk management system. In addition to the multiple risk sources to be identified in the internal and external environment, it will be useful to also reflect on the possible interactions between these different sources [CHI 17] and to identify their impact on the organization. As demonstrated by Islam and Tedford (ISL 12), the presence of correlations between different risk sources and risk indicators makes it difficult to develop a comprehensive and universal list that could be used to help SME managers in establishing a dashboard.

5.6. Conclusion

The purpose of this chapter was to illustrate how SMEs could use risk management as a lever to facilitate access to external funding. After recalling the limits of financial data as a basis for SMEs funding decision, we provided an overview of the risks and risk factors identified in various studies in order to get clarifications on the business practices necessary for their management. An analysis of empirical data then allowed us to illustrate how SMEs resort differently to some risk management practices and also enabled us to reveal a significant link between the implementation of such practices and their performance. Setting up a risk management system that takes into account the main factors of value creation would not only improve the company's performance, but could also help demonstrate

management quality which is one of the critical information elements to reassure funders [AND 08, EUR 05].

The main difficulty in setting up such a risk management system is to identify the relevant risks and the most important risk factors for the company. Although some of these factors may be common to most companies, others may vary depending on the specific business environment or development strategies they adopt as we have shown here.

According to Islam and Tedford [ISL 12], few SMEs are able to identify the elements that are the cause of the failures they may experience, hence the interest of continuing studies on risk management. In addition, such works would help enhance the different models used within the financial community to provide funds to a potential borrower and set funding conditions that reflect its real risk. In this regard, adopting a behavioral perspective to enhance these models with non-financial data would be a significant contribution [ABD 11] and may help facilitate discussions among funders who face constraints as regards the risk they can endorse including SME owner-managers who are unfamiliar with these considerations and who often feel "misunderstood" by the financial community.

Finally, can risk management constitute a lever to facilitate the funding of SMEs? Knowing that this is one of the few studies to address risk management from this perspective, our demonstration would seem to support this proposal. Funders could improve companies' selection process in their portfolio by focusing on the soft information that characterizes SMEs' ways of doing business, thus reducing the statistical errors mentioned earlier. Also, through better recruitment, they could offer funding conditions that more accurately reveal the "real" risk of their customers, which would help ensure their retention ability.

In conclusion, it is hoped that other studies comparable to the one carried out here could shed light to funders and managers on the benefits of risk management while bearing in mind however that such management should be dynamic. It should be noted that the impacts of the various actions are not always immediate and that the financial data will always be out of touch with the reality of companies. The coexistence between financial and non-financial data in risk identification and measurement tools seems paramount.

5.7. Appendices

5.7.1. *Typological analysis of group companies*

Companies...	Groups		
	1	2	3
Use a compensation program with premiums and bonuses	0.87		
Disseminate economic information to employees	0.51		
Produce financial statements prepared by an external auditor	0.86		
Invest in R&D	0.82		
Measure improvements in product quality	0.77		
Invest in management training		0.89	
Invest in executive training		0.93	
Invest in office workers training		0.90	
Analyze the quality of payment for new customers		0.94	
Intervene in case of late payment by a customer		0.92	
Produce audited financial statements		0.60	
Ensure control of production costs		0,81	
Ensure control of purchase and procurement costs		0.77	
Ensure control of transport costs		0.54	
Regularly prospect for new customers or markets		0.57	
Invest in sales staff training		0.60	
Apply a compensation program with premiums and bonuses for sales staff		0.51	
Consult with customers/suppliers on products/markets		0.81	
Consult with customers/suppliers on technologies		0.61	
Disseminate productivity information to employees			0.87
Disseminate strategy-related information to employees			0.85
Disseminate information about organizational changes to employees			0.97
Consult with product/market sales staff			0,89
Use discount offered by suppliers			0.78
Produce projected financial statements			0.64
Use cost estimate			0.65
Use an accounts receivable management tool			0.80
Use a stock management tool			0.63
Regularly process customer complaints			0.62
Evaluate sales staff performance			0.50
Plan production			0.84

*The groups were obtained using dynamic k-means clustering. Convergence was achieved after six iterations and the minimum distance between the initial centers is 4.020. To facilitate reading, we grouped the practices according to the formation of groups.

5.7.2. *Implementation rates of practices in cluster 2 subgroups*

Companies...	Subgroup 1 (%)	Subgroup 2 (%)
Commercial risk		
Invest in R&D	28.6	99.0
Regularly process customer complaints	29.3	96.6
Regularly prospect for new customers or markets	29.8	95.7
Consult with customers/suppliers on products/markets	33.0	97.2
Consult with product/market sales staff	24.0	99.0
Invest in sales staff training	19.0	100.0
Apply a compensation program with premiums and bonuses for sales staff	14,8	100,0
Evaluate sales staff performance	28.6	100.0
Technological and operational risk		
Plan production	50.0	100.0
Consult with customers/suppliers on technologies	17.9	97.0
Measure improvements in product quality	32.3	95.7
Ensure control of production costs	29.5	97.1
Ensure control of purchase and procurement costs	31.1	99.0
Ensure control of transport costs	28.8	100.0
Use cost estimate	50.0	100.0
Management risk		
Invest in managers training	30.0	96.3
Invest in executive training	25.3	96.0
Invest in office workers training	22.8	96.2
Produce audited financial statements	23.7	98.3
Produce projected financial statements	20.0	100.0
Disseminate information about organizational changes to employees	35.1	95.5
Disseminate economic information to employees	30.0	94.0
Disseminate productivity information to employees	24.7	98.9

Disseminate strategy-related information to employees	30.2	94.5
Use a compensation program with premiums and bonuses	30.1	96.8
Financial risk		
Use an accounts receivable management tool	25.0	100.0
Use a stock management tool	0.0	100.0
Use discount offered by suppliers	39.6	96.0
Analyze the quality of payment for new customers	29.8	97.6
Intervene in case of late payment by a customer	31.4	94.9

Note: the data used was provided by the owner-managers. It is possible that some of the information requested was not provided such that the number of observations for some questions could be reduced.

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6

Risk Management: A Lever for Organizational Change for SMEs?

6.1. Introduction

Risk management activities which consist of identifying, assessing and treating risks [COR 16, HOL 84] are developed and intensified in companies. Today, it has been recognized that "knowing how to identify risks, attribute a value and a priority scale, design actions and mechanisms to minimize risks and continuously monitor them, is essential to guarantee companies' survival and create sustainable value" ([VER 13], p. 186). Several studies suggest a link between risk management and value creation for the company [KRA 16], especially when it adopts an integrated and comprehensive approach to risk management [BRO 15, GOR 09]. While large firms are more likely to adopt a risk management approach integrated with business strategy and value creation, SMEs are now also concerned [BRU 16, VIR 05].

However, the lack of empirical knowledge relating to the impact of risk management on the performance of SMEs is regrettable. Reboud and Séville [REB 16] note that, "as the effect on performance remains difficult to demonstrate, risk management in SMEs has not been considered up to now [...] as a source of significant value creation" (p. 29). Generally, that is to say, even outside the particular context of SMEs, the relationship between risk management and performance has not yet been well understood [GOR 09, JAF 11], and empirical studies carried out on the subject produce contrasting results [BRO 15]. It therefore

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seems necessary to analyze this relationship more closely in SMEs, guiding thoughts towards the more direct consequences of risk management on the functioning of the company.

For instance, it can be suggested that the link between risk management and performance depends on the organizational changes resulting from the decision to adopt a risk management system in the company. Risk management could indeed be a driver of organizational change [JAB 15], because it is capable of creating value for the company. Particularly, the introduction of an integrated risk management system should inevitably affect preexisting areas of the company, resulting in high or low variations in its practices or even large-scale changes [ARE 10]. This could even be a real managerial innovation for the company [POW 09], and as Leroy *et al.* recall [LER 13], "managerial innovation would be the main factor that explains the performance of the company" (p. 78).

It should be noted, however, that previous studies on the organizational consequences of risk management, which are already not very abundant in risk management literature [CHR 14], are even rarer when one is interested in the specific context of SMEs. This chapter thus raises the following question: to what extent can risk management transform SMEs? In order to provide answers to this question, the chapter explores, through three cases of SMEs, the scope of organizational changes resulting from the decision to adopt a risk management system in these companies.

Before presenting the methodology used in conducting this study as well as the main results from the study carried out on the three SMEs concerned, a brief overview of the state of the art makes it possible to discuss the interest in understanding the consequences of the risk management from the perspective of the different types of organizational changes induced.

6.2. From risk management to organizational change

First and foremost, this section presents thoughts on which the hypothesis behind this research is based, namely that the decision to manage risks explicitly leads to organizational changes that can improve the performance of the company. Secondly, it presents the analytical framework selected to describe the different types of changes induced.

6.2.1. *Organizational change: the forgotten link between risk management and performance?*

If risk is nothing new to the company [RAO 09], there has been, since the mid-1990s, an "explosion" of risk management practices as a "social phenomenon" [POW 04]. The main reasons given relate to the rapid dynamics and constant hardening of the business environment [WIE 14], which has made risk management become a major concern for companies [AND 08, GOR 09, JAF 11].

Given the increasingly dynamic, complex and unpredictable business contexts, it is indeed recognized that risk management has considerable implications for the success of the company [BRU 16]. Many authors have suggested a link between risk management and corporate performance [KRA 16]. More recently, literature on the subject has evolved by focusing on the modern perception of risk management; in other words, its holistic or integrated approach (such as enterprise risk management, abbreviated as ERM). For example, Hoyt and Liebenberg [HOY 11] have shown a positive relationship between the use of an ERM and corporate value. A study by Gordon *et al*. [GOR 09] indicates that positive impact on performance depends on a suitable match between the implemented ERM and contextual factors (the size of the company, competitive intensity of the sector, etc.). Beasley *et al*. [BEA 08] also concluded that the alleged significant effect on performance is not always true, considering that it is contingent on certain characteristics of the company. A number of moderator or contingency variables thus seem to be involved in the impact that risk management can have on performance. However, among such variables, organizational changes are rarely included in previous studies.

In addition, empirical studies on the relationship between risk management and performance are hampered by the lack of data [KRA 16]. They use different and varied proxies to operationalize risk management or use ERM in the company, which leads to mixed results [BRO 15], and the size of mobilized samples tend to be rather small [KRA 16]. Another limitation is that most of this research ignores endogeneity [BRO 15, HOY 11]. Ultimately, while risk management is now a major concern for both professional and academic worlds, the empirical evidence of its effects on performance remains limited. This is particularly true when focus is put on the specific context of SMEs, even though literature on the subject suggests that risk management is an essential aspect of value creation in SMEs [SIL 13].

As Reboud and Séville point out [REB 16], the effect of risk management on performance remains difficult to demonstrate at the level of SMEs. Inspired by previous work which recommends that proximal indicators closer to the phenomena studied be considered instead of the aggregate performance of the company

[GUE 13], this calls for the redirection of thoughts on the "direct" consequences of risk management, those that could act as a mediator between risk management and performance. It seems interesting to question the types and scope of organizational changes due to risk management.

The introduction of a new risk management system can be considered as a key factor of change [JAB 15], resulting in variations in the company's existing practices and may even lead to major changes [ARE 10]. For example, an organizational change widely discussed in literature, at least within the context of large companies, relates to the creation of new positions, such as Chief Risk Officer; the existence or otherwise of such a position is often used as a proxy of the risk management effort [BRU 16]. Other organizational consequences can be expected. Particularly, for Soin and Collier [SOI 13], risk management could, by changing organizational practices (for example, using a risk mapping), facilitate and legitimize certain ways of organizing, change lines of responsibility or lead to a particular way of governing individuals and activities. If the company adopts an ERM system, it could even constitute a real managerial innovation for the company [POW 09].

All of these studies suggest that risk management can be a vector of organizational change leading ultimately to a better performance. However, the issue of organizational consequences relating to risk management is broad, and the objective is not to predetermine a list of organizational changes that may *a priori* be caused by the decision to manage risks explicitly. On the contrary, this exploratory chapter aims at making them known in the field without any presuppositions. Nevertheless, it is important to have a framework of analysis in order to qualify the changes that will be detected; this is the purpose of the next section.

6.2.2. *Organizational changes: how to qualify them*

The intention of any organizational change is to move the organization from its current state to a more desirable state [RAG 00]. Much of the organizational change literature aims to understand how organizations or organizational behaviors can be changed to do better [DIB 07].

However, several definitions of organizational change have been suggested in the literature. For example, according to Guilhon [GUI 98], it is "a process of radical or marginal transformation of structures and skills that punctuates the evolution process of organizations" (p. 98). According to Van de Ven and Poole [VAN 95], it is a "difference in form, quality or state over time in an organizational entity" (p. 512). Whereas, for Collerette *et al*. [COL 97], it refers to "any relatively sustainable change in a subsystem of the organization, provided that this change can

be noticed by its members or by the people who are connected to the system" (p. 20). If organizational change has been conceptualized and studied in different ways according to the authors [DIB 07], it appears that two main definitions of change are most often mobilized: on the one hand, a narrative describing a sequence of events on how development and change take place; on the other hand, a difference observed in the course of time in an organizational entity on a range of selected dimensions (Poole *et al.*, 2000, in [VAN 05]). This chapter is part of this second view, with the focus on the "dimensions" on which a difference will be observed.

Nevertheless, this difference can be more or less great if one refers to the existing situation (major or marginal change), and the organization can be affected in all its dimensions or, on the contrary, within a restricted space (global or local change) [SOP 04]. As Soparnot summarizes [SOP 04], it is appropriate to consider the changes, or in other words, the importance of change and what it is about. Among the many typologies that exist to describe change according to its purpose, the one suggested by Mintzberg and Westley [MIN 92] provides a particularly interesting framework of analysis, because it enables reflection on both the content and levels of change (see Table 6.1).

Depth of change	**Change in organization (state)**	**Change in strategy (management)**
From more conceptual (thought)	Culture	Vision
	Structure	Positions
to more concrete (action)	Systems	Programs
	People	Facilities

Table 6.1. *Types of changes according to Mintzberg and Westley ([MIN 92], p. 40)*

First of all, this typology distinguishes two major dimensions of change according to its purpose: changes at the organizational level (relating to the current state of the company) and changes at the strategic level (relating to the direction that the company is taking).

Secondly, it helps us describe change in terms of its depth, according to a continuum ranging from the most restricted, concrete or tangible level, to the broadest, conceptual or abstract level. Thus, the company can act directly, at the most concrete level, on its personnel (via training, recruitment, transfer, etc.) and modify its facilities or equipment. At the most abstract level, it can change its

organizational culture and corresponding strategic vision. Mintzberg and Westley point out that the more we move towards abstract levels, the less isolated or disjointed change can be; this is because interdependencies become important amongst the organizational and strategic dimensions as well as within each of these two dimensions. Thus, changing culture without changing the vision (or vice versa) would have little meaning; meanwhile a change of persons could be envisaged without changing facilities (or vice versa). Or, changing culture without changing the structure, systems and people would be an action in vain, whereas it would be quite possible to change people without changing the systems [MIN 92, MIN 09].

Beyond the purpose of change, this typology underlies a distinction between micro-changes (which concern a restricted area of the company) and macro-changes (which concern the entire company). As Soparnot [SOP 04] explains, changes in culture and vision are not only abstract but also vast (macro-changes), while changes in people and facilities are not only concrete but also local (micro-changes). However, Mintzberg *et al*. [MIN 09] state that micro-changes can have macro-consequences, in other words, major impacts on the company; the contrary, albeit supposedly rare, could also be true.

Eventually, the organizational changes resulting from the decision to adopt a risk management system in an SME can be qualified based not only on their purpose, but also on their depth. Ultimately, this qualification must also enable us to initiate thoughts on the magnitude of the impacts generated; change may be minor or, on the contrary, major, if it alters the values, standards and rules that prevail in the company [SOP 04].

6.3. Methodology

This research is based on a qualitative exploratory study of three cases of SMEs. The procedure for selecting these cases is explained below, before the data collection and analysis method is presented.

6.3.1. *Selection and presentation of cases*

The cases were selected from a sample of ten French companies (SMEs and ETIs) in the Auvergne-Rhône-Alpes region; they were studied within the framework of a broader collective research project on risk management. This sample was based, above all, on a certain "methodological opportunism"[1]. Among these ten companies,

1 As Cusin points out [CUS 08], methodological opportunism may relate to the empirical analysis of management situations (when the researcher shows flexibility and adapts to his/her field), but also, as is the case here, the creation of the sample itself (leading, for example, to the addition of cases not originally provided for).

only those that met the following criteria were selected for this research: (1) this study is based on SMEs, and so only companies with less than 500 employees[2] were considered; (2) in order to be able to explore the extent of changes resulting from risk management, only companies that have explicitly introduced a risk management system were selected. This second criterion led to the selection of only listed companies (the latter were encouraged by the legislation and they dedicated an entire section to risk management in their reference document). Four SMEs were selected at the end of this process. One of them was finally excluded: the SME in question had just barely started a study on risk management at the time and according to its manager, it did not yet have the mechanism as such. The remaining three cases studied in this chapter are briefly presented in Table 6.2[3].

	Case of PLASTOC	**Case of EDILOG**	**Case of ANTISUC**
Age of company	≈ 80 years	≈ 30 years	≈ 10 years
Area of business	Plastic processing	Software edition	Biotech/pharma
Type of market	BtoB	BtoB	BtoB
Personnel (eq. full time)	Between 250 and 300 employees	Between 400 and 450 employees	Between 100 and 150 employees
Turnover for the last financial year	Between K€ 30,000 and 35,000	Between K€ 55,000 and 60,000	Between K€ 25,000 and 30,000
% of turnover abroad	Between 30 and 40%	Between 60 and 70%	100%

Table 6.2. *Characteristics of SMEs studied*

6.3.2. *Data collection and analysis*

A semi-structured face-to-face interview was conducted with each of the managers of these SMEs. These three interviews were based on an interview guide

2 SMEs are defined in different ways depending on the country. In this chapter, a broad definition has been adopted, the one that is often used in Canada and the United States, which is any company with less than 500 employees [OCD 14].

3 To ensure anonymity, the SMEs studied have been renamed fictitiously. For the same reason, the figures given in Table 6.2 are just an approximation.

which focused discussions around four main issues: (1) the contextualized perception of major risks faced by the company; (2) a description of risk management practices and processes implemented, including organizational and performance impacts; (3) the role of governance bodies and external stakeholders in relation to this risk management; (4) management of value from the point of view of customer risk. It should be remembered that this research was part of a larger collective project and that the questions the respondents were asked were therefore not intended solely for answering the question asked in this chapter.

The interviews were recorded and fully re-transcribed for analysis. On the one hand, because change cannot be studied outside of its context [MIN 92], it had to be characterized according to the "triggers" of the decision to adopt a risk management system, but also according to the categories of risks perceived by the manager as being of major importance. On the other hand, an open coding, close to the respondent's discourse, was made to trace all the changes or organizational impacts caused by the decision to manage risks. They were then qualified according to what they are about (at the organizational level, i.e. culture, structure, systems, persons; at the strategic level, i.e. vision, positioning, programs, facilities) and, therefore, according to their depth (micro- or macro-change).

6.4. Results and discussion

In this section, the context of the adoption of risk management as well as the types of changes induced are first briefly presented for each of the three cases of SMEs. These results are then synthesized and discussed.

6.4.1. *Decision to adopt a risk management system: contexts and organizational changes induced*

6.4.1.1. *The case of PLASTOC*

PLASTOC is an industrial company specializing in plastics and composite materials, and it works mainly for large accounts and operates under several market segments. This SME is ISO 9001 certified (quality management system standards). As its manager pointed out, the primary objective is "*truly a quality objective*". There is "*no ambitious development objective*", and the company is "*extremely cautious in a market that is considered very difficult*". While the manager spontaneously cited a whole range of risks to be considered (from physical risks to customer risks, fire risks, etc.), the major risk faced by PLASTOC would be, according to him, an "*economic environment risk*" which he described as follows:

> "*What we are sure about, is that in the future, more and more customers to whom we sell a product will request that we withdraw this product at the end of the cycle. [...] It is not something that is immediate but there is a real risk of being technologically outdated, if we are not able in the years to come to develop products that enable us to withdraw and recycle them.*"

For the manager, the introduction of a risk management system in the company is mainly explained by "*the requirement of large customers, which is extremely strong*". He also emphasized that as a listed and ISO 9001-certified company, there are a number of obligations in this area. However, these obligations are not seen as constraints, but rather as guidelines. If he indicates that the current system cannot be perfect or comprehensive (considering that there are always new risks that arise), risk management is presented as "*one of the important elements of the company's strategy*".

This desire to manage risks has had consequences at the organizational level, affecting systems and people.

At the level of *systems*, new tools, procedures and more extensive information and monitoring systems have been introduced. For example:

– In order to follow more closely a certain number of indicators that reflect results on almost a daily basis by production site and by customer, the SME had to use "*a computer tool that is quite developed and very accurate. [...] It is a thermometer*".

– Risk management has increased the requirement level in managerial duties, and this translates into "*permanent quality and compliance controls*". Today, the SME has a system of product traceability which is said to be complete.

– Faced with customer risk (especially its failure), a new procedure aimed at reducing it was set up: "*we have a procedure relating to the opening of customer accounts for new customers, which is quite strict, with inquiries and credit insurer approvals*".

– Technological watch systems have been developed, "*so as to adapt quickly to all the new technologies that would make it possible to use raw materials that facilitate the manufacture of recyclable products, because that is what will really make a difference tomorrow*".

At the level of people, two concrete actions have been identified. On the one hand, new profiles were sought. The SME has recruited external experts in the fields of CSR, quality and recycling. On the other hand, training is offered in different departments to raise the personal's awareness of safety, quality and CSR. However, these trainings, which are known to be "*superficial*", make it difficult to talk of

changes in the behavior of individuals. The fact that risk management remains essentially confined to the finance department and to the board of directors may be one reason for this.

If these organizational changes represent micro-changes, more profound changes at the strategic level have been induced at the same time.

At a level that can be qualified as macro, that of *positions*, the SME has expanded its customer portfolio and has diversified in terms of geography and sector-based activities, in order to reduce the severity level of certain risks. For example, the manager explains: "*Our concern is actually not to be closed in a specific or particular specialty that is too restrictive, but to have a balanced portfolio. Even though it might be more tempting to say one is a hyper-specialist in such a field, it is not our approach. We're trying to be more general*". The manager also made mention of a repositioning in "*markets that are more diversified and more promising*".

Programs may also have been impacted. The manager explained that risk management leads to "arbitration between priorities", and studies on the treatment of risks that are considered critical can shape the orientations and plans. More concretely, this is reflected here particularly through the efforts made in R&D programs focused on environmental considerations.

As for changes at the micro-level of the strategic dimension, that is, *facilities*, they are concerned here with the modernization of factories, which are today "highly robot-supported".

6.4.1.2. *The case of EDILOG*

EDILOG, an SME that sells software solutions for document dematerialization to large companies, has taken up risk management for two main reasons. On the one hand, this decision aims at obtaining the ISO 27000 certification (focusing on information security). On the other hand, the SME had experienced attacks in the past; viruses "*got to places where they should not have reached, so this has obliged us to reconsider our way of doing things*". For the manager, the major risks to which the company is exposed relate mainly to technological risks: hardware and software platform failure; malicious intrusion on servers.

Today, EDILOG has, according to its manager, a global risk management system that is "*not really formalized […] but integrated nevertheless in the running of the company's life*." He even said that he "*has a bit of a head start on everything else*". Spontaneously, he cited two changes to which the implementation of this system has resulted in: the creation of the post of Information Systems Security Manager (ISSM) and security awareness, through training, for all the employees of the company. During the interview, other consequences came up.

In relation to organizational dimension, three levels were affected: structure, systems and people. In terms of depth, it can be noticed here that the changes vary from a concrete level (micro-change) to a more intermediate or even macro level.

At the *structural* level, however, it is difficult to describe macro-change, even though it consists of a stronger structuring of the SME. This is the creation of the post of ISSM. The ISSM "*has a very specific action towards this [risk of malicious activities and intrusion]*". Particularly, his/her role is to educate employees on this subject (direct action at the level of the people).

At the level of the *systems*, the manager explains that there has been a set of procedures and methods put in place, including procedures for detecting possible faults in the system (e.g. "*penetration tests*" are regularly carried out), or the use of specific tools to manage customer risk including late payment.

At the most concrete level, that of *people*, new profiles are recruited; the SME is in search of new skills: "*for example, all the people who run the platform are people who have security skills*". But above all, the manager insists on the educational and training aspect. All the employees ("*even the receptionist*") receive training when they join the company, and then on a regular basis they are made aware of safety issues. As previously mentioned, the ISSM plays a major role here in "*training employees, alerting them on potential risks and what attitude to adopt when faced with an email of doubtful origin*". The respondent stated that risk management "*concerns everybody*" in the company. According to him, safety awareness and the many training courses enable him to share with all the employees the same vision on risks. Therefore, one might wonder whether EDILOG's risk management, as it was introduced, did not ultimately lead to changes in its *organizational culture*.

Finally, with regard to the strategic dimension, only the most concrete level, that of *facilities*, is affected. In order to reduce the risk of shutting down the IT platform, the SME has invested in several platforms located on different geographical sites:

> "*This is the number one risk that this platform stops. We do not have only one, we have three! They are more or less redundant […]. We are never safe from a crashing plane or a natural disaster that could really disrupt our business. [...] We try to reduce them as much as possible, by doubling our capacities, making them redundant and dispersing them geographically.*"

6.4.1.3. *The case of ANTISUC*

ANTISUC, which operates in the pharmaceutical biotechnology sector, is an innovative company that deals with giants. Its turnover is "*growing, but with an erratic growth*", in a business environment deemed to be very buoyant. If its manager recognized that there are a great variety of risks to be considered (risks of reputation, downturn, poaching employees, etc.), the major risks for his company would relate to, according to him, technical risk ("*that is, the product does not have the expected effectiveness*") and the risk of losing a partner (because "*there is only one partner per project*"). He also mentioned the risk of outdated innovation, in other words, that of a "*technology which downgrades ours*" or that of a "*treatment progression which downgrades this type of treatment*".

Risk management has existed in this SME since the company's incorporation, that is, about 10 years ago. It was the will of the founders, because "*all that one does is risky*". Risk is seen from a positive perspective and the respondent even "*finds it difficult to call it risk*", preferring the term "*opportunity*". Initiatives in this area were developed as the company gathered its experience, but also because of its introduction into the stock market. Today, the SME has, according to its manager, a comprehensive risk management system.

Risk management at ANTISUC has led to organizational changes at the most concrete levels, affecting systems and people.

Developments at the level of *systems* can be grouped into two main categories:

– In order to reinforce its technology monitoring practices, which are necessary due to the risk of obsolete innovation, the company has set up "*in-house sessions on technology monitoring, based on the technological developments of our competitors*". According to the manager, this practice is not yet formalized.

– For technical risks, practices and tools have been formalized for information sharing. For example, the manager talks of "*tools like this document, a bi-monthly report where every 15 days, all researchers write down problems that they face, and all that they found as a result. [...] The entire company, as well as all the researchers, have access to this document*". Also, weekly meetings were instituted: "*We hold the first meeting every Monday morning: we go through each project and see what to retain, and also see what the problems are*".

This willingness to share information and the problems encountered has repercussions on *people*. For the manager, everyone is an actor in risk management, and it is a matter of reassuring everyone, encouraging them to verbalize and share. In the end, he stresses that "*it is an issue of education*". Recently, this education required real coaching: "*I brought a philosopher [...] two years ago to talk about uncertainty, which I prefer to the term risk, and how to accept and live with*

uncertainty. [...] We still work with him; he is my coach. With his assistance, I coach my direct team (13 people) on these issues."

Beyond these consequences on the organizational dimension, strategic changes are also attributable to risk management.

At a level that could be classified as macro, that of *positions*, a major consequence relates to the choice of product diversification strategy, aimed at mitigating risk severity level: "*The other answer is to be well diversified, and not to have only one product*."

At the more concrete level of the *programs*, risk management has a direct impact on the strategic choices of the SME as regards the research programs that will be developed. But above all, this leads to "de-risking" each program. In relation to technical risk, for example, this entails the search for "*several solutions for the same product*", which is what the manager calls "*unnecessary work*". This is also taken into account in the contracts with partners:

> "*In relation to our partner, the program proposals integrate some of the unnecessary work that is there to de-risk the project. [...] The second contract that was drawn up with X was even stronger since risk had already occurred a first time; much time was spent on how to protect the contract from to the risks that could occur.*"

6.4.2. *Synthesis and discussion of results*

6.4.2.1. *Types and depth of changes*

Organizational and strategic changes, attributable to the explicit decision to manage risks, were identified in the three cases studied (see Table 6.3).

At the organizational dimension, systems and people have been systematically affected. Information systems (in a broad sense, not just in terms of IT tools) have been developed and/or formalized, new procedures have been introduced, and employees are trained, educated and even coached in order to raise their awareness of risks. These are micro-changes that occur at the most "concrete" levels. The case of EDILOG is the only case where another more "abstract" organizational change has been identified: risk management has led the SME to structure itself; it now has an IT security officer. Moreover, elements seem to suggest that a real risk culture should be disseminated throughout the organization. This could eventually lead to changes in organizational culture. However, as June and Rowley recall [JUN 14], a culture is difficult to change, even to perceive. Moreover, such an organizational change, known be abstract and vast, must be conceived in an interrelationship with

strategic changes [MIN 92, MIN 09]. However, at the strategic dimension, only micro-changes have been made by EDILOG.

	Case of PLASTOC	Case of EDILOG	Case of ANTISUC
Contextual elements			
Risk management triggers	Customer requirements Certif. ISO 9001 Stock exchange listing	Desired ISO 27000 Certification Attacks (virus) witnessed	Founders' will
Major risks perceived by manager	Economic environment	Computer platform failure Malicious intrusion (syst. security info)	Lower product efficiency Loss of partner Obsolete innovation
Organizational changes			
Culture			
Structure		✓	
Systems	✓	✓	✓
People	✓	✓	✓
Strategic changes			
Vision			
Positions	✓		✓
Programs	✓		✓
Facilities	✓	✓	

Table 6.3. *Synthesis of results*

At the strategic dimension, EDILOG is the only case for which only micro-changes have been identified: only facilities have been affected. In the other two cases, more fundamental changes, at a more "abstract" level, occurred: in order to reduce the severity level of certain risks, PLASTOC and ANTISUC opted for diversification (geographical and sector-based for one, products for the other). Although this has been a subject of debate in literature, risk reduction has long been presented as one of the key drivers of diversification strategies [THO 84, BET 85].

In summary, risk management has led the SMEs to transform themselves more deeply at the organizational dimension for EDILOG and at the strategic dimension for PLASTOC and ANTISUC. This gives rise to two lines of thought.

First of all, let us remember that the more the change affects abstract levels, the less it should be isolated or disjointed [MIN 92, MIN 09]. However, if the interdependencies expected within each dimension (organizational vs. strategic) seem to be present here, those between the two dimensions are less obvious to perceive. The fact that the most abstract level has never been "reached" (culture or vision) may be a reason for this. But it may also suggest that the manager has difficulty in perceiving all the changes due to risk management, or that changes have been induced by other decisions made in line with that of risk management. In the case of PLASTOC, for example, risk management is presented as one of the key elements of the company's strategy. Therefore, isolating specific changes from the decision to manage risks explicitly can be a challenging task.

Secondly, a link can be perceived between the most affected dimension and the context in which risk management has occurred. One of the triggers at EDILOG is the fact that this company has already been faced with computer viruses, whereas the reliability of computer systems is one of the key competitive advantages in this sector. As already mentioned, the manager explained that "*this has obliged us to reconsider our way of doing things*". On the other hand, in the other two cases, risk management seems more to be seen from a positive perspective: for PLASTOC, it is not seen as an obligation but as a "*master plan for reflection*", and for ANTISUC, as an "*opening to opportunities*". The following question should therefore be asked: will the transformation of the organizational dimension of SMEs mainly be driven by the reactive approach of risk management, while the strategic dimension is driven more by the proactive approach?

6.4.2.2. *Magnitude of change*

Although relatively "abstract" changes have been induced by risk management in the SMEs studied (at the level of the structure at EDILOG and at the level of the positions at PLASTOC and ANTISUC), it has been observed that none of these companies were engaged in "double-loop" change or learning according to Argyris and Schön [ARG 96]: none have challenged the assumptions or standards that are deeply rooted in the organization. Risk management therefore did not change the logic behind it. This can be explained by the fact that these companies, like the vast majority of SMEs, do not adopt a formal and comprehensive framework such as the ERM, for example, even though they are listed and considered to have an integrated risk management system. If an ERM is adopted, the resulting changes could be greater. According to literature, its adoption would imply that companies must establish a real risk management culture which has to deeply affect existing practices and modify the behavior of managers in their daily decisions [ARE 10].

However, if many of the changes identified in this research are called micro-changes, they can be considered as regular progress [MIN 92], "*where evolution is seen as a gradual phenomenon made of small cumulative changes*" ([SOP 04, p. 32]). Because of their accumulation, they can ultimately be of major importance to the company, facilitating "perpetual revitalization" [MIN 92]. This relative progress can explain the link to the performance or success of the company. Thus, the manager of PLASTOC believes that risk management "*will not increase it [performance] directly, but it can increase it indirectly*", while the manager of EDILOG believes that it mainly affects "*the preservation of business*".

6.5. Conclusion

This chapter has focused on issues relating to the changes induced by the decision to manage risks within SMEs. Interviews with managers of three companies made it possible to identify a set of changes, at both the organizational and the strategic level. On the one hand, the results suggest a link between the context of risk management implementation and the dimension most affected by changes (i.e. organizational or strategic). On the other hand, they draw the induced changes closer to the concept of "regular progress", and the accumulation of micro-changes may eventually play a non-marginal role in the development of the firm.

Beyond the problem of non-generalization often blamed on this type of study, this work presents other limitations which constitute an opening for future research. First, the different types of changes brought about by risk management were not systematically investigated or intensified during the interviews with the managers. If this is justified by the desire to be known in the field without *a priori*, more direct questions would have facilitated a more focused data collection on the subject. Second, this research has not focused on the sequence of changes. Change sequences should be incorporated into future researches in order to understand how progress is gradually built. A final limitation can be mentioned: if the choice of studying only SMEs listed on the stock exchange is justified by the need to have companies with sufficiently advanced reflection on risk management, it must be recognized that the share of listed companies remains marginal when considering SMEs. It would be useful here to consider unlisted SMEs which have introduced a risk management system.

This exploratory research is therefore only a first step towards other empirical studies on SMEs aimed at assimilating risk management and organizational changes.

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7

Product Innovation in SMEs: Risk Identification Capacities

7.1. Introduction

The importance of innovation to ensure the survival and development of SMEs is quite evident, but innovation requires them to commit their resources to uncertain projects whose expected results may not materialize. Ozer (2006, in [BOW 14]) reported that in some industrialized countries, the success rate of product development projects is about 15% compared to less than 2% in developing countries. It is therefore common to find projects that produce disappointing results and thus contribute to reducing the company's value [OLS 11].

Despite the complexity of innovation activities, including the development of new products, SMEs sometimes intuitively and less formally commit themselves, thus limiting their ability to anticipate and identify events or situations that could threaten the project's success [MAR 14]. Managers of SMEs risk identifying and integrating into the project's management only the factors, events or situations they know according to their past experience [KIN 04] and as such neglecting any new situation relative to usual activities. However, it is well known that events that could jeopardize the project's success can occur at any time during its execution and that some of these events could be at least partially predictable and manageable [SMI 02, STP 04].

Integrating structured risk management mechanisms into a process leading to the development of new products could help prevent some of these risks or reduce their adverse consequences by adopting appropriate strategies [HEN 06, MAR 14]. Identifying the risks of a given situation or project enables us to make informed

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decisions regarding resource allocation [BOW 14, VER 13]. On the contrary, anticipating the identification of risks with a certain laxity constitutes a prelude to project failure. In addition to undermining the success of projects, recurring failure may increase uncertainty perceived by managers and thus affect their ability to predict the future state of the environment objectively [COO 07]. Therefore, many projects may never be launched or may be abandoned at the slightest difficulty.

Risk identification is not, however, a simple task especially for SMEs that do not always have the required expertise and resources [BRU 16, HEN 06, FAL 15, MAR 14]. This requires a certain level of organization, a deep understanding of the context and a significant amount of specific information.

The objective of this chapter is to identify the abilities to be developed by SMEs in order to carry out an accurate and relevant identification of the risks inherent in new product development (NPD). To this end, we will first briefly describe risk management and then focus on a few peculiarities of SMEs that could affect their ability to identify these risks. We shall apply this analysis to seven innovative SMEs to identify their shortcomings and help make their innovation activities a success. We will conclude our discussion with the contributions that this exploratory work makes at the theoretical and managerial levels in the field of innovation within SMEs.

7.2. Literature review and development of the analysis framework

7.2.1. *Risk management and SMEs*

Effective risk management involves a number of activities that are sometimes systematized within a risk management process (RMP), which we briefly describe[1].

7.2.1.1. *Risk management process*

Although there is some diversity among authors regarding the number of steps involved in a risk management process, it is generally observed that this involves (1) the identification of the factor that could "trigger" an undesirable situation, called risk factors, (2) the assessment of different risks and establishment of priorities, (3) the planning and implementation of appropriate management strategies and (4) the monitoring and control of risks through various actions [BOW 14, BRU 16, HEN 10]. The process is dynamic and the information on the project's progress must

1 It should be noted that the purpose of this chapter is not to identify the risks associated with the development of new products in SMEs. For a presentation of innovation risks in SMEs, readers can consult St-Pierre and El Fadil [STP 17].

be continually updated to allow for prompt adjustments if risk materialization becomes more likely or new risks are added to those initially identified.

The identification and evaluation stages involve extensive information gathering and require specific expertise that is not always available in SMEs, especially if the project presents a high degree of novelty compared to the usual activities.

In this study, we focus more specifically on the identification step, which, according to several authors, is the most critical step of a risk management process [MAR 14, VER 13].

7.2.1.2. *Risk identification*

According to Smith and Merrit [SMI 02], risk identification is "a process which involves identifying events and their consequences in order to limit or control negative effects on the achievement of the project's expected outcomes" (p. 31). This step aims to transform uncertainty into well-defined and useful information for decision-making [NOO 02]. It requires the meeting of various stakeholders likely to influence the results of the assessed project and who have extensive experience. This team composition and the diversity of actors involved are justified by the fact that risk identification is a subjective process that depends on the perceptions of the observers [KOU 07]. A risk management process assigned to a single person would lead only to monitoring risks that this person can identify on the basis of his or her competence and risk appetite.

Thus, an acceptable risk for a manager is not necessarily the same for another. A risk-averse person will tend to overestimate the degree and significance of risks in a project, whereas someone who is more favorably disposed to risk, such as a dynamic entrepreneur [ORE 04], will tend to undervalue risks by either neglecting different aspects of the project or minimizing their significance. Moreover, as Bertrand and St-Pierre [BER 11] showed in the study of innovation projects within SMEs, individuals identify perceptible risks according to their skills and experiences. Commercial managers identify a project's commercial risks without anticipating economic, technical or even environmental risks. A diverse team will thus increase the knowledge base to identify a wide range of risks while mitigating the influence of individual attitudes [CAB 04, MAG 04]. However, the identification stage is particularly problematic for SMEs, given their limited resources and often reduced experience in assessing new situations.

That being said, do SMEs have the ability to identify risks in a product development process, namely potential sources of difficulties or even failure? The next section explains why the characteristics of some SMEs render them unfit for such an exercise.

7.2.2. *Characteristics of SMEs and their ability to identify risks*

In addition to their great heterogeneity, SMEs have their own characteristics, some of which may affect their ability to identify innovation activity risks. One can note the central role of owner-managers, the configuration of the adopted product development process (PDP) and skills of the team that will be created to execute the project.

7.2.2.1. *The central role of owner-managers*

SMEs distinguish themselves from large companies on the basis of several aspects, the most prominent being the role of their owner-managers and their influence on the organization and development of the firm [NEW 12]. This influence is even more significant in strategic development contexts such as the marketing of new products [BOW 14, HEN 06]. Moreover, it is crucial for risk management because the attitude of owner-managers toward risk is recognized as one of the critical factors in the survival of their business [GIL 04]. Brustbauer [BRU 16] and Smit and Watkins [SMI 12] noted their limited ability to identify all the risks their companies face, in particular due to various aspects related to their management style, networks, decision-making and expertise in innovation.

Event management style (D1). Owner-managers materialize their "own culture" by creating a company that reflects their personality [TOR 05] and in which they develop the management style they will favor in the management of activities and in their strategic projects. There are two management styles. One stipulates that the manager adopts reactive behaviors in view of events. In her effectuation theory, Sarasvathy [SAR 01] verified that some entrepreneurs run their business without planning, using the means available to them to find solutions adapted to the events that occur over time. A second style is based on a logic of rational choices by anticipating and foreseeing probable events [SAR 01]. This causal logic is consistent with a more methodical and organized management style that has often been identified as a key success factor in the NPD literature [COO 13, COO 07], because it facilitates identification of critical risks that could be detrimental to activities.

Networks (D2). According to many authors, the challenge of innovation can only be met collectively and often depends on the company's networks [CEC 12, LAS 12] that are mostly developed by the owner-manager [TOR 05]. These networks provide access to external information, which is essential to reduce uncertainty [CEC 12]. It is also necessary that managers be open to such a practice, which requires the sharing of information without fear of having their ideas stolen. A centralizing behavior, contrary to behaviors aimed at facilitating the reduction of uncertainty, could penalize SMEs by depriving them of information that may be crucial to the success of the NPD.

Decision-making (D3). A collegial decision-making process is essential to the identification of a wide range of risk factors [BRU 16]. This is a finding obtained by Grünbaum and Stenger [GRÜ 13], who observed through multiple case studies of SMEs that a collaborative leadership style had a positive effect on performance (success) in product innovation. Yet, owner-managers are often reluctant to delegate their power over the most strategic aspects of the organization [TOR 05]; they thus reduce the organization's ability to identify relevant risks that have to be monitored and controlled.

Expertise in innovation (D4). The level of knowledge and expertise of managers in product development will shape their reading of the environment, which in turn will influence the decisions and direction given to a project. According to Andersson and Lundborg [AND 07], experts are more likely to be predisposed to organize their knowledge and the information they hold in order to better assess a risk situation. Gilmore *et al*. [GIL 04] also argued that the knowledge and skills of managers help them to deal with risky situations with greater confidence and in a more judicious manner because they are better informed and prepared to respond to unforeseen events. Conversely, a lack of knowledge may lead some managers to take risks blindly for which they are unable to identify the causes and consequences that they might incur or suffer [DES 12, GIL 04].

7.2.2.2. *Functioning of the product development process (PDP)*

According to Porter's [POR 85] value chain model, a competitive advantage in an organization is created through a main process that is supplemented by support activities and relations with key partners including customers and suppliers. As long as the new product development process is driven by the desire to create value, Porter's model can be applied in order to identify elements that may be conducive to risk management.

Configuration of the main process (P1). The PDP can adopt different configurations describing how the R&D, production and marketing stages are carried out. They can be completed *linearly* and in this case they are independent with low feedback potential on the completed stages; or *recursively*, meaning that depending on the results obtained in a given stage, it is possible to go back to make corrections[2] [MCC 06, ROT 94]. This configuration is more demanding than the previous one because it imposes the breakdown of activities and the possibility to backtrack, as well as collaboration between participants. Recursive models help to identify risks at each stage and thus to re-think activities according to constantly updated information. SMEs may also use a third borrowed from cybernetics on the

2 For example, if a change in a product's characteristics is detected during the production stage, the recursive system allows for a return to R&D and the adjustment of subsequent stages, including production, in accordance with market requirements.

basis of the idea that it is not the process that counts but rather the finished product [MAR 03]. According to this chaotic configuration, an SME does not endorse, at least formally, either linear or recursive forms and manages its NPD projects in a more intuitive and improvised way [BER 12][3].

Integration of support activities (P2). Support activities for the NPD main process help to generate key information for managers [BER 12, ER 13]. For example, project costs are measured in control activities while customer expectations and supplier responses are monitored by the commercial service. The PDP should not be isolated from the rest of the organization because it would be deprived of key information essential to the monitoring and management of potentially dangerous situations. Bertrand [BER 12] identified five support activities in a PDP from the accounting, sales-marketing, production, quality management and strategic monitoring functions. Good risk management requires that the information produced in these activities be transmitted quickly and continuously to the project team, which can thus update the critical risks to be monitored.

Integration of customers and suppliers (P3). A final element relating to the functioning of the process concerns the integration of customers and suppliers into the PDP. The literature on key success factors identified collaborations with these two partners as crucial to the success of a new product development project [COO 23, COO 07] given the provision of strategic information during project execution [DAD 13].

7.2.2.3. *Project team*

A third characteristic of SMEs concerns the diversity of skills of the team created to carry out the project. For SMEs initiating innovation projects, too little skill diversity could significantly reduce their ability to identify all relevant risks.

Diversity of skills (E1). SMEs often have a low level of specialization and functional differentiation. However, any innovation process requires a diversity of expertise and knowledge (managerial, technical, commercial and financial) to be successfully completed. A concentration of decision-making powers in a small team of actors whose expertise on certain aspects is more or less homogeneous or insufficient will reduce the ability to identify critical risks. Bertrand and St-Pierre [BER 11] showed a positive relationship between the heterogeneity of the skills and expertise of a product development team and the number as well as diversity of risks identified in an NPD project.

3 The Business Performance Research Laboratory of the SME Research Institute diagnosed the innovation capacity of 137 manufacturing SMEs. Of these, 108 are engaged in NPD activities and 38% do not adopt any formal process.

In summary, the three characteristics described and shared by many SMEs lead us to question their ability to identify the different specific risks of an NPD. For each of these characteristics, we have associated various factors whose absence or lack of control could impede the successful development of new products and thus be considered as potential risk factors. A summary of these characteristics is presented in Table 7.1.

The correlation of the concepts mentioned above with the characteristics of SMEs, innovation and risk identification allows us to state our research question as follows: *do SMEs have the ability to identify the risks related to their new product development projects?*

To answer this question, the next section will deal with the methodological elements that have been mobilized.

Characteristics		**Levers for identification of risks**
Owner-manager		
D1	Event management style	The manager adopts a causal and anticipatory logic toward events in order to reduce uncertainty.
D2	Networks	The manager has an attitude of openness toward the external environment, and the extent and quality of his/her networks provides richer information.
D3	Decision-making	The manager favors collaborative decision-making rather than centralization.
D4	Level of expertise in innovation	The manager's level of expertise in the field of innovation makes it possible to organize information in order to better evaluate a risky situation.
Functioning of the PDP		
P1	Configuration of the main process	The adoption of a recursive rather than linear configuration of the process would promote the identification and management of risks.
P2	Integration of support activities	Support activities provide key information to the NPDT. The information must be fluid and provided at the appropriate time.
P3	Integration of customers and suppliers	The integration of suppliers and customers from the pre-development stage helps to provide key information on possible future difficulties.
Project team		
E1	Diversity of skills	Contrary to a highly homogeneous team, the heterogeneity of expertise and knowledge within an NPDT increases the diversity of risks identified.

Table 7.1. *Summary of characteristics influencing the ability of SMEs to identify risks in new product development*

7.3. Methodology adopted

We opted for Ragin's [RAG 99] comparative qualitative and quantitative approach which aims at taking into account complex phenomena through qualitative case studies while offering a method for processing quantitative data. This is an appropriate approach as it involves a better understanding of how risks are identified in SMEs, where the state of knowledge is relatively limited given the few studies dealing with this subject.

7.3.1. *Identification of sample*

We carried out a purposive sampling to select cases that are representative of the SME population that develop new products [MIL 03]. A first criterion for this type of sampling concerns the importance of ensuring a selection of companies that develop new products on a regular basis with sufficient scale to integrate a product development team. A second criterion relates to the sector where NPD project implementation time is relatively short in order to allow the observation of all the development stages of a new product and be able to interview the key people involved in the process. These criteria led us to focus on companies with 25–500 employees working in the seafood processing industry. Companies in this sector are subject to an important regulation to protect human health and must therefore develop a risk management culture to ensure their sustainability. Through contacts in the field, we were able to select seven companies to carry out our research (see Table 7.2).

	C1	C2	C3	C4	C5	C6	C7
Employees	25	500	200	70	45	70	250
Innovation rate[1]	2	4	≈ 6–8	4	2	6	3
[1] Number of new products developed in the 2-year period preceding the interview.							

Table 7.2. *Some profile information of the SMEs studied*

7.3.2. *Data collection and coding of variables*

Interviews were conducted with the key members of the product development team (two to three people), including "team leaders" because of their central role in the process and, according to Miles and Huberman [MIL 03], their position as key informants. Each interview, conducted on the company's site, lasted from two to three hours and began with general questions about the company and the respondent's profile. In addition to collecting general information, these questions

helped put respondents at ease, build trust and gradually focus their attention on the subject of NPD in their company. Subsequently, mostly open-ended questions were asked. Here are some examples of questions in the interview guide that helped to identify the dimensions and characteristics of Table 7.1 and define the measurement scales.

(D1 and D3) Is the owner of the company interested in NPD projects? Is he or she sometimes involved in decision-making?

(P1, P2 and P3) Can you describe the current product development process (formalized or not) in the company?

(E1) What skills are normally present or involved in your NPD projects? (i.e. tell me about the composition of your NPD team (hereinafter referred to as NPDT))?

Interviews were recorded, transcribed and coded with NVivo software. Codification was done in three dimensions within the framework of our work. For each variable, we sought information that allowed a rating to be assigned to the company in order to know whether or not the identified characteristic is conducive to the identification of risks. These ratings will facilitate comparisons between companies and the identification of common behaviors. However, the diversity of SME behavior and their often unformalized functioning were taken into account by adding an "intermediate" value or rating. For example, to evaluate the collegiality of decision-making regarding NPD (D3), the owner-manager of C2 indicates, "product developments are the responsibility of the General Manager"; that of C7 tells us, "decisions are the owner's responsibility, but the sales staff are highly involved" and that of C6 asserts, "the team is left to determine a project's alignment; it is part of the corporate culture". These three responses resulted in a score of 0.0, 0.5 and 1.0, respectively. The score of 0.0 means that the characteristic offers a low-risk identification capacity, 0.5 is average and 1.0 is favorable.

The appendix at the end of this chapter presents excerpts from the discussions as well as the rating assigned to them. In addition to the interview, which is the main source of data, company documentation, direct field observations and public documents were consulted to supplement the required information.

7.4. Findings and discussion

Analysis of the results is presented under four components in section 7.4.1, one component for each dimension and the last one for the correlation of the capacity of each SME to identify risks with the real successes it has recorded in the past two years in its innovation activities. These results are discussed in section 7.4.2.

7.4.1. *Presentation of results*

7.4.1.1. *The "owner-manager"*

According to the information presented in Table 7.3, the least favorable factor for risk identification by the owner-manager is the decision-making process (D3), which is weakly decentralized in six out of seven cases; decisions remain primarily the responsibility of the main manager in the majority of cases. Furthermore, three cases assert having networks that go beyond close collaborators, while innovation expertise is absent or average in four out of seven cases.

		C1	C2	C3	C4	C5	C6	C7	Total
D1	Event management style: reactive = 0.0; partially proactive = 0.5; proactive = 1.0.	1.0	0.5	1.0	0.0	0.5	1.0	0.5	**4.5**
D2	Extent of networks: low = 0.0; proximal = 0.5; strong = 1.0.	0.5	0.0	1.0	0.5	0.5	1.0	1.0	**5.0**
D3	Decision-making: centralized = 0.0; partially decentralized = 0.5; collaborative = 1.0.	0.0	0.0	0.5	0.5	0.5	1.0	0.5	**3.0**
D4	Expertise in innovation: low = 0.0; average = 0.5; strong = 1.0.	1.0	0.5	1.0	0.5	0.0	1.0	0.5	**4.5**
	Total	**2.5**	**1.0**	**3.5**	**1.5**	**1.5**	**4.0**	**2.5**	

Table 7.3. *Owner-manager*

At the individual level, C3 and C6 show little or no notable weakness, whereas three companies are more vulnerable and have similar deficiencies (C2, C4 and C5).

7.4.1.2. *Functioning of the product development process (PDP)*

As mentioned in section 7.2.2.2, the PDP can be organized and integrated into the company's day-to-day operations. Depending on the configuration adopted, it will enable the smooth flow of strategic information in order to anticipate or reduce the negative effects of the occurrence of risks throughout the project. Data presented in Table 7.4 show that several companies have a main process formalized in NPD (P1 = 4.5). However, the integration of support activities is low (P2 = 3.5), and although this factor is considered one of the three most important factors for successful innovation projects [COO 13, COO 07], collaborations with customers and suppliers remain sporadic in several companies (P3 = 4.0).

Among SMEs that adopt a configuration favorable for the identification of risks, C3 and C6 have a recursive process and a planned integration of customers and suppliers in their search for strategic information. Conversely, C2, C4 and C7 show some weaknesses in both the configuration of their PDP and the integration of support activities as well as the participation of customers and/or suppliers in their innovation activities.

		C1	C2	C3	C4	C5	C6	C7	Total
P1	Configuration of the main process: no process = 0.0; linear process = 0.5; recursive process = 1.0.	1.0	0.0	1.0	0.5	0.5	1.0	0.5	**4.5**
P2	Integration of support processes: low = 0.0; partial = 0.5; strong = 1.0.	0.5	0.0	0.5	0.5	0.5	1.0	0.5	**3.5**
P3	Integration of customers and suppliers: none = 0.0; customers or suppliers = 0.5; customers and suppliers = 1.0.	0.0	0.0	1.0	0.5	1.0	1.0	0.5	**4.0**
	Total	**1.5**	**0.0**	**2.5**	**1.5**	**2.0**	**3.0**	**1.5**	

Table 7.4. *Functioning of the PDP*

7.4.1.3. *Project team*

Data in Table 7.5 show significant differences, where C3 and C6 do not seem to suffer from any deficiency in the diversity of skills desired, unlike C1, C2 and C4. SMEs C5 and C7 show a partial diversity of skills, which did not seem to constitute a shortcoming for the project managers, as will be shown below.

		C1	C2	C3	C4	C5	C6	C7	Total
E1	Diversity of skills: none = 0.0; partial = 0.5; strong = 1.0.	0.0	0.0	1.0	0.0	0.5	1.0	0.5	**3.5**

Table 7.5. *Project team*

7.4.1.4. *Risk identification capacities and success of NPD projects in SMEs*

In order to explore a possible link between the behavior of SMEs with respect to NPD and their ability to complete this process successfully, respondents were asked about their commercial success in the two years preceding the interviews. The measure of success can however be interpreted subjectively because it can take on

different meanings for individuals [DOR 00]. Some authors explain these difficulties by the fact that success is a multi-dimensional, elusive and difficult concept to measure [GRI 96, PAL 06]. For our study, we used the [COZ 00] measurement scale, which assigns a "success" or "failure" rating to a project on the basis of the level of achievement of objectives as follows:

– success: more than 50% of objectives achieved;

– partial success: between 25% and 50% of objectives achieved;

– partial failure: up to 25% of objectives achieved;

– failure: no objective achieved.

Respondents measured the success of their product development efforts using this scale. Table 7.6 shows that companies with the most favorable characteristics, such as C3 and C6, have higher success rates in their NPD than others. C3 mentioned having approximately 25 ideas per year, but only three or four were selected following the preliminary analyses. The preliminary analyses carried out before the start of the development process makes it possible to reject the ideas that would be least promising or most uncertain, thus justifying their 100% success rate. Conversely, C1 reported having launched two new products during this period but that their objectives were only partially achieved. According to the respondents, partial success (50%) is explained by unachieved commercial and financial objectives such as a sales volume and price lower than predicted or cost price higher than estimated. There is a low inclusion of customers and/or suppliers in the PDP, which contributes to reducing their ability to identify commercial and technical risks.

	C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**
Owner-manager	2.5	1.0	3.5	1.5	1.5	4.0	2.5
PDP	1.5	0.0	2.5	1.5	2.0	3.0	1.5
Project team	0.0	0.0	1.0	0.0	0.5	1.0	0.5
Overall rating (max 8)	**4.0**	**1.0**	**7.0**	**3.0**	**4.0**	**8.0**	**4.5**
NPD success rate	**50%**	**0%**	**100%**	**0%**	**50%**	**100%**	**50%**

Table 7.6. *Risk identification capacity and NPD success rate*

Although these results need to be further investigated in order to establish consistent links between the risk identification capacity of the seven SMEs studied and the success of their NPD projects, it is still possible to compare them with previous works. The literature is quite categorical on the fact that the success of NPD is based on open and flexible management, a diversity of information sources

in a structured process and a wide range of knowledge and expertise [COO 07, SMI 12]. Only two companies in our sample seem to have the capacity to develop products successfully, having done so for a long time and with more complex projects than other companies. With time and experience, they have put in place the necessary capacities to reduce the risk of failure of their innovation activities.

7.4.2. *Discussion*

What should we retain from the influence of the characteristics of SMEs and that of their managers on their ability to identify risks in the context of an innovation project? Does the owner-manager, product development process and project team act positively or negatively on this capacity? Following a first exploratory study, no absolute answer was provided to this question and, as such, the analysis carried out on the data of seven SMEs certainly offers a fresh look at this research question and suggests some avenues that appear relevant to us.

7.4.2.1. *The role of owner-managers in risk identification*

The limitations of owner-managers are mainly related to their event management style (D1) and decision-making (D3). It is observed that most managers are rather reactive to events with the aim of controlling the consequences rather than anticipating them. This is consistent with the work of Sarasvathy [SAR 01], which exposes the tendency for low planning of many entrepreneurs who adjust along the way and reason in terms of acceptable losses. Thus, in a risk management context, managers are more likely to manage the impacts of a risk than to anticipate its occurrence in order to prevent it or mitigate its consequences [BRU 16, SAR 01, SMI 12].

With regard to decision-making, it is centralized or partially decentralized in the majority of cases, which is typical of SME managers who value their independence and wish to preserve their power [NEW 12]. In the context of innovation, where not only a wide range of knowledge is desirable to identify all the relevant risks but also a wide variety of viewpoints and behaviors considering that the identified risks relate only to the perceptions of individuals [BRU 16, CEA 06], such behavior is in itself a source of risk and hinders the ability of companies to respond quickly in order to avoid adverse situations.

These few observations suggest that even if owner-managers have extensive networks and sufficient expertise in innovation, the ways they decide and manage these projects are not always conducive to informed risk management.

7.4.2.2. *The role of processes in risk identification*

The PDP configuration plays a coordinating role in integrating information from support activities, which, depending on the SME, will be more or less significant. This is indicated by cases C3 and C6, which have processes that are better organized and less improvised than C2 and C4, the latter not having recorded the expected successes over the two-year period analyzed. These findings are consistent with the work of Cooper and Kleinschmidt [COO 07], for whom PDP formalization is a key success factor in innovation, as well as that of Henschel [HEN 10], who considered planning as vital to risk identification.

Moreover, it is observed that several SMEs seldom, if ever, integrate their suppliers and customers into their NPD process, depriving themselves of crucial strategic information, thereby reducing their ability to exclude projects that will not meet the expected objectives. It is surprising that customers are not systematically integrated during a project's initiation because this is one of the key factors for success in innovation [COO 13, COO 07]. The SMEs who are the furthest behind in this regard are also those in which the owner-manager is often the least networked. The combination of these characteristics does not provide an ideal context for risk identification according to Cooper [COO 13], who observed that the introduction of an optimal quantity of information from the initiation stage is essential. Yet few SMEs seem to adopt this approach.

However, this behavior may be strategic for some SMEs. Indeed, the managers of C1 and C2 indicated that they did not want to introduce discussions with their customers too early in their process for fear of having their ideas disclosed to competitors. In an area where intellectual property protection cannot be considered, early integration of customers into the NPD process becomes a risk factor rather than a success factor, contrary to observations by Cooper [COO 13] and Cooper and Kleinschmidt [COO 07].

7.4.2.3. *The role of the project team in risk identification*

Kouabenan *et al*. [KOU 06] focused on three reactions likely to influence risk identification, depending on whether the individual: (1) sees what he or she wants to see, (2) sees what he or she can see and (3) sees what he or she has learned to see. From this perspective, it is understood that risk appetite will influence the ability of individuals to identify all risks objectively and that their training and expertise may constrain their ability to identify risks they do not know of or have never heard about. These individual behaviors justify that risk management requires collective work carried out by a team. The aim is not to bring together many people but rather to coordinate the work of people with heterogeneous profiles and experiences

in order to allow the most comprehensive identification of the relevant risks and their significance. The collected data show the shortcomings of SMEs, where the NPD team has homogeneous (C1 and C2) or partially homogeneous skills (C4, C5 and C7). Here again, it can be seen that the companies with the highest success rates, C3 and C6, distinguish themselves from the others, having established diversified teams.

7.5. Conclusion

The increasingly intense pressure to present a continuously renewed product to customers in a highly competitive market requires SMEs to increase their success rate in the development of new products and this includes an enhancement of their ability to identify potential sources of failure quickly. Recent literature suggests that risk management should be part of "best practices" or new capacities that SMEs should increasingly master [BRU 16, NAI 14].

Yet, this ability to identify risks may be reduced in SMEs given some of their intrinsic characteristics. Our analysis shows that SMEs managed by a centralizing owner-manager with a small network, where the product development process is poorly structured, with low information flow and a slightly diversified expertise, present very limited capacities to identify possible sources of failure of their innovation activities. A review of the successes recorded by these companies in the two years before their participation in our study reveals that success is significantly higher in companies that have the ability to identify the risks of their activities.

This exploratory study contributes to knowledge on several levels. Theoretically, in addition to helping to better understand the risk management behavior of SMEs, it allows the identification of the reasons behind the high failure rates in product development processes. Rather than dwelling on the sources of these failures, which could possibly be identified with grids or technological tools, we focused on the capabilities of SMEs to effectively implement and deploy a risk management process. This capacity has never been evaluated as we have done in this work. It has more often been studied in terms of the limited resources of SMEs.

Our findings also make substantial contributions at the managerial level. To develop their risk management skills, SMEs and the actors who accompany them need to correct several shortcomings, some of which require changes in behavior. Collecting external information, particularly from business partners, disseminating information within the company, delegating certain decisions, planning activities and resources by anticipating what might go wrong and encouraging team

discussions with members whose expertise and profiles are diversified are all actions to be taken to facilitate risk management, thus contributing to improved performance in innovation. However, we must warn of the danger that this may unduly burden the functioning of SMEs and reduce their flexibility. This flexibility distinguishes them from larger companies and allows them to be agile and quickly adjust to a turbulent environment. In other words, a better ability to detect risks should not be developed to the detriment of the ability of SMEs to seize new lucrative business opportunities quickly.

7.6. Appendix: examples of verbatim and testimonials used to assign scores

	Measure		Testimonials*
Owner-manager			
D1	Innovation management style reactive = 0.0; partially proactive = 0.5; proactive = 1.0.	0.0	C4: It is difficult to predict and we adjust.
		0.5	C5: We anticipate what we are able to anticipate and react to what we have not seen.
		1.0	C1: We engage in nothing without having a good idea of what lies ahead.
D2	Extent of his/her networks low = 0.0; proximity = 0.5; strong = 1.0.	0.0	C2: We are islanders and the province does not provide us with much assistance.
		0.5	C4: I do not consult with customers, but I am close to the department's advisers.
		1.0	C6: I have a very good network of contacts and I quickly know the transactions that are taking place in the market.
D3	Decision-making centralized = 0.0; partially decentralized = 0.5; collaborative = 1.0.	0.0	C2: Product development is my responsibility (the GM).
		0.5	C7: Decisions are the owner's responsibility, but the sales staff is very involved.
		1.0	C6: The team is left to determine a project's alignment; it is part of the corporate culture.

D4	Expertise in innovation
	low = 0.0;
	average = 0;
	strong = 1.0.
		0.0	C5: I do not have any training (in innovation).

		0.5	C2: Innovation is everywhere and I have been interested in it for some years now.
		1.0	C1: We have a formal NPD process in terms of procedure, verification on commercial aspects, and acquisition of critical point validation.
Functioning of the PDP			

P1	Configuration of the main process
	no process = 0.0;
	linear process = 0.5;
	recursive process = 1.0.
		0.0	C2: Our NPD approach is very improvised.

		0.5	C5: We develop so slowly that we do not have to go back. We are always moving forward.
		1.0	C3: We start with an idea, we talk about it and then we make a prototype with four or five people. We try it internally, we correct the prototype and have it tried internally. A score higher than 70% is required to present the prototype externally. Then, we present it to customers and return to the work table until a consensus is reached.

P2	Integration of support processes
	low = 0.0;
	partial = 0.5;
	strong = 1.0.
		0.0	C2: We carry out very little or no monitoring. It is very low. We do not have a budget item for NPD. Nothing is documented.

		0.5	C4: We have a cost price and two manufacturing agents who inform us about what happens in the city.
		1.0	C6: Our activities are integrated into the process. Product characteristics, cost price, marketing, strategic monitoring.
P3	Integration of customers and suppliers none = 0.0; customers or suppliers = 0.5; customers and suppliers = 1.0.	0.0	C2: There is nothing more unfaithful than food chains. They want our ideas. Once they have the product, they will have it done elsewhere.
		0.5	C7: In general, salespeople analyze the market, trends and customer needs. They go to the fairs.
		1.0	C6: Before anything, the salespeople meet the customer with the idea to test the ground. Information is collected on the prices and value of such a product; the potential market or format, weight and presentation. This will allow us to set preliminary objectives.

Project team			

E1	Diversity of skills
	low = 0.0;
	partial = 0.5;
	strong = 1.0.
		0.0	C4: We do not really have a manager or person specialized in NPD.

		0.5	C7: We are producers. When we need specialized staff like a laboratory technician, we often go to the public authority.
		1.0	C6: I have a food engineer, nutrition specialist, production engineer, catering specialist and a team leader. I am a marketing expert and we have a biochemist.

* Because of differences in the terms used and given the space allocated, we have not fully transcribed the statements of the company managers to measure their capacities.

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8

Counterfeiting Risk Management for SMEs and Industrial Subcontracting Activities: A Literature Review

8.1. Introduction

According to the MIDEST report, industrial subcontracting services in France amounted to about 66.8 billion euros (+0.26) in 2014, including companies of all sizes. International subcontracting and relocation enable companies to face intense competition. Companies re-organize their production on a global basis by taking advantage of more competitive differences between countries, particularly in terms of costs. However, these strategies are not free from risks: this is reflected in the relocation of certain productive and commercial activities of SMEs [GAL 11]. Counterfeiting is one of the reasons for the relocation of an economic activity abroad [MER 11]. In China, for example, counterfeiting can "take different forms" [BER 14]. Subcontractors of international brands can resell surplus production on the gray market or also use their production lines and the know-how of their workers to produce products identical to the originals with low quality and less expensive raw materials. As a result, SMEs suffer losses and production outsourced abroad proves to be a failure.

As with foreign exchange risk, for which there are many hedging instruments [ABA 11], government has put in place means for protecting intellectual property against counterfeiting risk. At present, it is obvious that in a number of cases, SMEs continue to encounter counterfeiting risk. On the one hand, intellectual property

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protection instruments are costly [HAN 06, KIT 98], particularly for SMEs with limited financial resources; on the other hand, their effectiveness is sometimes questioned [BAL 03, PAJ 10]. In addition, companies have difficulty controlling their supply chain. Even though technical instruments for product traceability have improved and experts have been traveling around countries to carry out audits and checks on production, many cascade subcontracting cases are to be deplored. Therefore, counterfeiting risk is even more difficult to control. This situation is frequently observed in subcontracting cases in China [ZHA 07]. It should be noted that few studies have been carried out on counterfeiting risk relating to SMEs so far. Academic research has focused on the impact of this phenomenon on large organizations (multi-national firms), and in some particular sectors, including the luxury sector and pharmaceutical industry [DEI 05, MUL 11, YAC 14].

However, the context of SMEs makes the phenomenon under study more significant because the relatively limited resources of these firms [JUL 93] do not facilitate the control of subcontractors and make access to industrial property rights difficult (IPR), with high patent application and expertise costs[1]. In our opinion, these elements partly justify new research on the exploration of practices used by SMEs to mitigate counterfeiting risk. Our research therefore initiates studies on counterfeiting risk prevention and hedging strategies for SMEs that subcontract all or part of their production abroad. The objective here is to identify managerial and organizational practices adapted to the means and constraints of these entities, particularly other than the formal (legislative and technical) mechanisms, which remain costly for many of them.

The purpose of this study is therefore to identify hedging strategies against counterfeiting risks put in place by outsourcers when subcontracting their economic activity abroad. Do outsourcers cover themselves? If need be, do they use formal hedging instruments or do they use other innovative techniques or practices to mitigate this risk and encourage their development?

In order to provide answers to these questions, we have carried out a literature review on industrial subcontracting and its associated risks. The objective of this review is to identify counterfeiting risk factors associated with industrial subcontracting projects. On the basis of studies by El Fadil and St-Pierre [ELF 15], we distinguish endogenous and exogenous risk factors. This literature review enables us to identify, on the one hand, counterfeiting risk factors associated with industrial subcontracting projects and, on the other hand, the different strategies adopted by outsourcers faced with this risk. At the end of this study, we shall propose a “decision tree” that enables us to identify the various options presented to

1 The costs can amount to €3,800 and €4,600 in France, plus the costs of interviews (source: http://www.cnrs.fr/dire/termes_cles/brevet.htm).

SMEs faced with counterfeiting risk during their international subcontracting transactions and we shall make five proposals. Subsequently, this tree could be used within the context of empirical studies in order to verify our proposals.

In conclusion, we shall state what the managerial implications of such conceptual study might be.

8.2. Literature review on industrial subcontracting and counterfeiting risk

It should be noted that very few articles jointly address these two issues, counterfeiting and industrial subcontracting, and that no article in economics or international management deals specifically with counterfeiting risk management by SMEs within the framework of industrial subcontracting. This is why we will use a more extended literature review which covers industrial subcontracting (which we will define) (8.2.1), industrial property rights (IPR) as part of the company's strategy (8.2.2), counterfeiting and counterfeiting risk factors associated with industrial subcontracting (8.3) and, finally, counterfeiting risk-hedging strategy for SMEs (8.4). The purpose is to carry out a conceptual study and elicit proposals, which could later on be verified in empirical studies.

8.2.1. *Industrial subcontracting*

Under Article 1 of the French Law of December 31, 1975, on subcontracting, amended by the Law of December 11, 2001, subcontracting is "a process whereby a contractor entrusts, by means of a subcontract, and under their responsibility, the performance of all or part of a company contract or part of a public contract concluded with the contracting authority to another person known as subcontractor". Subcontracting is a legal concept. It is a contractual relationship between a contractor and a subcontractor who will manufacture the product, perform tasks and or provide services entrusted to it. The subcontractor is not a mere supplier because it manufactures an input specific to the production of the outsourcer, which implies that the relationship between the outsourcer and the subcontractor is more elaborate than that envisaged between supply and demand in a market. Particularly, it enables the outsourcer to closely supervise the subcontractor's production. The subcontractor is obliged to respect the specification drawn up by the outsourcer, specifying compatibility and quality, as well as deadlines and any confidentiality clauses.

For legal experts, subcontracting is divided into two sub-concepts, namely industrial subcontracting and contract subcontracting. Collart *et al*. [COL 02, p. 851] defined contract subcontracting as an instance where "the subcontractor performs a task on behalf of a contracting authority. The contract presupposes the existence of an initial contract and is justified through this contract concluded between the contracting authority and the main contractor". In industrial subcontracting (which is what we are interested in), "the subcontractor works only on behalf of a contractor or manufacturer. The latter relies on a subcontractor solely for the performance, by a third party, of part of the tasks that fall within its area of activity".

It can be considered that there are two types of outsourcing for managers: specialty and capacity subcontracting [TIN 07]. "Specialty subcontracting" is when the outsourcer does not have in-house specific skills to meet growing demand, or to transform its work organization, and that this resource is not provided in standardized form. The outsourcer will therefore have to resort to an external entity that will be able to provide tailor-made solutions. "Capacity subcontracting" occurs when a company buys a good or service it previously produced. Outsourcing is possible because production does not require specific skills and the price of the subcontractor is lower than that of the outsourcer. It is this form of subcontracting which will be the subject of our study, since the subcontractor is based abroad.

During these activities, subcontractors under contract or contract manufacturers, in turn, employ low-cost labor, a minority of skilled employees (for the implementation of assembly machines and their maintenance) and a majority of low-skilled employees for all assembly or handling tasks that cannot be automated [TIN 07]. The rapid increase in contract manufacturers revives the cascade subcontracting move. It is therefore impossible for the outsourcer to visit all production sites, and the latter does not always know who has actually carried out the production or services [DUH 10]. Subcontracting develops very extensive production lines. Outsourcers work with suppliers who also have their own subcontractors. In order to identify the latter, it is necessary to trace right from the production line by following the exchanges of product segments during their processing. This draws attention to the origin of the segments that make up the final product, as it is presented to the end customer. However, the traceability of products is sometimes delicate and counterfeiting risk is high. Hence, our first proposal is:

PROPOSAL 1.– Within the framework of industrial subcontracting abroad, the risk of counterfeiting is high.

8.2.2. *Industrial Property Rights (IPR), strategic assets to be protected*

In order to avoid costly control procedures, subcontracts include a number of clauses aimed at mitigating counterfeiting risk by protecting the company's industrial property. It is a component of intellectual property alongside literary and artistic property. Considered as an intangible asset, it plays a strategic role that the company seeks to enhance and optimize. We henceforth focus on industrial property rights (IPR) governed by the Intellectual Property Code promulgated on January 7, 1992.

Industrial property is defined as "a right which grants and give temporary monopoly over innovation and intellectual creation" [LIO 99]. This definition requires knowledge of the notion of ownership. According to the legal attribute (Article 544 of Civil Code 26), the property is "the right to enjoy and dispose of things in the most absolute way". In other words, industrial property guarantees three levels of exclusive right to the holder–creator of something [ALC 73], namely:

– *Usus*: exclusive right (monopoly) to use the creation;

– *Fructus*: right to enjoy return on investment;

– *Abusus*: right to dispose creation (transfer it, destroy it, etc.).

According to Marino [MAR 13], industrial property is a "special" property that is characterized by:

– the need to claim this right, it is not automatically acquired: application for a patent, registration of a trademark and so on;

– temporality: the period of validity must be renewed on a periodical basis;

– its industrial vocation, which relates to the business and commercial law: it deals only with the industrial design of companies;

– its "corporeal" nature, which constitutes the intangible assets.

Industrial property thus has a strategic value for companies; as a result, its protection is not automatic: it is a tool for the development, growth and competitiveness of SMEs [KIT 98, CRE 05, EPP 13, SIK 14]. In order to understand all the challenges, the resource approach [BAR 91] can be used to explain that IPRs are a comparative advantage to SMEs that they must manage rationally in order to obtain a favorable competitive position in the market.

IPRs are “sources of value creation”: they provide a return on investment on R&D expenditure [COR 07]. They are also “rare”: it is impossible to issue, for example, an IPR title to two identical innovations. They are “a potential source of competitive advantage”, which requires active management to enhance them and protect against copying and counterfeiting so that this resource is “difficult to imitate”. They have all the attributes – the four conditions developed by Barney in 1991 [BAR 91], in complementarity with Wernerfelt’s resources theory [WER 84] – of a strategic asset.

This will later confer a transferable comparative advantage from the outsourcer to the subcontractor. Thus, there exists a risk that subcontractors appropriate those advantages and reproduce them in the absence of the IPRs’ protection. Hence, our second proposal is:

PROPOSAL 2.– Within the context of industrial subcontracting, in order to protect themselves against the risk of counterfeiting, SMEs may hold an IPR on the technology or know-how that they subcontract.

The development of a company depends on not only its ability to adapt to its external environment but also the management of its internal resources. The management of IPRs is a task that involves different functions of the company [BRE 11]. According to Ollivier and Simon [OLL 13], there is an evolution in the management of industrial property within companies, which reflects a certain awareness of its importance: the management process is moving out from R&D department to the legal one and then toward a strategic level. More specifically for SMEs, Lallement [LAL 14] distinguished three key departments that are involved in IPR management: the legal department, technical department and general management. SMEs integrate IPR into their overall strategy in order to take strategic decisions: they are not only tools for enhancing innovations and maintaining a good image in the market, but also tools that are both offensive and defensive to be integrated into their business strategies [LAL 10, SUK 14]. Creating an industrial property portfolio mostly depends on the general approach of the SME, as this is an important investment to be made [KIN 15]. However, managers sometimes face difficulties in choosing the innovation to be protected, the appropriate mode of protection and the procedure to be followed to implement such protection [BRE 11].

However, to date, not much academic work has focused on the management of IPRs within the framework of industrial subcontracting. Several authors [COR 06b, COR 07, LEB 07, HAG 08, LAL 2010, MBO 13] have studied strategies that mobilize IPRs in order to strengthen the competitive advantage of the company, but not specifically within the framework of industrial subcontracting.

These studies have shown that IPRs are strategic assets for SMEs that contribute to the success of their international expansion at different levels. They are both:

– protection tools against the risk of counterfeiting and unfair competition: they maintain the monopoly operation, company's competitive position, mark-off the competitors' freedom and so on [LAL 10];

– differentiation and requirement satisfaction tools of an international clientele [COR 07];

– motivation tools for R&D, which promotes cooperation with other organizations [COH 09];

– value creation tools and sources of competitive advantage [LAL 10];

– tools for strategic monitoring of the company environment: they encourage the collection of information about competitors, customer needs, new markets, counterfeiters' actions [MBO 13].

IPRs go beyond a purely legal and economic framework to become part of the company's strategic framework [DAV 01, COR 06a, SUK 14]. They help improve the company's image by offering opportunities in the international market. Hence, our third proposal is:

PROPOSAL 3.– IPRs are part of the hedging strategy to face the risk of counterfeiting in an industrial subcontracting relationship.

8.3. Counterfeiting and counterfeiting risk factors associated with industrial subcontracting

First, different social sciences disciplines have studied counterfeiting from a perspective that is specific to them (see Table 8.1).

A classification of the studied articles according to the sectors studied can be carried out. Four main classes (see Table 8.2) have been the subject of empirical studies on counterfeiting. However, the study of this phenomenon as a risk for SMEs is relatively marginal. Research work mainly targeted large firms [DEI 05, MUL 11]. They show that multinational firms apply for patents, protect their trademarks and put in place relatively expensive protection strategies. Among the empirical works, Yacoub and Laperche [YAC 14] targeted cosmetic multi-nationals like L'Oréal, Lancôme and Dior to study the extent to which these firms, by adopting an innovation strategy, can limit or delay counterfeiting (through technological advances). Researchers have also generally focused on the

pharmaceutical sector or components of the luxury industry: this is the case of Bekir *et al*. [BEK 09] who studied the extent to which imitation and counterfeiting in the textile sector can yield benefits to businesses by presenting the example of fashion houses. There has been very few studies on the industrial capital goods sector with the exception of studies on counterfeit electronic or electrical components [BAS 02, HUA 13]. This may be due to difficulties in accessing the sector or simply a lack of interest that we intend to address by studying the industrial capital goods sector.

Economy	Marketing	Law	Trade	Strategy
– Totally examine the phenomenon – Counterfeiting development factors and its various impacts	– Analysis of consumers' attitude to counterfeit products	– Compensation to victims of counterfeiting – Assessment of damage	– Examine counterfeiting trade	– Anti-counterfeiting strategies: tools and techniques
[HIG 86, BUS 89, MAY 07]	[BLO 93, CHA 96, MUL 10]	[FON 06]	[GRO 88, CHA 06]	[BUS 89, EEC 09, HUA 13, YAC 13]

Table 8.1. *Example of distribution of articles on counterfeiting by discipline*

Luxury	Pharmaceutical	Automobile	Semiconductor industry
Cosmetics, fashion, etc.	Drugs and stimulants	Auto parts	Electrical parts, integrated circuits, etc.
[MAI 07, BEK 09, MUL 11, YAC 14]	[DEI 05, BEK 09, LEF 11, CHA 13]	[OLS 92]	[BAS 02, PEC 06, HUA 13, WIL 14]

Table 8.2. *Distribution of articles on counterfeiting by industry*

A third categorization can be made with regard to what has been counterfeited:

Trademark	Property	Method
[HIG 86, MON 09, DAN 09, BEK 09]	[OLS 92, BAS 02, PEC 06, BEK 09, LEF 11, HUA 13]	[PEC 06, HUA 13]

Table 8.3. *Distribution of articles on counterfeiting by the nature to what has been counterfeited*

The common thread in these studies lies on their efforts to identify the causes and consequences of counterfeiting. They explain, on the one hand, that due to the existence of an unfulfilled demand in the market (e.g. luxury goods), counterfeiting remedies and satisfies this need (budget constraints of customers). On the other hand, few studies have focused on the consequences of counterfeiting in a B2B relationship, let alone in an international industrial subcontracting agreement, which our research intends to achieve.

Literature on risk or industrial subcontracting has identified a good number of risk factors [ELF 11, ELF 15]. They are classified under endogenous (linked to the internal characteristics of the company) or exogenous (linked to the external environment of the company) risk factors[2]. The risk of counterfeiting stems from exogenous risk factors (there must be a counterfeiter) but it can also be amplified by endogenous risk factors.

Most of the risk factors associated with industrial subcontracting are in fact common to the risk factors encountered by SMEs within the framework of international activities, like export or direct investment abroad. This is the case with factors that make up country risk, namely political instability, economic and financial instability (particularly with changes in exchange rates, interest rates, inflation, etc.), legal instability [MCD 05] and cultural differences. Country risk carried out by rating agencies like COFACE or Heuler Hermès or business barometers such as "Doing Business" identifies these risk factors and measures their occurrence probability. Where reference is made to legal aspects and corruption [LAC 13], the results of the analyses point out that the country has deficiencies in its legal system and failure in the applicability of laws or the existence of informal (corruption) rules that can generate unforeseen expenses for the company [LEV 02]. However, we are not aware of any in-depth study on international management that has focused on isolating and measuring the exogenous factors of counterfeiting risk within the framework of industrial subcontracting.

Concerning the endogenous factors of counterfeiting risk specifically associated with industrial subcontracting, their analysis was once more not subject to any specific publications. However, it is possible to list international endogenous risk factors such as human factors that are manifested through the absence of competent personnel for the management of a business abroad, lack of professional expertise [STP 03], lack of a quality control system [PRA 03] and lack of financial resources

2 Refer to the study by El Fadil and St Pierre on the typology of these various exogenous/ endogenous risk factors [ELF 15].

[JUL 93], which no longer allow the company to visit its subcontractors and/or establish effective communication. All of these elements contribute to increasing the risks of an outsourced activity, thus leading us to the following proposal:

PROPOSAL 4.– Within the framework of international industrial subcontracting, there are endogenous and exogenous factors of counterfeiting risk that SMEs must identify.

8.4. Counterfeiting hedge strategies

Choosing an IPR form of protection is an important decision. This choice depends, to a large extent, not only on the strategic vision of the company, but especially on that of their managers in the case of SMEs. Among these parameters, the following can be noted:

– the financial criteria and available human resources: patenting costs, intellectual property consultancy costs and so on [BER 08, CAN 09];

– the size of the company [BAL 03];

– the industry, its characteristics and market dynamics [BLI 06];

– the geographical scope of the industry, number of innovations to be protected and the different protections for a single product [MIN 08].

Gallié and Legros [GAL 12] distinguished two forms of protection, which they designate as "statutory" and "non-statutory". The first refers to all the tools of intellectual property law. The second includes secrecy, first mover advantage and design complexity. Kitching and Blackburn [KIT 98] considered that there are two types of protection for IPRs: formal or automatic protection, which is acquired through filing for a property title (the case of copyright), and informal protection, which focuses on technological advancement or on the company's internal and external relations, on the basis of a high level of trust with the partners. Patent or trademark registrations are formal and technical protective tools that correspond to the term "technological advancement".

It is a set of technologies and tools that enable companies to identify their innovations. It constitutes an additional assistance for the company in combating counterfeiting and improving industrial property protection. Huang *et al*. [HUA 13] attempted to determine counterfeiting identification and prevention methods used in the semiconductor industry. Eeckhout and Pricaz [EEC 09] provided a detailed presentation of some traceability and marking systems that can be used: at this level,

they have been able to identify electronic means (labels, barcodes, etc.), visible and invisible markers (hologram, inks, etc.) and chemical means (DNA coding, chemical coding, etc.). However, the high cost of these technologies can be a barrier for companies, especially those that do not have sufficient means to obtain them, unlike large firms. Baldwin and Hanel [BAL 03] argued that the size effect plays an important role in decisions whether or not to protect and that the propensity to use IPR increases with the size of the firm. However, Bouju (1991, cited in [HAN 06]), showed that the costs of these tools are the main constraints for SMEs.

Finally, three articles published in scientific journals and a thesis [PAJ 10] examined strategies for protecting the intellectual property of SMEs, without an interest in industrial subcontracting (see Table 8.4).

Authors	Contents
Kitching and Blackburn [KIT 98] carried out four studies on SMEs in the United Kingdom in four sectors: computer science, design, mechanical engineering and electronics.	They show that SMEs that choose to protect their intellectual property use more informal protection methods than legal channels. The reason is that they are cheaper and faster to implement.
Leiponena and Byma [LEI 09] analyzed data collected in two stages (2002 and 2003) for innovative SMEs in Finland operating in different sectors	They show that SMEs use strategies relating to market entry speed and secrecy. Companies that cooperate with other innovation partners tend to use the first method, while those who have limited means opt for secrecy.
Pajak [PAJ 10] carried out an empirical study during 2002–2004 on innovation protection by French companies based on Community Innovation Survey (CIS 4).	The author has demonstrated that SMEs tend to use three strategies to protect their industrial property: secrecy, complexity and technological advancement.
Eppinger and Vladova [EPP 13] studied three SMEs in the pharmaceutical industry that are developing their activities in open innovation.	The authors refer to the theory of social practice and research on IPR management to show how SMEs – despite their limited resources – get a return on investment on their R&D spending.

Table 8.4. *Research on SMEs intellectual property protection strategies*

Applied economics or management research recommends tools and/or strategies to combat counterfeiting: some, in the case of large entities, recommend the

protection of IPR [FON 06] and insist on management commitment to mitigate the risk of counterfeiting [WIL 14]. Others, relating to SMEs, show that there are different strategies for informal protection. At the end of our literature review, we are able to come up with an initial assessment of the forms and practices of the informal protection of SMEs, which can be summarized in Table 8.5.

Innovation	Management	Strategy
Time advantage and speed of innovation. "Open innovation" strategy. Complexity of designs.	Constant communication with personnel. Limitation of access to certain information using keys and software. Strict action against any intentional disclosure of information	Positioning in niche markets. Membership in associations and groups for the fight against counterfeiting. Market entry speed

Table 8.5. *Informal protection strategies used by SMEs (mobilized sources: [KIT 98, LEI 09, PAJ 10, EPP 13])*

Innovation can be seen as a form of protection. The literature review has shown that it is a component of the strategies adopted by companies. Management, which combines information protection techniques with warning, training and communication with personnel, is another. The choice of a niche strategy to satisfy the demand of a customer by offering a tailored-made good or service and thus difficult to replicate, or even adapt for other customers, also makes it possible to limit counterfeiting. Joining a group to fight against counterfeiting is a signal that is sent to potential counterfeiters. However, these different informal protection strategies concern all modes of entry abroad (export, establishment of subsidiary, etc.) and are not specific to industrial subcontracting; therefore, it would be preferable to study specific informal protection strategies that have been established. Our research on industrial subcontracting, a particularly risky activity for SMEs, aims at enriching or validating the various elements that were previously identified. To achieve this, we can thus formulate our fifth proposal:

PROPOSAL 5.– Within the framework of international industrial subcontracting, SMEs may resort to strategies other than the formal protection of IPRs in order to protect themselves against the risk of counterfeiting.

8.5. Conclusion

Some SMEs with limited resources do not protect their industrial property at all or, when they do, they do not use formal protection by adopting protective practices that can be summarized in the following decision tree (see Figure 8.1).

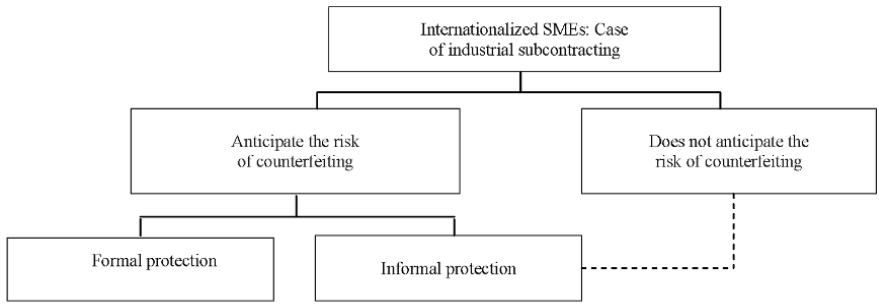
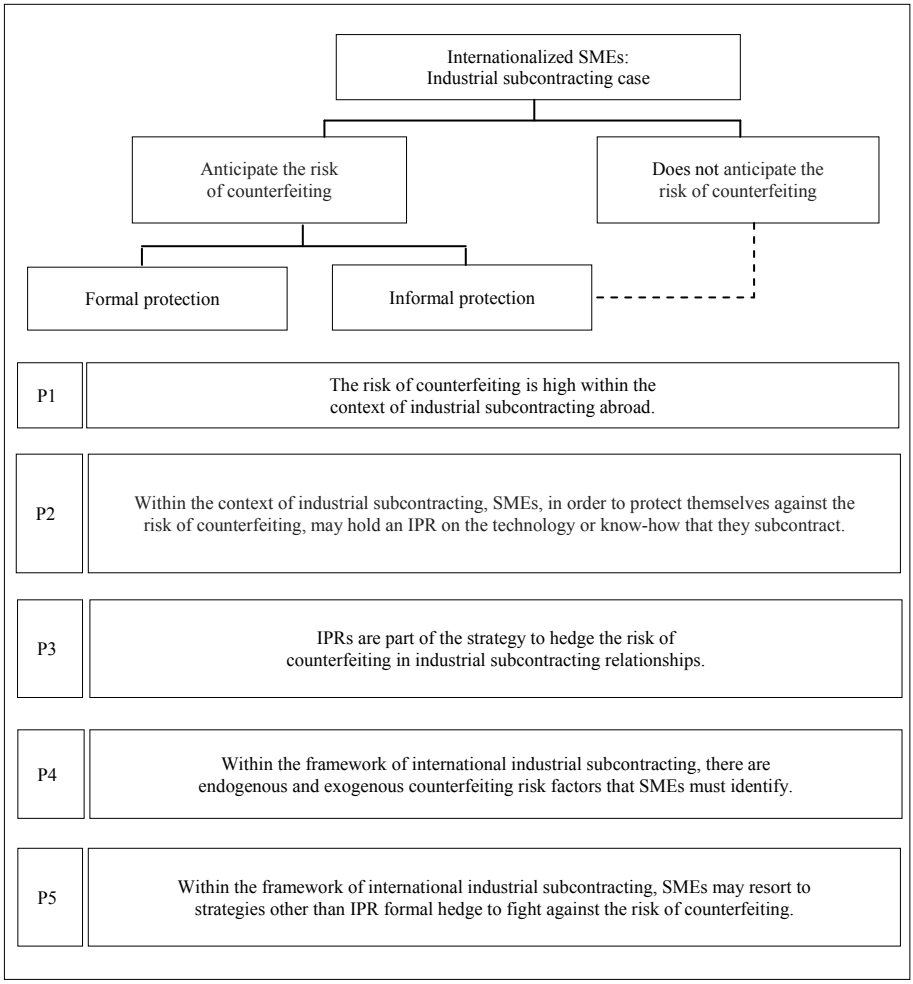


Figure 8.1. *Decision tree for the management of IPRs*

Within the context of industrial subcontracting, anticipating the risk of counterfeiting is fundamental in order to maintain a competitive position in markets for the outsourcer. This requires proper management of an industrial subcontracting relationship, which implies that SMEs decide to either put in place formal protection to protect their IPRs or develop other tools or techniques to implement an informal protection strategy.

The following five proposals, which will later on be assessed in empirical studies, include these elements in Box 8.1.

Thus, our work is a first step toward a research area that links the counterfeiting phenomenon to SMEs. The various hedging instruments identified in the literature concern all modes of entry abroad and they are not specific to industrial subcontracting, which is why it seems appropriate to continue this study using empirical research on the exploration of the practices of outsourcing SMEs faced with counterfeiting risk. The study of hedging strategies adapted to the characteristics of SMEs within the framework of industrial subcontracting is expected to later on make some managerial recommendations, useful to companies. A good knowledge of the exogenous and endogenous counterfeiting risk factors specific to industrial subcontracting could surely guide SMEs in choosing the most appropriate formal or informal protection. Protections specific to industrial subcontracting still need to be identified.



Box 8.1. *Decision tree for the management of IPRs and proposals*

This study provides some avenues for future research in management, which would include an assessment of costs generated by informal strategies in terms of implementation and follow-up. It is a study that could in some ways translate the results of empirical studies into figures in order to convince SMEs of their effectiveness.

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Part 3

Risk Perception and Management by the Manager-Entrepreneur

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

9

Entrepreneurial Risk-taking and the Mentoring of Entrepreneurs: the Danger of Cognitive Biases

9.1. Introduction

9.1.1. *The entrepreneur: a risk taker?*

The concept of risk is inherent to the concept of entrepreneurship. Since the seminal works of the first economists, which focused on the entrepreneur, risk-taking appears to be a remarkable characteristic of such economic agent. For example, according to Cantillon [CAN 55], the entrepreneur is the one who assumes the risks of a business and therefore has the legitimate right to appropriate the profits from it. Cantillon emphasized the fact that an entrepreneur pays or promises to regularly pay a fixed sum of money for the various factors of production or for the goods he/she resells without any certainty with regard to price and the quantity of goods or services that may be sold.

This same idea was put forward by Knight[1] [KNI 21], according to whom uncertainty induces a specialization of functions: people with superior managerial

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1 Knight distinguished risk and uncertainty by asserting that risk is calculable, while uncertainty cannot be calculated. Formally, in decision theory, one talks of risk when the possible results of a decision can be identified and quantified, as well as their occurrence probabilities; we talk of ambiguity when the possible results of a decision can be known, but their occurrence probabilities cannot be known and we talk of uncertainty when neither the possible results nor their occurrence probabilities can be known [HOG 95]. However, in everyday language and in some psychology, sociology and entrepreneurship studies, risk and uncertainty are used interchangeably [DUB 08, PER 01, SLO 04]. In this chapter, we use the terms risk and uncertainty interchangeably as well. Hogarth [HOG 87] held that, from a

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capacity are placed in control of the groups of people who work under their direction. People who trust their judgment and are more willing to take risks ensure a fixed income to other people and therefore assume the risk of the company. Risk control and risk-taking functions are often associated, because the person who ensures a fixed income to another would hardly do so without expecting the power to direct the work of the latter in return. In turn, the latter would find it difficult to accept any direction from the former without having the guarantee of a fixed income in exchange. In Knight's perspective, the entrepreneur is therefore a leader, a manager who directs the work of others, takes responsibility for the results and assumes the risks involved; this actor plays an indisputable role in ensuring and improving the efficiency of economic production.

The classic works of Cantillon [CAN 55] and Knight [KNI 21] greatly influenced the work of some economists who modeled career choices in the labor market on the assumption of less risk aversion for entrepreneurs [KIH 79]. This hypothesis has met with little empirical support in entrepreneurship research [BRO 80, BUS 99, DUB 08, PAL 95] and is still a subject of debate among psychology researchers [MIN 04, STE 01], who argue that individuals' risk aversion varies enormously depending on the measure used and the context as well as the domain of action [HAN 06, WEB 02, WEB 97]. However, no one questions the fact that an entrepreneur must make decisions under uncertainty, in a turbulent and dynamic environment [BAK 03, BAR 98, MIT 07, SHA 00, SHA 91].

9.1.2. *Two types of entrepreneurial risks: the risk of failure and the risk of missing an opportunity*

Over 30 years ago, Dickson and Giglierano [DIC 86] proposed a conceptualization of risk that is specific to the field of entrepreneurship, distinguishing between two types of risk: the risk of failure (sinking-the-boat risk) and the risk of missing an opportunity (missing-the-boat risk). Sinking-the-boat risk corresponds to the risk that the new company does not reach a desired performance threshold. This is a concept equivalent to type II error in statistical reasoning, that is, the probability of accepting a false assumption. The assumption, in the case of a venture creation, is that the venture in question will be a success, that is, it will reach a level of performance that is considered satisfactory. This is the risk of failure.

logical point of view, the environment cannot be more or less uncertain – it is the individual who is more or less certain of the environment. We very much agree with the view that risk and uncertainty largely depend on the observer.

Missing-the-boat risk corresponds to the risk that the window of opportunity identified by the entrepreneur closes before he/she acts due to actions taken by competitors or changes in the market and the environment in general. In this sense, it corresponds to the notion of type I error in statistical reasoning, that is, the probability of rejecting a true assumption. Missing-the-boat risk is however an even broader concept, because it also encompasses the risk that a viable and attractive opportunity is not considered by the entrepreneur.

It should be emphasized that these two types of error and risk are always present and possible in the process of selecting ideas in any innovation process, both at the individual and organizational levels. It is not uncommon to support ideas that are doomed to fail and simply neglect ideas with high potential for success.

In this chapter, we suggest considering these two types of risk in the mentoring and support relationship, because mentors and support structures are confronted daily with the selection of venture creation projects and the decision of the type of support provided to the selected project developers.

9.1.3. *Venture creation support and mentoring*

Mentoring is defined as "venture creation, assistance, based on a relationship that is established over time and is not punctual between an entrepreneur and an individual external to the startup project. Through this relationship, the entrepreneur will engage in multiple learning and will be able to access resources or develop skills that are useful to the realization of his/her project" ([CUZ 04, p. 79]). Thus, learning, access to resources and development of skills summarize the expected results of most mentoring and support activities [MIT 14, SAM 03, STJ 13, VED 13].

However, the use of terms mentoring and support[2] is also described as "irritating for it is a real catch-all" [PAU 09]. How then can we distinguish good support from bad, or a good mentor from a bad one?

2 We use the words "mentoring" and "support" as a translation for the French "accompagnement". Clearly, the translation is unsatisfactory to the extent that "accompagnement" can mean much more than a traditional mentoring relationship. For instance, support structures such as incubators are often included in the term "accompagnement" and so are the Chambers of Commerce and other public and private institutions that provide financial support for start-ups and follow them over time.

The fact is that, currently, the terms “mentoring” and “support” refer to a great diversity of practices and actors, the support structures being themselves very heterogeneous [AAB 09, DUQ 14, HAC 04, MES 13]. It is even likely that, confronted with paradoxical situations, the professionals who are supposed to bring about regulation “participate themselves in the problem, its definition and its maintenance” [NEG 99]. In this context, where there is no shared repository and where practical difficulties accumulate [DUQ 14, NAK 12], it is pertinent to question the possibilities of structures and mentoring relationships drift in terms of decision-making and risk-taking. In a recent chapter, we highlighted three of these possible drifts: withdrawal to the mentor’s expertise, submission to constraints imposed by the support systems and the temporal alteration of the entrepreneurial process [DUB 16].

In this chapter, we specifically explore the role of cognitive heuristics in the mentoring and support process, and in particular their potential effects on the two types of risk described above: the risk of supporting a start-up project that will never see the light of day or end in failure (the risk of sustaining a sinking boat), and the risk of refusing to support a project with high potential (the risk of missing an opportunity or missing a good boat).

9.1.4. *Heuristics and cognitive biases*

In view of the finding in the 1980s revealing that entrepreneurs did not systematically demonstrate a higher risk appetite than that of non-entrepreneurs [BRO 80, SHA 91], several researchers have started examining the effect of cognitive heuristics on risk-taking in entrepreneurship and even suggested that such risk-taking was a matter of perception and point of view [BUS 99]. In this sense, the founding works of Kahneman and Tversky [KAH 84, TVE 74] on heuristics and cognitive biases greatly influenced entrepreneurship research from the 1990s.

In general, cognitive heuristics are defined as mental shortcuts allowing individuals to simplify complex cognitive tasks such as estimating probabilities and predicting values or future events [KAH 82, TVE 74]. Over the past two decades, psychologists have integrated cognitive heuristics into the dual theories of human cognition, which present the human cognitive system as being composed of two major systems: one described as intuitive, automatic, spontaneous and holistic (System 1); the other described as analytical, sequential, requiring attention and effort (System 2). Cognitive heuristics are thus seen as mechanisms of intuitive reasoning, that is, tools of System 1 [KAH 03, KAH 11, STA 00].

The list of cognitive heuristics established by psychologists is quite lengthy [HOG 87], and several researchers have put forward some of them to suggest a positive effect on risk-taking and the decision to start a new venture. Overall, the literature on the subject suggests that the use of cognitive heuristics can have notn only beneficial consequences but also several disadvantages, for the entrepreneurial process. On the one hand, the use of cognitive heuristics would enable rapid and efficient decision-making by entrepreneurs who are often confronted with a dynamic and turbulent environment [BAR 98, BUS 97, BUS 99]. On the other hand, cognitive heuristics can also bias decision-making, risk perception and even learning, generating inconsistent choices and making it difficult to develop entrepreneurial expertise [CAS 09, DUB 08, KAH 11, KAH 96]. Most studies, however, focused on either cognitive biases of entrepreneurs [BAR 98, SHE 15] or cognitive biases of investors [BIA 09, ZAC 00], largely neglect the potential effect of cognitive biases in the mentoring relationship.

9.2. Methodology

In order to examine the use and potential effects of cognitive biases in the mentoring activity, we adopted an abductive approach rooted in the pragmatism of Charles S. Peirce. In this approach, abduction consists essentially of developing conjectures or hypotheses from a general rule (theory) and an empirical observation (consequence), the aim being to put forward hypotheses explaining the observed phenomena [DAV 02, PEI 72]. The main theoretical elements that we mobilize in this approach come from cognitive psychology, particularly from studies on heuristics and cognitive biases. The empirical observations that we mobilize are based on real cases followed by one of the authors, during more than 30 years of experience as a venture creator, mentor, founder and president of the Airelle network as well as the European Institute for Rural Entrepreneurship (since their creation in the 1970s until now), administrator of the Boutiques de Gestion network (from 1986 to 2004) and president of Synergies Créateurs. These empirical cases were analyzed by the two co-authors in the light of the theoretical framework previously discussed.

In order to simplify the text, we do not formalize any hypothesis. Instead, we limit ourselves to demonstrating how the use of cognitive heuristics can have a significant effect on the decision to support or not support a start-up project and even in the definition of the degree of support granted. To this end, we selected cases that seemed to us most demonstrative of the perverse effects of the use of certain cognitive heuristics in entrepreneurial mentoring. We present them in a

stylized way in boxes, such as the mini-cases in the dissertation of Christian Bruyat [BRU 93]. These are real facts that we witnessed, but we have removed the details in order to preserve only the demonstrative point of each situation. This approach is in line with the "narrative approach" in entrepreneurship research [GAR 07, GAR 13].

9.3. Cognitive biases in action in the mentoring and support of entrepreneurs

For practical reasons, we focus here on some cognitive biases that are frequently studied in the literature and which are likely to have significant effects in the entrepreneurial mentoring process.

9.3.1. *The phenomenon of substitution, the heuristics of representativeness and the law of small numbers*

Kahneman [KAH 11] asserted that one of the most common cognitive phenomena is what he calls "substitution": in the absence of an answer to a difficult question, our cognitive system replaces the difficult question with another one whose answer is known to us.

No room for two hairdressers.

Assistance for creation is most often decided in the course of commissions involving mentors and funders representatives. In one of these commissions, one of the participating co-authors personally heard one mentor declaring that the project of an entrepreneur willing to open a hairdressing salon had to be rejected because it was too risky and doomed to fail. The reason he gave was that he knew the street well, there was already a hairdresser in this street and there is therefore no room for two hairdressers.

Box 9.1. *The phenomenon of substitution illustrated*

The mentor and decision maker described in Box 9.1 replaced a difficult question ("how can the degree of risk of the project under consideration be assessed?") by another one for which he knew the answer ("are there any direct competitors in the same geographical area?"). According to Kahneman [KAH 03, KAH 11], this phenomenon of substitution takes place without the individual realizing it, and without noticing that he/she sometimes makes important decisions on the basis of a questionable heuristic.

In the example in Box 9.1, the advisor refused funding to an entrepreneur who had been mentored by another advisor under the pretext that he knew the area better.

The phenomenon of substitution is at the origin of several cognitive heuristics, two of which are very often at work in entrepreneurship. The first, known as representativeness, consists of replacing something complex by one of its simplest aspects, supposed to represent the whole [TVE 74]. Thus, for the advisor in Box 9.1, the existence of another hairdresser in the same street represents the entire competitive environment and market potential of the project under consideration. The second heuristic, also arising from a substitution process, is known as law of small numbers and consists in generalizing a conclusion from a small number of observations [TVE 71]. The advisor in Box 9.1 concludes that the hairdressing salon project is not viable from the sole observation of the existence of another hairdresser on the same street.

No possibility of paying two partners in a grocery store.

Pascal R. has a commercial background and worked at Mr Bricolage. He holds a degree in economics and, alongside another degree holder employee, has a project to open a grocery store of local products, fruits and vegetables in a small tourist town with a population of 1,700 inhabitants. He has already toured all the producers in the region and therefore has many references. He has been mentored from the beginning by one of the accredited bodies in the Region. Consequently, a complete project, including a balanced forecast, is presented to the commitment committee to enable him obtain an assisted loan.

The committee is made up of representatives of the various support bodies. The members do not question the project but they do not agree with the forecast that includes the remuneration for the two partners. They therefore end up rejecting such project.

Pascal and his partner have nevertheless opened their grocery store by mobilizing other funding sources. They pay themselves as planned and are even obliged to call in additional labor during the season.

Box 9.2. *Representativeness in support decisions*

Box 9.2 presents a variation of the substitution phenomenon and properly illustrates the functioning of the heuristic known as representativeness. The usual representation of a small grocery store in rural areas, with all the difficulties that may be encountered, is replaced here by a project that was actually innovative (a grocery store distributing quality local products, requiring a permanent relationship with producers, in a touristic environment). The idea of a small grocery store in a rural area, which is struggling to get by, does not provide a representative image of the project's potential. On the contrary, the members of the commitment committee

do not see why a small grocery store would need more than one partner or how the low income of this kind of grocery could pay two partners. Here, substitution phenomena, representativeness and law of small numbers contribute to the rejection of the local product grocery project, increasing the missing-the-boat risk, that is, the risk of not supporting a project that could possibly prove to be of high potential (after all, several aspects of the project, the entrepreneurs' background and the environment, were not taken into account in the commission's judgment). In other cases, however, these same heuristics can contribute to the acceptance of a risky project.

These heuristics have several advantages, in particular that of enabling fast decision-making in view of a complex situation. Indeed, having limited time to make a judgment significantly increases the use of heuristics and cognitive biases [KAH 11, HOG 87]. Mentors and support gate keepers, as well as entrepreneurs, have relatively little time to make decisions, particularly due to the number of projects handled. If the complex and turbulent environment faced by entrepreneurs leads them to use more cognitive heuristics [BAR 98], the mentors' environment, equally complex [DUQ 14], naturally leads them to adopt such shortcuts. However, these heuristics also have disadvantages and can have undesirable consequences, such as rejecting a project with high potential or accepting a project that is doomed to fail.

9.3.2. *Overconfidence, confirmatory bias and planning fallacy*

Many entrepreneurs are just too confident about themselves and about the success of their businesses. In a study of 2,994 entrepreneurs, Cooper *et al*. [COO 88] found that one-third of respondents felt that their business success probability was 100%. Four in five interviewees estimated a success probability of 70% or more. The authors note the unrealistic nature of these estimates, with regard to the fact that typically about 50% of new companies disappear after 5 years. The overoptimism of entrepreneurs seems to be explained in part through overconfidence [BUS 99, BUS 97].

Overconfidence corresponds to the tendency to overestimate the reliability and accuracy of an initial estimate, beyond what the available information justifies [BAZ 94, BUS 97, FOR 05]. In fact, several heuristics seem to be related to the phenomenon of overconfidence, in particular the search for information that is consistent with the estimate or desired hypothesis (confirmatory bias) and the generalization of a conclusion obtained from a small sample (law of small numbers). The story summarized in Box 9.3 illustrates these phenomena at work in an accompanying relationship.

Rugby Aquitain network.

Three very active friends in the Rugby Aquitain network, including an accountant, a computer specialist and a company manager, designed an integrated management software for company managers, including an accounting software and various recording and analysis tools. They intended to disseminate it first through their network.

They claimed that they did not have the time to carry out the market research procedures recommended by the organization to which they were initially directed. Thinking they could exempt themselves from this approach, they then turned to an advisor of the chamber of commerce, partner of the local rugby club, who used a software-generated business plan to help them to quickly set it up. The advisor was confident about the project, which comforted the three friends in their approach not to expose themselves outside the already established network. He prepared their funding proposal and forwarded it to a partner bank, which accepted to fund the project.

The LLC created for this purpose lasted 6 months and ended in liquidation with insufficient assets by the commercial court.

Box 9.3. *Overconfidence and confirmatory bias in an accompanying relationship*

The story in Box 9.3 shows how overconfidence in a project can be reinforced by an advisor who accelerates the start-up process without encouraging the project creators to leave their comfort zone. Indeed, the search for information that is exclusively favorable to the project, often within an established network, contributes to increasing confidence in the project without confronting it to the more realistic perceptions of a wider market. Confirmatory bias and overconfidence are self-reinforcing. Moreover, the generalization of the conclusions drawn from a small sample (law of small numbers) contributes to increasingly bias perceptions and the adopted approach.

A final very common bias in this case is known as planning fallacy. Planning fallacy is the phenomenon that takes place when the time (and even the budget) necessary for the conclusion of a project is underestimated, in particular because of the adoption of an internal view focused on the specificities of the plan under consideration and neglecting both potential obstacles and the knowledge available on other comparable projects [BUE 10, CAS 10, KAH 11, KAH 93]. Obviously, the entrepreneurs and the advisor in Box 9.3 underestimated the resources required to carry out the project in question and overestimated the speed with which they would be able to reach the profitability threshold. Unfortunately, this is a common mistake,

largely due to a lack of an external view of the project, which would make it possible to compare it with other similar initiatives. When this external view is not provided by the mentor, it can be very difficult to avoid the trap of these cognitive biases.

9.3.3. *Availability*

Availability is the cognitive heuristic used when individuals estimate the frequency or probability of occurrence of an event by the ease with which this type of event can be brought back to consciousness [HOG 87, TVE 74]. For example, we can assess the likelihood of bankruptcy of a company by imagining the various difficulties that such a company may encounter. Because the most frequent difficulties are generally more accessible to our cognitive system than the less frequent difficulties, availability can be very useful for someone who wants to intuitively and quickly estimate the likelihood of bankruptcy of the company under consideration. However, availability is affected by many other factors in addition to frequency. In our example, the likelihood of bankruptcy estimated by the individual can be influenced by various factors that facilitate access to certain events in memory, or which stimulate imagination and corroborate illusory or imperfect correlations: for example, the individual's familiarity with the type of company in question, the fact that a similar company has recently gone bankrupt, the individual's assessment of the current economic environment and so on. Thus, judgments based on the ease with which the information is retrieved in our cognitive system, that is, judgments strongly based on availability, are often very biased [TVE 74].

Availability can also affect individual perceptions, including risk perception, because the ease with which individuals imagine or recall the potential outcomes of a decision can determine the perceived risk associated with such decision. A particularly significant implication of this heuristic is that the simple discussion of a very unlikely catastrophic event can increase its weight in memory and imagination, which also increases its perceived risk, regardless of empirical evidence [SLO 82].

Thus, availability can be seen as another case of substitution, in which a difficult question ("what risk should be attributed to this company?") is replaced by an easier one to answer ("have we already seen similar companies succeed?"). Obviously, this heuristic can also bias support decisions, as clearly illustrated by the story in Box 9.4.

A journalist passionate about ironwork.

Hélène D., 45 years old, was a journalist at "La Marseillaise" for many years before moving downtown. Passionate about ironwork – a hobby that she carried out during her leisure time – she decided to train herself and set up her personal business. She sought an assisted loan for her investment in vehicles, equipment and tools. "A 45-year-old woman who engages in ironwork, there are too many risks," observed the advisors who were members of the award committee, which refused the requested loan.

Hélène obtained some financing from her family and friends and set up her own business with second-hand equipment. After 1 year, she had a backlog of orders accounting for nearly 6 months of turnover in advance.

Box 9.4. *Availability and missing-the-boat risk in a support decision*

The story in Box 9.4 shows how availability can contribute to increasing the missing-the-boat risk in a support decision. The award committee that refuses to grant Hélène the loan finds it difficult to imagine a 45-year-old woman who engages in ironwork. Examples of ironworkers who have survived and that mentors can remember are all men. The loan is therefore refused and the award committee indeed misses an excellent opportunity.

This is just one example among numerous other effects of cognitive biases, notably availability and representation as well as substitution biases. There are still far too many projects which women will have difficulty promoting because of the mental representations that advisors and decision makers have of entrepreneur–project associations that may or may not work. This is particularly observed with regard to female entrepreneurship.

Many specialized structures have been developed in France with the goal of supporting women's creations, and campaigns to build awareness of women entrepreneurship are regularly implemented. We cannot overlook their effects, but there is still a lack of confrontation of opinions. Mentors and support structures do not seem to be sensitized on the cognitive biases previously cited. These findings are particularly significant when the support decisions and mentoring are made by men, but many instances encountered show that women mentors are not immune to these biases either.

Regarding the effects of availability, it should be emphasized that they can increase the missing-the-boat risk and the risk of supporting a project that will sink. When the judgments made on a start-up project are based on the ease with which similar projects, events or facts are retrieved in memory, these judgments will be biased by the intensity of memories. A project in the digital field was considered much more risky just after the explosion of the Internet bubble in 2001 than today, and a young male ironworker would likely not scare mentors as much as a 45-year-old woman, despite his lack of experience.

9.4. Understanding cognitive biases from a risk management perspective

The cognitive biases presented in the previous section are among the most common and potentially the most dangerous in venture creation. However, our aim is to make neither a hierarchy of biases nor an exhaustive list. It is mainly about understanding them from a risk management perspective, in order to recognize the heuristics used and to put in place measures that can help mentors and entrepreneurs to better test their conjectures and minimize the major biases.

Hogarth [HOG 87] suggested two types of defense against cognitive biases: one is attitudinal and the other is technical (through the use of decision-making assistance tools). In another study, we adapted these defenses to the context of mentoring and support activities and also suggested a defense at the institutional level [DUB 16]. However, we addressed three main types of potential drifts, in a broader context than that of cognitive biases. Here, we have developed a risk management approach, with the specific goal of minimizing and counteracting cognitive biases in the context of mentoring and supporting nascent entrepreneurs.

9.4.1. *Training of mentors*

One of the main sources of bias that we have observed concerns the understanding of the concept of risk by mentors. The latter are hardly ever aware of the logic of entrepreneurs[3] and therefore manage risk just like households, for which risk is a danger that calls for protection and not as a parameter to be mastered in order to advance and succeed. The fear of failure will often take precedence over the risk of success and often lead mentors and advisors to discourage a start-up project, whereas an objective evaluation would not make it a riskier project than another.

3 Mentors are often waged employees. In addition, very often they are either recent graduates or were already previously employed [DUQ 14].

Who wants to take the risk?

Julia S., a former model with Christian Lacroix and then ambassador of J.P. Gaultier, subsequently settled in the province with her partner. She painted and even sold some canvases, but that was not enough to live on. She then decided to go into the creation of luminaires, in single parts or in small series. Mentored initially in a local support structure, she was encouraged and obtained commitment from several shops to accept the deposit of her creations. The bankers she contacted were initially favorable to the project.

She was then redirected to the France Active network for the funding of her project. The mentors of this network conditioned the guarantee of the requested loan at € 10,000 to obtain written commitments from the retailers, but such retailers were not willing to commit themselves in writing. The project was therefore deferred.

Box 9.5. *When the fear of failure increases the missing-the-boat risk in a support relationship*

In the story in Box 9.5, two mentorships are in opposition: one is encouraging, but does not have the keys to provide funding, and the other is blocking the project through the funding conditions. The fear of failure here is clearly on the side of the support structure in view of its own risk. In the case described, this fear leads the advisors of France Active network to condition a loan to obtain written commitments from retailers who are Julia's future partners and customers. This is a way of shifting the risk to these retailers. Yet, they are not ready to take it ... after all, support for new venture creation projects should be the fundamental purpose of support networks.

It should be emphasized that, although mentors sometimes tend to adopt an "expert"[4], attitude, the fact is that no "risk expertise" can claim to hold the truth about the future. Moreover, trying to avoid the risk of failure at all costs will inevitably result in an increased risk of missing good opportunities, as Dickson and Giglierano [DIC 86] showed. With regard to entrepreneurial support, this can lead to a drift from its essential mission, which involves supporting viable projects.

Consequently, mentalities should evolve and mentors should think more as investors (and not as households). In order to do so, it is essential to address shortcomings concerning the training of mentors, in particular with regard to the understanding of risk. A better training in entrepreneurship and taking into account the missing-the-boat risk concept could contribute considerably toward improving the decisions and quality of entrepreneurial support and mentoring.

4 We questioned this attitude in a previous work [DUB 16].

Diploma-based trainings in entrepreneurship are certainly valuable. However, specialized or not, the "mentoring and support" part remains most of the time the poor part of these training courses, when it is not totally absent. An overly persistent focus on business plan development has doubtlessly gradually moved mentoring away from its initial objective. The term "accompagnement" connected to venture creation was not coincidentally developed in the late 1970s: it sought to identify this new profession with the professional, social and health practices widely described under this term [DUQ 09]. In a changing world, it was a matter of helping people to make their own way, "to gain self-understanding and make the decision ... to use their resources in a more creative or daring way in order to develop new skills or attitudes to meet their challenges" [NEG 99]. Mentoring and supporting therefore involves specific professional skills that should not be improvised.

For many reasons, long training courses are difficult to implement. Some short-term training courses such as the MIME© method experience as an entrepreneurial risk management course conducted for more than 3 days with an audience of both entrepreneurs and mentors[5] seem to constitute an avenue for further exploration. In the absence of dedicated curricula, the integration of mentors within training courses for nascent entrepreneurs already enables a good approach to the profession.

9.4.2. *Shared mentorship*

Mentoring is generally practiced over time with the same advisor: a single opinion on the risks and decisions to be made and an increased possibility of introducing a drift due to the advisor's cognitive biases. Another approach, which could be formalized at the institutional level, is to confront the project developers with mentors working in different spheres, and particularly company managers. The multiplication of opinions helps to reduce the effects of cognitive biases and to strengthen the nascent entrepreneur's ability to make decisions regarding his/her project and risk-taking.

It is notably on this observation that the Réseau Entreprendre system was built and developed. The multiplication of opinions and interlocutors in order to provide shared mentorship is also implemented by several incubators. Initiatives in this direction, however, remain limited and often reserved "for entrepreneurs who are true creators of employment and wealth" or for "sufficiently innovative" projects. Unfortunately, this high degree of selectivity of certain support structures introduces two sources of drift in the panorama of entrepreneurial support and mentoring. On the one hand, the cognitive biases that we have examined can completely bias the process of project selection in these structures. The reliability of these selection

5 Experiment conducted by Airelle network notably in Limousin, Charente and Aquitaine.

processes is therefore questionable, but because there is a high degree of selectivity, the selected projects benefit from legitimacy and an enhanced image, irrespective of their intrinsic value. On the other hand, if it is assumed that the selection processes are reliable, the outcome at the macro level is that the best projects (including those which may not really need to be supported) will benefit from the best support, whereas the weaker projects having greater need to be supported and mentored will not benefit from such support and will remain the most susceptible to the perverse effects of cognitive biases.

Several recent research studies call into question the use of public funds for assistance to venture creation [ACS 16, LAF 17]. Our study suggests that the inefficiency of assistance to venture creation at the macro level can be explained, at least in part, by cognitive biases at the micro level. In this sense, if we must defend support structures, then we must defend shared mentorship for all.

9.4.3. *Going beyond the business plan*

Very often, the support mechanisms lead to the presentation of a business plan, whose "financial forecast" part remains to date one of the main elements of evaluation to judge projects.

The evolution of reflection on this subject has brought to light many tools for the development and use of the business plan. Through the debates of researchers, such as those, for example, opposing causation and effectuation, we suggest, first, that mentors and entrepreneurs confront several of these tools in their entrepreneurial path together. This technical defense will enable to not only measure the consistency of their approach but also step back and reflect upon this approach.

However, and without denying the importance of this assessment tool, recent research on entrepreneurship with a real concern on further develop practices has led to a review of not only the presentation of the business plan and the nomenclatures that it contains but also the orientations of the support process. Chapters highlighting new approaches, such as the concept of design thinking or learn start-up, have widely multiplied, but the impact on professional practices is still very limited. In spite of repeated intentional declarations within the teacher–researcher circles, it is becoming essential to create real bridges with the professional environment.

Regarding the reduction of the perverse effects of cognitive biases, it is important to go beyond the business plan for several reasons. First, because the development of a business plan can reinforce these biases in cases where, for example, entrepreneurs and mentors do not confront their points of view with other

actors and fuel an exaggerated optimism, such as in the story in Box 9.3.[6] Second, a business plan has a linear and relatively long structure, which sometimes makes it difficult to see an overall picture (even if that should be its purpose). The result is that its totality is often judged from one of its parts (notably the financial forecasts, as seen in the story in Box 9.2) or the balance between its parts [MAC 87], being therefore very susceptible to substitution bias and representativeness. Finally, if the confrontation of several different tools can help reduce the effects of cognitive biases, then going beyond the business plan can also help develop more rapidly in a learn start-up approach for example [BLA 13], in which the use of a "business model canvas" [OST 10] is much more practical and faster to represent and track the development of the project. These new tools and approaches help build a technical defense against the effects of cognitive biases in that they advocate confrontation of viewpoints as well as help clarify perceptions in a very concrete and visual way (often on a single sheet of A3 paper).

9.5. Conclusion

In this chapter we explored the presence of cognitive biases in the entrepreneurial support and mentoring relationship, with perverse effects in terms of the increase of two types of entrepreneurial risk: (1) the risk of supporting a project doomed to fail and (2) the risk of missing a good opportunity by refusing to support a project with high potential. By adopting an abductive and pragmatic approach, we have illustrated our points using real cases and observations gathered over several decades of experience in support networks in France. We have interpreted these empirical elements in the light of theories originating from cognitive psychology and entrepreneurship research. Finally, we suggested that cognitive bias should be understood from a risk management perspective and that, for this to be accomplished, work must be done on the training of mentors, shared mentorship and the use of tools and approaches that go well beyond the business plan. We hope that these reflections will give rise to new reflections and, above all, new practices in terms of supporting and mentoring new venture creation.

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6 See also Cassar [CAS 10] on this topic.

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10

From Necessity to Vulnerable Entrepreneur

10.1. Introduction

Entrepreneurship is a process of economic and social reintegration, which is increasingly promoted and monitored. In response to economic crises, governments encourage entrepreneurship, in all its forms, as a tool for reducing unemployment and reintegrating excluded people into the job market. In France, several mechanisms like the economic initiative law of August 2003 or the auto-entrepreneur system of 2008 aim at making entrepreneurship accessible to as many people as possible. In the literature, we talk of entrepreneurs by necessity to describe "any person who does not perceive any suitable employment alternative other than creating a company" [COW 03]. On the basis of the annual reports of the Global Entrepreneurship Monitoring (GEM) consortium, they are 18% in France, an increase of 3% compared to 2015 [TES 14].

Analysts are critical of the relevance of measures encouraging a return to employment of people in precarious situations through entrepreneurship [LEV 09, FAY 12]. They would operate more as instruments for promoting precarious situations instead of being a bridge toward the creation of a company. These mechanisms are aimed at inviting every individual in a precarious situation to take their responsibilities and destiny in hand. It is the individual who has to sell his/her work, find funding, canvas for clients and mobilize his/her address book to create their job [ABD 14]. Once they become entrepreneurs, these individuals have an income level, which is their exclusive responsibility, and find themselves in a

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vulnerable situation (uncertain income, no unemployment insurance, etc.). This vulnerability is reinforced by the lack of resources available to manage this new socio-professional situation [ABD 14]. The failure rate remains high, and failures can, in contrast to the system's objectives, promote precarious situations: loss of confidence in one's professional capacities, indebtedness, disconnection from the social network and so on.

It is therefore a big challenge for necessity entrepreneurs, and personalized social support is necessary to start a business [FAY 12]. However, the design of such mechanisms requires returning to the definition of necessity entrepreneur and its specificities. Can the poor ability to manage risks be a better definition of necessity entrepreneur than their low motivation to start a business venture? This is the question we want to address in this chapter.

10.2. A different way of perceiving necessity entrepreneurs

10.2.1. *From the necessity entrepreneur to be motivated ...*

In the literature, the term "entrepreneur by necessity" describes "any person who does not perceive any suitable employment alternative other than creating a company" [COW 03]. Even though some authors refer to constrained entrepreneurship due to unemployment, dismissal or threat of losing one's job [COU 10, GIA 10], this term was chosen by the *Global Entrepreneurship Monitoring* consortium. It is opposed to the term "entrepreneurs by opportunity", which describes those who pursue a business opportunity that they have identified or created [REY 01].

Creating with the main objective of entering the job market, the necessity entrepreneur does not necessarily have entrepreneurial skills with regard to a business venture, nor the resources, in the broad sense (financing, experience, professional network, family support, etc.) to succeed [BLA 06]. Paradoxically, the individual would be less motivated by entrepreneurship and less involved in the creation process. From this perspective, conventional support seems totally inadequate [NAK 12]. Couteret [COU 10] recommended helping necessity entrepreneurs to develop and maintain an entrepreneurial motivation. However, this type of support is sometimes unnecessary because necessity entrepreneurs abandon their projects when a salaried employment opportunity arises [SHA 09].

If public policies encourage many job seekers to start their own businesses, the sustainability of their activities is much more complicated [CAL 10]. Precariousness of entrepreneurs continues to be a taboo, especially among the most vulnerable individuals from human, psychological and economic points of view [FAY 12]. It is therefore necessary not only to motivate necessity entrepreneurs to develop their activity but also to restore their confidence through psychological assistance and strongly personalized support. Unfortunately, this solution seems to be neglected because support actors (often trained in management) do not always have the skills needed to deal with the social and personal distress of necessity entrepreneurs [VAL 06]. The "industrialized" support policies are too often limited to the transfer of technical skills (accounting, legal, etc.) and do not include the necessary psychological support [FAY 12].

However, the "necessity/opportunity" classification is too dichotomous. The same motivation can be described as necessity or opportunity, depending on the profile of the individual [GIA 10]. Moreover, motivations change over time and entrepreneurs are often pushed to start a business due to a combination of factors that are both necessity and opportunity [WIL 14].

Conscious of the fact that the purely motivational explanation hides a much more complex reality, Tessier-Dargent and Fayolle [TES 16] proposed a typology of necessity entrepreneurs on the basis of a broad literature review (see Table 10.1). They considered that necessity entrepreneurship depends less on the motivations of individuals, which are multiple and progressive, than situations and context that compel the entrepreneur to create. The first six profiles correspond to external characteristics, linked to the micro-environment and constraining life circumstances. The other two profiles are defined on the basis of internal descriptors: discriminations supported by certain groups of individuals as well as negative and extrinsic motivation to create.

The typology of Tessier-Dargent and Fayolle [TES 16] demands further reflection to better understand how the environment, life circumstances and entrepreneurial context impact the processes of entrepreneurship by necessity. It suggests that the necessary distinction in public policies between the objectives of social and economic assistance and the objectives of psychological support should be considered. Finally, these authors also showed that the stigmatizing denomination of "necessity entrepreneur" should be changed. It would be more helpful to identify characteristics that are constraints to each individual. We tried to respond to this request. The risk-based approach requires a different way of perceiving necessity entrepreneurs.

Factors	Type	Description
Economic	*Downgraded*	Kept, against their wish, out of the paid employment market, in spite of diploma and experience. They might find a job that does not correspond to their expectations and qualifications, and prefer to start their own business
	Impoverished	Real survivalist entrepreneurs, they create to ensure the subsistence of their homes
Legal	*Declared*	Compelled to legalize a successful informal activity to ensure its development
	Detached	Compelled by their employer to take up a subcontracting status
Social	*Location*	Compelled by a place of residence, they create because they do not find paid employment corresponding to their expectations and qualifications
	Heritage	Compelled to take over the family business or their collaborators
Selective	*Discriminated*	Kept, against their wish, out of the paid employment market due to stigma, they create for their professional development
Psychological	*Disillusioned*	Want to avoid a very negative and frustrating experience of employees

Table 10.1. *The eight types of necessity entrepreneurs [TES 16]*

10.2.2. *... to the vulnerable entrepreneur to be secured*

The specificities of so-called "necessity" entrepreneurs seem more related to factors that increase their exposure to uncertainties (low financial resources, health problems, etc.) and the potential impact if risk occurs (keeping out of the employment market, lack of social security, etc.) than to the nature of their entrepreneurial motivations.

Studies on necessity entrepreneurs have shown that there are several socio-economic differences between necessity entrepreneurs and opportunity entrepreneurs: level of education (lower), professional experience (they less often

develop activities in an area where they have experience), age (younger), gender (these are usually women) and so on (see Giacomin *et al*. [GIA 10] for a literature review).

Necessity entrepreneurs are also made fragile by the trauma of unemployment. Knowledge and skills acquired are likely to depreciate during periods of unemployment, making these entrepreneurs not only less likely to recognize entrepreneurial opportunities but also less skilled in exploiting them [BAT 14]. Sometimes they are also confronted with difficult personal situations or discrimination.

They operate in an ambivalent environment, both encouraging and compelling. In the long run, projects and organizations that they have invested in are poorly structured, fragile and remain exposed to the slightest uncertainty [FAY 12]. For example, in the case of auto-entrepreneurs, Levratto and Serverin [LEV 09] explained that the independent performance of the service can make the auto-entrepreneur bear a professional risk that is disproportionate compared to the one supported by an employee performing the same service. Similarly, some forms of self-employment can be seen as a means of transferring to employees the economic and social risks formerly assumed, at least in part, by the company [DAM 09].

Within this context, exposure to risk – vulnerability – appears to be a discriminatory factor that is much more interesting than the motivation to identify necessity entrepreneurs. The concept of vulnerability has several interests. According to Soulet (cited in [BRO 16]), vulnerability is:

– potential (possible, but not certain, materialization of risk);

– relational and contextual (we are vulnerable only within a given context, and according to the protections we have);

– individual (it does not affect all actors in the same way: facing the same risk exposure, some will be more affected than others);

– reversible (it is possible to act on factors and context).

A significant difference lies in the magnitude of the impact for a defined risk: the loss of an equal amount of income will not have the same impact according to the initial level of income.

If “necessity” entrepreneurs are more vulnerable than others, it is necessary to consider how to support them, in order to develop their capacity to manage risks and thus ensure their professional development.

10.3. Risk management, an ability to develop in vulnerable entrepreneurs

Risk management is perceived as a capacity to develop in entrepreneurs, and especially among the most vulnerable. Yet little research has been carried out on how entrepreneurial support can develop this capacity.

10.3.1. *Risk management challenges in entrepreneurship*

Shepherd *et al*. [SHE 00] proposed a model to explain how the entrepreneur can act to mitigate the risk of cessation of its business. Any start-up company is faced with the "liability of newness", a notion developed by Stinchcombe [STI 65] to translate the fragile conditions faced by companies under creation. The risk of failure would depend on the degree of newness in three dimensions (market, production technology and management) and their combination. Learning and searching for information during the creating process would gradually lead to the mitigation of this risk, as the company matures and becomes less ignorant of each of these dimensions.

Beyond this evolutionary vision, Shepherd *et al*. [SHE 00] argued that the entrepreneur can implement proactive risk mitigation strategies to increase the chances of his/her company surviving. The effectual approach [SAR 00] also questions the myth around the risk-taking entrepreneur. Risk-taking is in fact limited to acceptable loss (depending on the resources of the entrepreneur), and successful entrepreneurs are those who limit risk. They control their environment by ensuring commitment from stakeholders.

Risk management consists of three dimensions (see Figure 10.1) that reinforce the criticality of risk (FMEC method [REC 66]):

– Managing risks should involve making them easier to detect. That means, setting up tools to more easily and quickly identify a potentially dangerous situation;

– Managing risks should also consist of reducing the likelihood of a potential dangerous situation for the company;

– Finally, managing risks should consist of reducing the impact if the risk occurs.

The ability to manage risks is an essential skill for the sustainability of a start-up company. However, this ability is less obvious to the necessity entrepreneur because of his/her vulnerability. *To support these entrepreneurs, we need to develop this ability to manage risks*.

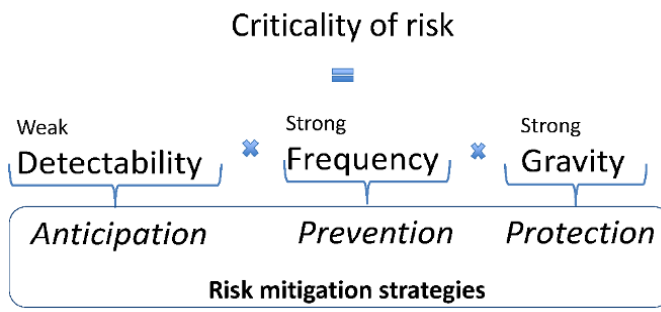

Figure 10.1. *Factors that enhance the criticality of risk and risk mitigation strategies*

10.3.2. *The issue of risk management in entrepreneurial support*

Entrepreneurial support can be defined as "a process organized by a third party that takes time and allows a project developer (s) or entrepreneur(s) to benefit from the dynamics of learning (training, consulting ...), access to resources (financial, informational ...), networking, services (administrative, hosting ...) decision support (coaching, mentoring ...)" (p. 30) [LAB 14]. The support virtues are numerous and include technical, moral and rewarding support, source of discussions and strategic considerations and so on. Fayolle and Nakara [FAY 12] showed a positive correlation between being accompanied during the creation of the company and the success of this project. This support can however take various forms: mentoring, coaching, tutoring, sponsoring and sponsorship [LAB 14].

Beyond economic, geographical, technical and logistical support, accompaniment must also enable new entrepreneurs to become aware of the risks to which they will be exposed and help protect themselves in order to avoid failures and the difficult personal situations that they entail. However, the issue of risk management is little discussed (or at least explicitly) in the support mechanisms. Risk is a complex concept that can be interpreted in different ways. In the company start-up process, Wu and Knott [WU 06] differentiated risks inherent in the market from risks related to the entrepreneur's abilities. Fayolle *et al*. [FAY 08] identified three risk domains related to the entrepreneur's life in a multi-dimensional approach to risk, namely social, personal and financial.

For a given project, the perception of risk is not the same according to the scope studied. On the contrary, entrepreneurial support is a rather broad concept and Duquenne [DUQ 14] suggested that it is possible to find as many support modes as support actors.

These first sections provide a better understanding of the characteristics of vulnerable entrepreneurs and highlight the impact of an ability to manage risks relating to the sustainability of the company. In the next section, the results of a qualitative study illustrate how risk has been taken into account at the level of necessity entrepreneurs and the specific support put in place by two French micro-insurance organizations.

10.4. Supporting vulnerable entrepreneurs through proactive risk management practices: an exploratory study

The exploratory study highlights the multi-dimensional nature of vulnerability in entrepreneurship. Risk management support focuses on the detection of risks, the reduction of their occurrence (prevention) as well as their impact (adoption of different insurance solutions).

10.4.1. *Presentation of study and respondents*

In order to better understand risk-taking among so-called necessity entrepreneurs, a qualitative study was conducted between February and July 2016, in partnership with the two French micro-insurance organizations: Entrepreneurs de la Cité (EDLC) and the Association pour le Droit à l'Initiative Economique (ADIE). A total of 14 entrepreneurs (see Table 10.2), clients or targets of the partner organizations, were interviewed (six of whom had signed a micro-insurance contract), two support actors and the managers of the two micro-insurance organizations. Interviews with the entrepreneurs addressed the following topics: creation context, risk assessment during creation, entrepreneurial support and insurance. They were recorded and re-transcribed before being subject to thematic codification. Interviews with support actors and ADIE and EDLC micro-insurance managers addressed the following topics: profile of entrepreneurs and their risk assessment, support mechanisms and risk management awareness. The results of this study were presented in September 2016 to the EDLC and ADIE micro-insurance managers.

Age group	Gender	Level of education	Date of creation	Industry	Typology profile of Tessier-Dargent and Fayolle [TES 16]
+50	F	>BAC	2015	marketing of beekeeping products (markets)	Location
20–30	M	>BAC	2012	carpentry, glazing and wood-framed houses	Disillusioned
30–50	M	>BAC	2016	provision of services (butler, storage, etc.) during events	
+50	M	>BAC	2015 (end 2016)	marketing of products during gastronomy exhibition and fairs	Downgraded
20–30	M	>BAC	2015	marketing of industrial equipment	
+50	F	>BAC	2015	Service companies – revision	Downgraded
20–30	M	>BAC	2016	Outdoor cleaning (innovative technology)	
20–30	F	>BAC	2015	Paint-ball	Downgraded
+50	F	>BAC	2016	service companies – secretarial services	Downgraded
30–50	M	>BAC	2016	event and itinerant trade	Location
30–50	M	>BAC	2016	Itinerant trade	
20–30	F	BAC	2016	photograph	Displaced
+50	M	>BAC	2015	renovation broker	
30–50	F	>BAC	2016	Service companies – secretarial services, accounting, organization	

Table 10.2. *Presentation of 14 entrepreneurs surveyed*

10.4.2. *Multiple dimensions of vulnerability within the entrepreneurial context*

Our exploratory study reveals that vulnerability has several dimensions within the entrepreneurial context.

Vulnerability may be linked to finance capital. Several criteria can be considered when taking into account a financially vulnerable entrepreneur, such as family's income level, strict minimum and patrimony vulnerability (see Box 10.1).

Alexandre created his own carpentry business. This type of activity requires the purchase of expensive equipment (truck, machinery, etc.) during launching. "*I spent €3,500 for a truck and €6,500 for equipment, so I no longer have anything to develop communication on a € 10,000 micro-credit.*" The situation becomes problematic in case of unforeseen circumstances (late payments on construction sites, theft, etc.). Alexander's equipment was robbed and his basic insurance contract did not compensate him for the damage incurred. His financial vulnerability is a handicap to the development of his company "*Eighteen months ago, I was below the red line. I became an employee again, and I have two jobs. I bailed out with my own money and limited the damage. I could be banned from holding a bank account.*" Daily life becomes difficult (fuel for the truck, buy equipment to complete construction sites, etc.), and management is carried out on a daily basis, sometimes at the limit of legality. "I *don't have any decennial responsibility arrangement today. I insure the truck on a daily basis. I cut down on expenditure ..... € 150,000 fine and two years imprisonment are the penalties for not having a decennial responsibility arrangement*."

Box 10.1. *Financial vulnerability: the case of Alexander*

Vulnerability may also be linked to human capital. Commercial, financial, strategic and entrepreneurial skills have an impact on the performance of the company created [KOT 12].

The entrepreneur's health and state of mind (disability, illness, psychological problems, etc.) can also affect his/her vulnerability (see Box 10.2).

Jean-Louis was dismissed from his job as ambulance driver for inability at the age of 53. Faced with the difficulty of finding a job, he decided to set up his company to market products during wine fairs or gastronomy exhibition. Due to a delay in the release of his Nacre loan (a mechanism which grants him personal advances, without interest, in order to consolidate the equity of his company), he was unable to make reservations in the markets for the summer season and was psychologically affected "I was in bed for 15 days because when you don't have any visibility, you become dependent on promised money and funds not released." Trading activities are difficult, and the situation is discouraging when customers are not forthcoming. "*I found myself in a building with 10 other exhibitors and only one person to work. People were unable to recoup their investments. Nobody showed up for five hours*." Due to this difficult year, Jean-Louis decided to be de-listed and return to wage-based employment. "*I have no choice but to work in order to pay off my debts.*"

Box 10.2. *Human vulnerability: the case of Jean-Loius*

Vulnerability may be linked to social capital. Using family or friend networks is necessary to dispel an entrepreneur's feeling of isolation, especially when starting a business [KOT 12]. Vulnerable entrepreneurs have a restricted network; their new socio-professional condition can quickly lead them to a state of isolation, which is not favorable to the development of their activity (see Box 10.3).

Paule was dismissed from her real estate agency's job in 2008, due to depression. In 2014, at the age of 55, she decided to create her job as an independent secretary. She does a lot of prospecting (yellow page, Web), but it is not easy without any business training and networking. Small contracts follow one another (a few afternoons a month for architects, entry of expense reports for a sales manager, etc.) but are not enough to generate financial profitability. "*I have only ad-hoc requests. This is not going to make me survive, but I will continue*." Without training and with no networking, Paule has a lot of difficulties finding clients in her new industry. "*Nobody in the entourage is an entrepreneur. I made the flyer that I distribute in the mailboxes (craftsmen, students, etc.). I thought it would be easier to find clients.*" Joining a business cooperative was the only way to build a network, meet other entrepreneurs and expand one's business opportunities.

Box 10.3. *Social vulnerability: the case of Paule*

Because vulnerability is reversible, the factors and context that reinforce the risk exposure of these entrepreneurs must be addressed. Our study focused on the practices of accompanists to secure these entrepreneurs and help them to develop a capacity to anticipate and manage the risks they are exposed to.

10.4.3. *Supporting the implementation of risk mitigation strategies by vulnerable entrepreneurs*

Two types of factors must be considered: external regulated factors, related to the training and experience of the entrepreneur, and internal factors, related to the personality of the entrepreneur. From an external point of view, different training and documents are usually required to obtain funding for the activity. Entrepreneurs must conduct a market study before the creation phase, which enables them to identify certain risks. From an internal point of view, at the beginning of the support process, the coach makes a diagnosis of the project developer's ability to manage risks inherent in the creation and development of the company. Tools, which each coach learns to use, have been formalized by both structures. As recommended by

Nakara and Fayolle [NAK 12], support is very much personalized and based on a personal background analysis, life story. "During interviews, we probe about the family, background, what they did. Through these, we see people who have managed to deal with the hazards of life" (ADIE Accompanist). It also involves assessing the person's ability to adapt and better understand how the entrepreneur will seek solutions to problems.

The most common form of entrepreneurial support as concerns risk is to encourage the entrepreneur to protect themselves with insurance mechanisms in case risk occurs (see Box 10.4). Micro-insurance has been created to propose an alternative to private sector offerings, often inaccessible, to provide hedging to vulnerable entrepreneurs.

Micro-insurance refers to the adaptation of insurance services to clients, mostly of low income, who do not have access to conventional insurance services, with the objective of securing their professional and personal careers. Micro-insurance covers risks related to work, loss of stock, theft, incident or damage suffered by third parties (professional multi-risk). Today, we also talk of social micro-insurance, linked to the coverage of individual risks (death, disability), work disruptions and healthcare expenses (health benefits). Two programs were initiated in France: the first in 2006 by Entrepreneurs de la Cité (AG2R, La Mondiale, April Group, CNP Assurances, CFDP Assurances, La Matmut, La BanquePostale and Caisse des Dépôts), and the second in 2007 within a partnership framework among ADIE, AXA and La Macif. It is based on providing guarantees tailored to the needs of vulnerable entrepreneurs selling unique, simple and comprehensible products, including the offer in a package, with ceiling amounts and an identical policy for all subscribers. Even if prices are low, products offer very good profitability in terms of property and casualty insurance, a little less in life and health insurance.

Box 10.4. *Protecting vulnerable entrepreneurs, the example of micro-insurance*

However, micro-insurance covering only certain risks and subscription to such an offer requires that the entrepreneur identifies the risk to be covered. Thus, supporting vulnerable entrepreneurs in the implementation of proactive risk management involves helping them identify the risks to which they are exposed, in order to be able to anticipate them (see Box 10.5).

"The entrepreneurs we solicit are not easy to convince because they are less afraid of risk compared to others" (EDLC). Clients are in very high demand for funding when they meet support actors. On the contrary, they are not in very high demand for insurance products. *"If they had stopped at the risks they had assessed, they would never have created a company. We only reach out to people who are optimistic, confident, and so on. It is in this sense that they are entrepreneurs" (ADIE)*.

Faced with this situation, ADIE and EDLC have set up training courses to help support actors on the issue of risks and the implementation of strategies to mitigate them. The method of risk awareness is primarily the use of examples. "*In order to raise awareness, I take concrete cases that correspond to the activity carried out or examples from the private sphere like the car*" (ADIE).

However, a large number of vulnerable entrepreneurs are less receptive to support. "*There are people who are very resistant to entrepreneurial support because they have already experienced this. They have met a lot of people (social worker, employment center, etc.) who were not very convinced of their project*" (ADIE). Nowadays, in order to benefit from a micro-insurance product, it is necessary to be supported by an entrepreneurial support actor. This reluctance remains a major obstacle to the development of micro-insurance. In order to increase access to micro-insurance, EDLC plans to re-assure unsupported entrepreneurs (by developing new distribution channels and communication to reach them). The organization would then become a gateway to the entrepreneurial support ecosystem.

Box 10.5. *Supporting vulnerable entrepreneurs in identifying risks: the role of examples*

Once the risk has been identified and the possibility of an insurance solution has been considered, the entrepreneur should be assisted in establishing strategies to prevent the risks to which he/she is exposed. This third strategy is to ensure that the identified risk is less likely to occur. For insurable risks, a support can be provided by the insurer in a win–win situation, as in the case of the Local Secur mechanism (see Box 10.6).

The introduction of proactive risk management has many advantages. However, it requires the mobilization of many resources and skills. It therefore seems difficult to implement at the individual level. Within this context, pooling resources (services, advice, trainings, sharing experiences) seem to be an interesting way of giving vulnerable entrepreneurs the opportunity to minimize the risks to which they are exposed despite limited resources (see Box 10.7).

As emphasized by Entrepreneurs de la Cité, "*Transition to entrepreneurial status means that the risks associated with the company's business are incumbent on the creator, unlike an employee who is not responsible for damage claims related to the company*." Vulnerable entrepreneurs are not always aware of this responsibility and do not have the material resources necessary to protect themselves against all the risks related to their professional activity. In this perspective, ADIE and Entrepreneurs de la Cité proposed Local Secur, which is a risk audit service performed by building experts. Through a partnership on skill-based sponsorship, a report on the risks of the commercial or storage space is submitted to the entrepreneur. Many of them are not aware of the quality of the premises (electrical risks, water damage, etc.) when they sign the lease. And even if micro-insurance contracts cover these risks and reimburse the costs incurred, temporary cessation of activity is a source of stress that makes life difficult for entrepreneurs and can affect the company's long-term existence. A satisfaction survey conducted by Entrepreneurs de la Cité in 2105 revealed that 95% of insured persons were satisfied with this service. However, most of them would not have asked for this service if it were not free of charge.

Box 10.6. *Local Sécur, an example of support in risk prevention.*

Faced with increased individualization of the responsibility of people with regard to the management of their own career path, Business and Employment Cooperatives (Coopératives d'Activités et d'Emploi – CAE) were created in the 1990s to propose an alternative to the mechanism that encourages economic reintegration via individual entrepreneurship. These mechanisms face criticism because they would promote the creation of small isolated economic entities, which are sources of social fragility and impoverishment for their creators. On the contrary, mutualization in CAE, based on solidarity among entrepreneurs, reduces initial risk taking and access to common services. The status of entrepreneur–employee guarantees social protection and continued pay in the event of failure. Finally, the collective framework makes it possible to prevent isolation of entrepreneurs and initiate collective projects via wage-earners and training, support and mutual insurance mechanisms. It is therefore an issue of allowing the collective safeguard of individual professional careers [HER 15, VEY 10].

Box 10.7. *Business and Employment Cooperatives: risk minimization through mutualization and cooperative support*

10.5. Conclusion

This chapter invites readers to change their way of perceiving "necessity entrepreneurs". The literature review highlights limitations of the purely motivational explanation and tries to understand how they deal with the risks to which they are exposed. The qualitative study conducted at the level of

entrepreneurs supported by two micro-insurance organizations in France confirms this imperative change of view. The specificities seem more related to factors that increase their exposure to uncertainties (low financial resources, health problems, etc.) and the extent of impact in the event of risk materialization (keeping out of the employment market, lack of social security, etc.) than to the nature of their entrepreneurial motivations. A quantitative study is needed to validate this proposal. It will then be possible to map the risks that these vulnerable entrepreneurs face.

Finally, we argue that the entrepreneurial trajectory of these vulnerable entrepreneurs can be secured if they are able to develop a proactive risk management ability.

Numerous avenues of research are open to define support mechanisms (individual as well as collective) in order to meet this challenge.

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11

Entrepreneurial Approach in SMEs: Specificities, Vulnerabilities and Risks

11.1. Introduction

The last decade was marked by an acceleration of the changes in the environment in which companies operate caused by increasing competitive pressure and the need to innovate. "Traditional" SMEs, which used to be safe from competition, must reinvent themselves in order to act on this environment and no longer be subject to it. Trying to adapt is often no longer enough and existing today leads SME managers to reflect on entrepreneurial practices, making their companies proactive and innovative again. Since this reflection involves all the company's vital forces, they must also return to the culture of cooperation as advocated by Lewin [LEW 64] and avoid the problems posed by work-related stress [LAZ 84]: burnout, degradation of the social climate and loss of confidence and meaning [GRO 14]. This involves making all employees work together at all levels, inviting them to dare to undertake and value their work, developing and enhancing skills and abilities, such as creativity, innovation, spirit of initiative, tenacity, teamwork, understanding of risk or sense of responsibility.

This idea of entrepreneurial revitalization of companies is not new, but the literature remains poor on its application to SMEs. Big companies are often privileged. The propensity to develop and valorize the entrepreneurial potential of all employees is expressed today in large groups such as Google or 3M. This chapter considers how entrepreneurship can "extend" beyond the boundaries of large structures to redevelop into SMEs.

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This evolution presupposes a delicate and in-depth reconfiguration of the way in which SMEs operate. They must move from a model often based on balance to a model where change becomes the norm, change in relation to growth, each other's activities, information flow, etc. Their small size and traditional flexibility suggest this possibility of reconfiguration, and SMEs are known to be able to react faster and find more creative solutions in times of uncertainty [JUL 97, CRU 10]. However, the omnipresence of business owners and limited resources make the task initially difficult and likely to limit this new philosophy oriented towards the development of the entrepreneurial capacity of the individuals and group of which it is composed. These SMEs, which we will qualify as "enterprising", refer to structures that help to liberate and valuate all of the entrepreneurial potential at their disposal. We wish here to provide some reflection on the conditions under which traditional SMEs can re-initiate a transversal entrepreneurial approach as well as on the main risks to be protected against. Indeed, if the benefits are obvious, these changes necessarily involve risks that need to be identified in order to be anticipated and managed.

Our reflection concerns the conditions for the redeployment of entrepreneurship in SMEs and the management of the risks that this entails. To this effect, the next section sets out the framework by projecting the entrepreneurial literature of large companies in an SME context. Section 11.3 then discusses the risks associated on the one hand with the approach itself and on the other hand, with the characteristics of SMEs. Finally, section 11.4 presents a reflection on "enterprising" SMEs managing the risks associated with this new and more creative mode of operation.

11.2. Re-entrepreneurship in SMEs: genealogy of the concept

With the acceleration of globalization, SMEs must now evolve in an increasingly complex environment where changes are increasingly rapid and sudden. They are attacked on the elements that made their strength such as their responsiveness or their ability to build up their offer together with their customers. Developing a competitive advantage is no longer a guarantee of sustainability and these SMEs are forced to renovate themselves in order to exist in the long term. They must re-initiate an entrepreneurial approach in an operation based on the organization balance, stability of relations and exploitation of this competitive advantage around which the company has organized itself [FOL 10]. To find sources of creativity and innovation in SMEs, one possibility is to develop the entrepreneurial potential of employees and to use in addition to their usual skills their ability to imagine new solutions, as well as their networks, motivation and desires.

Literature remains silent on this subject and focuses in a traditional way on managers' characteristics in order to justify, or not, SME entrepreneurship. Studies on large companies are numerous, and can offer interesting insights into what could be "enterprising" SMEs.

11.2.1. *The specificities of SMEs*

There is a vast amount of literature on SMEs and it highlights some of their characteristics in order to explain their performance in an increasingly turbulent environment. Our approach focuses on traditional SMEs as opposed to the denatured forms within the sense of Torrès [TOR 97].

The traditional model of SMEs and the exploitation of proximities as a source of competitive advantage are undermined by recent changes in the socio-economic environment. The detachment of consumers linked to the use of the Internet enables more aggressive and innovative companies with flawless logistics to attract their traditional markets. If they are not reactive, they will be subject to their environment, lose control and have their sustainability undermined. Thus, (re)developing and (re)enhancing an entrepreneurial spirit becomes a necessity for those that wish to increase their chances of survival.

Acquiring entrepreneurship in SMEs can involve the use of employees as sources of information, creativity, innovation, project management and development. This approach, however good it may be, involves changes in the way companies operate, which could jeopardize the fragile balance on which they operate. Mobilizing entrepreneurial potential is also a difficult objective to define in the context of SMEs, as it can be contingent or even unique. There is rather sparse literature in this field and few articles deal with the entrepreneurial approach in SMEs. We therefore use the literature specific to large companies in the next section and consider its adaptation to SMEs in order to draw up the guidelines of "enterprising" SMEs.

11.2.2. *Entrepreneurship in SMEs: contribution of the literature on large businesses*

The idea of unleashing the creative potential of an organization and valuing its employees is not new. Since these ideas are often mentioned in the literature, the purpose of this section is to discuss such ideas relating to business structure, its proactiveness, the creation of new activities, ambidexterity and agility in order to adapt them to the context of SMEs.

Concerning business structure, Burns and Stalker [BUR 94] state that entrepreneurship is fostered by flexible, less centralized and formalized structures, leaving significant room for mutual adjustment and integration agents. For Mintzberg [MIN 82], adhocratic configuration is preferable. It is based on a flexible, dynamic and innovative organization, mutual adjustment, flexible management, project group and autonomy, all of which are likely to nurture creativity in SMEs, provided that their flexibility is not compromised by the overly central role of business owners. Aoki's [AOK 90] J model, describing a flexible organization without a fixed function with much learning generated by horizontal coordination, is the preferred way for SMEs.

For Miller [MIL 11] and Covin and Slevin [COV 89], the enterprising organization is first proactive, innovative on the product–market pair and creating new organizations. Senge [SEN 90] adds the concept of learning organization to get the most out of this proactiveness. For SMEs, this means focusing primarily on collective learning and understanding the complex problems of business life, whereas today only the manager is part of this transversal knowledge. SMEs must therefore integrate the training of employees on why and how and not just what.

Sharma and Chrisman's [SHA 07] corporate entrepreneurship concerns the creation of new activities within the organization and/or transformation of the organization by modernizing the key concepts on which it was built. For SMEs, the search for new activities and the necessary reallocation of resources lead to a permanent imbalance conducive to creativity but which needs to be well accompanied and managed. Transversal communication should be preferred. The entrepreneurial orientation of Stevenson and Jarillo [STE 90] or Lumpkin and Dess [LUM 96] reflects the processes, methods and organizational styles that firms use, as well as strategic direction, resource allocation, structure and remuneration policy to develop individual and collective initiatives. SMEs attach great importance to the informal sector, but they must have a longer term vision in order to anticipate the allocation of resources, including the involvement and remuneration of enterprising employees which enable the identification and development of opportunities. Companies according to Cerdin and Peretti [CER 05] go in the same direction, and the organization moves towards the personal project of employees, providing them room for choice in their jobs. SMEs must exploit the core business of their employees and offer marginal areas of freedom where creativity can be used to develop personal projects that move closer to the companies' interests. The concept of intrapreneurship of Picq [PIC 05] and Basso and Pheulpin [BAS 13] goes further by highlighting a collective and organizational capacity that encourages individual initiatives and accompanies projects that may exist in the long term outside of companies. In SMEs, individual initiatives generate creativity around a collective entrepreneurial project involving all internal actors.

Exploring and exploiting are the bases of the ambidextrous structure of Covin and Miles [COV 99] and Kuratko [KUR 07]. The organization exploits its competitive advantage and at the same time explores future opportunities and develops ad hoc skills. For SMEs, their limited resources require alternating operating phases, guaranteeing immediate profitability, and exploration, to seek future profitability. Improving productivity, using time where activity is slower or limiting growth, can free up the necessary resources.

The organizational agility that this implies was developed by Dove [DOV 01]. It involves responding to changes through quick and effective adjustments without changing everything and by focusing on an adaptable organization. Agility is possible in SMEs but vigilance must be exercised in order to optimize its processes. The weakness of its resources can bring it closer to Baker and Nelson's [BAK 05] entrepreneurial do-it-yourself concept. The organization tries to create something new with the resources that it accumulates or that others neglect. SMEs develop pragmatic solutions by using what employees first have at hand.

The most "advanced" version of the entrepreneurial organization is the free enterprise advocated by Getz and Robinson [GET 07], where employees are free and responsible for the actions they themselves decide to undertake in self-determination and self-organization. In SMEs, mutual adjustment remains the norm in view of limited room for maneuver for legally responsible owner-managers.

Though not all the elements mentioned in the literature are necessary for the development of entrepreneurship, SMEs can however draw inspiration from such. There is a structure that has to act and "control" its environment thanks to significant adaptation, innovation, learning and risk-taking capacities. This involves actors who can be flexible in their activities and in their thoughts and feelings in order to react optimally to everyday situations [DAV 16]. This is done under the direction of a transparent company manager who can orchestrate these changes. This structure encourages initiative as well as action, and supports willingness to make an attempt at innovation or to use different ways of creating novelties [BLO 92], while ensuring the realization of the essential daily activities. It promotes the autonomy and responsibility of all its employees in a longer term vision that allows it to envisage the next move.

We therefore do not limit "enterprising" SMEs to the creation of new activities within an existing organization, via innovation or intrapreneurship [GAR 88, SHA 00]. It includes a particular mode of operation based on agility and ambidexterity. SMEs employees, who are focused on the core business for which they have been hired (technical, commercial, financial, etc.), are called upon in a joint entrepreneurial project to take initiatives to improve the company's situation, either through information from their networks, ideas derived from their technical

knowledge or imagination, or from incremental small innovations, new business proposals or strategic orientations. The aim is not to develop intrapreneurship, but rather to take full advantage of the creativity of employees confronted with problem solving and the identification of opportunities for the development of SMEs. In this sense, SMEs become intelligence catalysts (individual and collective), and not just efficiency organizers. The organization changes and SMEs must give employees the opportunity to bring about innovation and the unexpected [JAS 12], by granting them more freedom. To this effect, they can no longer afford to impose but must assist, support, coach and accompany. It becomes important to rethink the manager's role.

Thinking about "enterprising" SMEs where the potential of each employee is likely to be exploited, leads us to reflect on the attributions of the company's actors, their potential and entrepreneurial skills. This includes how best to use them as well as to valorize, retain and develop the employees, and also attract new enterprising employees with high potential. This implies in-depth changes that disrupt the balance of "traditional" SMEs and that can carry a certain number of risks with regard to the manager's role, the employees' role, the organization and the role of information.

11.3. Entrepreneurship in SMEs, a risky activity

11.3.1. *The vulnerability of traditional SMEs*

In a traditional SME, entrepreneurial orientation is strongly constrained by the specificities of the organization, even just by the limited means available to it relative to those of large companies [JUL 88]. These limited means are essentially found in three interrelated areas: financial resources, human resources and time [LEP 05]. The lack of financial resources limits the company's investment capacity in areas considered non-strategic or deemed non-vital. The lack of human resources severely limits any capacity for action and realization of "related" projects. Finally, lack of time leads actors to focus on the core of their business to the detriment of any other activity. Overall, these shortcomings are reflected by limited anticipation and action capacities towards anything that does not directly relate to the traditional business of the company on which its competitive advantage is built. In the pursuit of the two logics of exploitation of competitive advantage and innovation, this lack of resources makes the allocation between these two requirements all the more difficult [JUL 02]. The SME may be torn between a double constraint: that of exploring new opportunities by developing new products and services; and that of exploiting as well as improving existing ones by upgrading the knowledge already acquired [MAR 91, HE 04, ORE 11].

Revitalizing an entrepreneurial approach in SMEs is tantamount to disrupting the functioning of such SMEs by balancing the variable weights that exploitation and exploration can represent. The variability can be temporal as well as functional and can affect the manager like all the employees at each phase of an entrepreneurial process, from the gathering of information required for identification of opportunities to the running of the project itself. Thus, beyond the risks associated with the non-optimal use of limited resources in SMEs, human risks (linked to the manager and employees) and the risks associated with information flow from the networks of all these actors appear as risks to be understood and managed.

11.3.2. *Risks associated with managers*

Changing SMEs to revitalize entrepreneurship means changing the role of the managers. Some approaches are very difficult to change and breaking them is not a risk-free act. If managers, their personality, role and even their omnipresence can prove to be real assets in the entrepreneurial development of SMEs, they can however equally constrain the emergence and systematization of all other entrepreneurial initiatives. If the entrepreneur's attitude corresponds to Wiklund and Shepherd's [WIK 05] approach, according to which the entrepreneur, by his/her strategy and analysis of the environment, is always more important than the employees, such an attitude risks generating frustrations, tensions and demotivation as well as the departure of good employees who, not feeling encouraged and supported internally in their own approaches, decide to offer their services to other companies. Managers must therefore accept that they must stop being the demiurge and omnipotent entrepreneur. They should share.

Risk may also be linked to managers' limited rationality. If a strategic decision is to be made by a single individual characterized by a limited rationality [SIM 57] and having to solve complex problems in turbulent environment [ACK 81, MIN 94], this will not allow a sufficiently broad understanding of the strategic phenomenon in the company. Some managers struggle to understand the environment of their SME [DAM 97, SIL 96, WYE 97]. Managers cannot deprive themselves of the company's "hard core", the vital force on which they rely [SAO 12], that is, key persons who have proved their worth and thus losing them may prove detrimental. Such entrepreneurial myopia is likely to be a real handicap in identifying and grasping current and future opportunities. This is already pointed out in the functioning of traditional SMEs, and the entrepreneurial approach only exacerbates it.

Finally, risk may be associated with the concept of trust. The long-term success of the entrepreneurial approach is largely correlated with the ability of managers to put their trust in their employees, and to maintain this by defining the rules and roles of each one. If the foundations of this trust are not established, then, instead of

supporting risk-taking and creativity, it will only maintain conditions that undermine all entrepreneurial initiatives. Trust must be built between employees and the manager by demonstrating the professionalism of each other and their good faith. This trust integrates the entrepreneurial approaches and what each of them does in this area of freedom and also the balance between exploration and the more traditional work of exploitation. Trust can induce its own costs: poor estimation of value created, inefficiency linked to long-termism, irrelevance of investments chosen by inadequate formal controls, opportunistic behavior of employees and difficulties in moving from one activity to another with possible frustration. To these costs is added the risk associated with the loss of responsiveness to a crisis, in the interest of preserving the enormous trust built by long-term relationships [CHA 97].

11.3.3. *Risks associated with employees*

In order to increase the chances of success of SMEs' entrepreneurial approaches, managers must ensure the commitment, skills and abilities of all the protagonists in the organization. The most common risk is linked to a threshold effect of employees' skills and abilities. Indeed, these employees are expected to be able to act as entrepreneurs with the ability to drive skills and knowledge beyond the traditional framework of their qualifications. Unfortunately, not all employees meet the expected requirements because of their academic qualification, advanced age or lack of interest on their part. If their qualification and skills are lacking, continuing to solicit them would likely stigmatize them and generate fears of downgrading, a feeling of being left out of such a system, etc. Without transversal skills, some employees risk getting entangled. Moreover, they must live with the changes and tensions generated between deliberate and emergent strategies, formal and implicit hierarchies, creative chaos and formalization, transversality (skills) and technical specialization, and finally between the importance of knowledge sharing and protection of the latter. This strong psychological demand (which accounts for work quantity and intensity as well as time pressure), combined with a deliberately maintained permanent instability, generates psychosocial risks [LEC 16].

At the same time, confronted with this mosaic of personalities, managers must rediscover "who is who", evaluate their team in a new context and detect the dynamics of alliance, influence and conflict games [LAM 08], in order to avoid possible tensions between the employees resulting from the chosen or rejected entrepreneurial approaches. Indeed, some actors exercising or thinking to exercise a certain form of power feel threatened by initiatives liable to change the status quo with regard to their skills, by significantly altering the existing routines [FLO 00] and the actors' place in the operation of the company. They may then be tempted to filter the flow of information to management in order to bring forward their own interpretations [LUB 06] or projects. Others, who are "left out" of such a system, or

those who perceive it as such, can feel its brutality and can experience a sense of injustice, regarding a selection based on internal social recognition and not on the skills deployed.

Finally, constantly confronted with such tensions, this continuous effort to reconcile the irreconcilable and to integrate paradoxical injunctions such as "we must be creative" or "take risks" leads to a form of fatigue and exhaustion, the withdrawal strategy of which may constitute an exit.

11.3.4. *Management risks associated with information*

According to Kijkuit and Van den Ende [KIJ 07], the trajectory of an idea corresponds an evolution of the network. Non-redundant and heterogeneous, constituted of many weak links, using new networks provided by all employees to generate new ideas can lead to the identification of new opportunities. A new idea represents a combination of information flow from different fields. In this sense, the literature on the transfer of knowledge demonstrates the close relationship between the level of familiarity of individuals with the source of this knowledge and the likelihood of transfer [MAJ 04]. Generating creativity and detecting opportunities by using the entrepreneurial potential of employees includes the use of their networks in addition to that used by the manager. Information transfer can be significant and the risk of suffocation, described by Granovetter [GRA 85], with the systematic use of the same networks gives way in SMEs to a risk of drowning in excessive and heterogeneous information flow.

The heterogeneity of this information means that it is not familiar to all employees [BUR 04, PLU 06]. Individuals often develop their own languages [FLE 07] and may face enormous difficulties on the one hand in understanding, absorbing and sorting knowledge from unfamiliar domains in which they have no expertise and, on the other hand, in carrying out their translations [REA 03]. The consequence is that, thinking that they are doing the right thing, employees do not sort information and offer a very large volume to the manager and project team. The processing of this information takes a lot of time and energy for ultimately little result. Added to this are the traditional difficulties in encoding and decoding information and communication difficulties between employees from different horizons.

Including employees in the information channel needed for creativity and innovation also puts these employees at risk of disseminating information which is sensitive for SMEs and strategic for their development or sustainability but which is not perceived as such by the employees. Asking them to find information and ideas in their personal and professional networks can make them to inadvertently disclose information that can be used by others.

The non-anticipation of the risks presented in this section can lead to a serious deterioration of the working environment and an escalation of hidden costs that could threaten the survival of SMEs. These risks however, should not, paralyze SMEs; they must be anticipated. It is therefore a question of overcoming "the heuristic of fear" and the "congestion of concerns" [BRO 14].

11.4. Anticipating and managing risks to develop SME entrepreneurship

The risks highlighted in the previous sections can be anticipated and managed in SMEs in order for the transition to be successful. The objective of this section is to present the elements that companies should focus on and the goals to be achieved but without defining how, because each company is a special case. This may involve simple awareness or training, coaching and facilitation.

11.4.1. *Developing the entrepreneurial agility of managers*

The "existential" foundations of SMEs are based on their managers. The objective of managers acting as entrepreneurs is to be exemplary and contagious to all their employees. The literature presented in section 11.2 highlights the need to juggle with sufficient agility between exploiting their competitive advantage and exploring future benefits. By making it possible to reconcile the two [ROS 11, BEL 13], ambidexterity is necessary for the innovation process. Managers are able to explore and exploit entrepreneurial opportunities in a combinatorial approach of the two logics. They explore the new opportunities presented to them alongside their exploitation and exploit them as they move forward in their exploration process. By implementing this approach, they are led to reflect on their central role within the company and on their reliance capacities [CHA 05]. Entrepreneurial ambidexterity involves reconciling this central role (establishing guidelines, monitoring the achievement of objectives, optimizing processes, seeking efficiency, etc.), with a decentralized logic comprising the ability to organize and to coordinate a set of different individualities and skills while developing their own representations [BOR 09]. Faced with the risk of too abrupt and frequent changes, managers must develop the capacity to conduct SMEs in an operating/exploration waltz, while ensuring sufficient stability.

The entrepreneurial ambidexterity of managers presupposes that both exploration and exploitation abilities are driven simultaneously because these abilities, detailed in separate situations, do not allow the ambidextrous entrepreneur to be defined [KHO 16]. They must have a strong agility allowing them to switch between the two logics depending on the context and requirements. They can thus stimulate both

exploitation and exploration innovations by varying their behaviors while ensuring their integration [BLE 09]. Rosing *et al*. [ROS 11] propose two types of behaviors to be adopted according to context and expectations:

– A transparent or transformational leadership behavior that encourages exploration. Through their skills, the transformational managers stimulate experimentation, risk-taking and creativity within organizations [BAS 99], bring out innovative ideas, redeploy the vital forces through the reorganization of work teams according to the style of persons involved and identify new ways of doing business or new opportunities.

– A completion or transactional leadership behavior in order to stimulate exploitation. Schreuders and Legesse [SCH 12] consider this leadership style to be focused on day-to-day operations, ensuring the efficient functioning of the company. Transactional managers focus on achieving a clearly defined objective by intervening only when necessary [BAS 99].

Developing managers' agility must enable them to reconcile exploration and exploitation. To do this, they must know the management principles, contexts and practices that support the creativity of people and teams in the organization. It is no longer simply an issue of coordinating the responsibilities and tasks of employees with varied skills. It is necessary to be able to orchestrate and foster collaboration between companies' vital forces, so that they are both fertile and efficient, as well as to value and develop them. Emotional agility is also an element to be developed in order to achieve this management. The managers' work on themselves must allow them to take on the new roles of coach and facilitator in order to develop the agility of their employees and manage the risks that concern them.

11.4.2. *Developing the entrepreneurial agility of employees*

In addition to the entrepreneurial metamorphosis of managers, employees are also expected to have the ability to develop an entrepreneurial mindset. On the one hand, this means being able to reconcile their "business" skills with their creativity and pursuit of innovation abilities, and, on the other hand, to develop individual abilities such as taking initiative outside their usual work and responsibilities, adopt a collaborative behavior and act as intermediaries to fill the structural gaps (within the meaning of Burt). This implies a transition of role: the transition from a wait-and-see approach to a proactive approach. Employees are encouraged to act outside the narrow limits of their jobs (go beyond their hard skills) and take initiatives in the company's interest (by developing soft skills). These skills and abilities can be manifested only through the willingness of individuals to seek new opportunities while meeting the current needs of their jobs. Employees closest to production or customers are often in the best position to determine how to improve the product or

service, and the processes or ways in which to increase customer satisfaction. These skills and abilities are also reflected in their ability to use their relationships (exploiting their strong ties) and at the same time to forge new relations with other actors in order to explore new opportunities.

The second expected capacity concerns their ability to find the necessary balance between time spent on exploration and exploitation, that is, their ability to ensure adaptability and alignment. Alignment refers to exploitation and consistency with all activities within business units. Adaptation identifies itself with exploration and refers to the ability to reconfigure business unit activities in order to quickly respond to changes imposed by the environment [BIR 04]. By dividing their time according to their assessment on how they wish to maintain the balance between exploitation and exploration, they avoid the trap of being caught only in exploitative situations and thus preserve the time required for exploration. The entrepreneurial agility of employees refers to their ability to alternate traditional exploitation activities with creative exploration activities with as little friction as possible.

Developing these abilities through training or targeting recruitment on these abilities helps to anticipate and manage the risks identified at the beginning of this chapter.

11.4.3. *Developing organizational agility*

Managing the risks associated with the managers' role and the role of employees necessarily involves a reflection on the organization hosting their activities and on its ability to adapt. The concept of organizational agility was introduced as a response to environmental fluctuations. Indeed, agile companies are able to respond quickly and effectively to all kinds of constraints, enabling them to ensure sustainable profit growth and better integration into the environment [BAR 11]. Barrand [BAR 09] defines agile organization as an organizational model allowing an organization not only to accelerate its reaction time ("observation + decision" sequence) but also to be flexible and, even more, to anticipate and innovate continuously. Agility is then presented as their ability to grow in an environment marked by the continuous and unpredictable change in a global market characterized by demand for superior quality, high performance, low cost and products and services that meet consumer requirements [BRE 01, YUS 99]. In other words, agility involves two factors: responding to change and viewing change as opportunity, so as to benefit from it. The concepts of flexibility and reactivity are at the heart of the concept of organizational agility [SHA 99, LIN 90]. They are central to allowing the expected ambidexterity of employees and the manager and essential to the cohabitation of the logics of exploration and exploitation.

Research on the agility of SMEs is at an embryonic stage. Some researchers have already studied SMEs' factors of flexibility, particularly in terms of internal and external flexibility [DEL 86, JUL 88], or specificities related to size and staff [DEA 98] as well as peculiarities of employees [GUE 01]. However, very little work has been done on the concept of agility. Barzi [BAR 11] expands the concept of agility to proximity and in particular to functional proximity, combining versatility and low specialization of employees [TOR 02]. Identifying, evaluating and exploiting opportunities to create new products and services require human resources capable of doing so [HAY 06]. Their versatility and low specialization allow them to develop many and varied skills, commitment to various tasks and the possibility of multiple contacts, which, repeated, generates a better knowledge and awareness of the company's problems, as well as the identification of solutions and pursuit of opportunities. Moreover, creativity is not reserved for employees from the highest reporting lines or services previously identified within the organization. On the contrary, it emanates mainly from frontline employees, who are in contact with users, suppliers etc. [GET 07]. Proximity facilitates versatility and a range of catalysts for the emergence of innovation and creativity, which is a source of differentiation. Consequently, SMEs are predisposed to agility and such predispositions can be exploited with the underlying risks in mind.

These predispositions are also a fertile ground for ambidexterity. SMEs that aim for long-term performance and survival must be able to design an organization capable of combining dual strategies. On the one hand, there is the exploitation of existing resources and skills, based on the valorization of previous knowledge and, on the other hand, there is the exploration of new opportunities, based on the ability to generate new knowledge that is essential for building up future skills. Generally, literature presents three forms of ambidexterity:

– Structural ambidexterity [BIR 04, ORE 04], which separates exploration and exploitation activities made coherent by the integrative role of managers.

– Contextual ambidexterity that focuses on the human aspects [GHO 95]. It requires actors to have cognitive flexibility [RAI 09] and resilience to time pressure. Companies establish an organizational context that gives people the opportunity to be autonomous, to improvise and to make their own decisions. Leadership is shared [BIR 04].

– Network ambidexterity which concerns the way in which companies manage, through networks, exploration and exploitation innovations.

Given the specificities of SMEs, contextual ambidexterity clearly seems more appropriate. Several arguments are in favor of the superiority of this form of ambidexterity towards developing innovative offers within SMEs, the main one relating to the fragility of SMEs in terms of internal resources (human, financial,

information), reflected by limited room for maneuver and making the allocation of resources between these two requirements all the more difficult [JUL 02]. This ambidexterity to develop makes it possible to respond to the risks inherent in "enterprising" SMEs, which implies that the alternation of activities is collectively organized [BIR 04, BRI 08] and included in companies' culture of putting forth this entrepreneurial mindset. For Johannisson [JOH 94], an entrepreneurial culture is a culture that values personal characteristics associated with entrepreneurship including individualism, marginality, the need for self-fulfillment, risk-taking, self-confidence and social skills. It also encourages diversity and not uniformity, change and not stability. This culture, which is essential to risk management, cannot emerge if it does not tolerate or condone failure. In effect, managers must also accept the error of their collaborators without risk of major consequences. When managers accept an employee's proposal or entrust him/her with the development of a project involving certain risks, they must promise the employee that there will be no blame or sanction in the event of failure or limited success in relation to expectations. Thus, for the employee, creativity gradually becomes a condition for employment. Exercising a job requires not only mastery, but at least the use of varied skills and the ability to innovate, that is, to generate new behaviors in the organization.

11.4.4. *Developing relational agility*

The "enterprising" SMEs must be prepared to react to changes in the environment and also to adopt a way of functioning that enables them to act on this environment by seizing opportunities and innovating. As we have seen, these changes concern managers as well as employees. Encouraging the expression of ideas and initiatives, which is the force of these "enterprising" SMEs, means on the one hand, encouraging collaborations, convergences, synergies, delegation, decentralization, and agility between a traditional production organization and a more flexible entrepreneurial organization, and it means on the other hand, recognizing that each protagonist may have different challenges. The emergence of this "enterprising" venture will be encouraged if everyone can not only express their ideas and take initiative, but also accept that the project of another is chosen and they support him/her and also work on this project in collaboration with the actors concerned. This type of operation can generate misunderstandings and tensions as well as risks that must be managed, whereas it is emulation that is sought and not competition.

Clearly, the key success factors of this venture are "win–win" solutions rather than "win–lose" solutions [BAR 09]. Achieving a satisfactory balance, in which each actor comes to accept differences and collaborates without neutralizing his/her emotional expression, is the objective of this type of approach. Neutralizing one's emotional expressions means neutralizing a message that can quickly become a source of crisis through the effects of cascading risks (decline in satisfaction, motivation, commitment,

emotional exhaustion, etc.). To avoid the expression of emotional rigidity (being prisoners of the thoughts, feelings and behaviors connecting us), it is not enough to coordinate with others, but to work for the other and vice versa such as to search for a collective optimum rather than a maximum per function [BAR 09]. This attitude implies developing the ability to "be flexible with one's thoughts and feelings in order to be able to react optimally to everyday situations" [DAV 16]. This ability is nothing other than emotional agility. Enabling this agility requires a good understanding of issues including transparency of decisions in order to limit frustrations and involving all staff in a collective approach in SMEs. Relational agility corresponds to the ability of managers as well as of employees to understand the role of the other and to develop the empathy necessary for effective communication. Each has to integrate the register of the other, their language level and professional vocabulary in order to clarify situations and understand each other. The development of a more visual mode of communication (paper prototype, for example) as a support for creativity avoids problems related to each other's vocabulary. Reflecting on methods adapted to the company must enable them to manage the risks related to information management by allowing a common vision and an efficient sorting. This relational agility makes it possible to better understand one another, better understand the decisions taken and avoid the sources of tension.

11.5. Conclusion

This study is a contribution to the knowledge of entrepreneurship within SMEs, the risks underlying this type of approach and the responses to be provided. Based on a wide literature review, we propose an entrepreneurial and non-intrapreneurial approach within SMEs, based on the abilities of managers and employees to cope with the acceleration of changes in the environment. These SMEs, which we qualify as "entrepreneurial", review the role of managers and employees and their general organization. This expected future state of "enterprising" SMEs must enable them to develop the ambidexterity necessary to exploit the present competitive advantage and explore future benefits. The characteristics of SMEs, their small size and limited resources amplify each risk and also call for the development of agility at all levels in order to move smoothly from one activity to another depending on the needs or opportunities offered over a period.

Emphasis is placed on the ambidextrous and agile manager-entrepreneur. Seeking to revitalize entrepreneurship in SMEs first requires developing these two abilities in managers. Then, the process will concern the development of these same abilities within employees. This implies a certain pedagogy and the literature is beginning to develop on these themes (entrepreneurial education, team building and team training, soft management). The effects of amplification and number specific to SMEs make any change risky. Without going into this change accompanying the

process, we place ambidexterity and agility as objectives to be achieved in order to successfully complete the change and overcome the main risks identified. The support of SMEs seems more than desirable in order to structure the launch of the approach, the involvement of all and the management of resistance and all the tensions associated with changes in the status quo. The idea is to find a vector to convey the value of the approach, stimulate individual and collective creativity, and generate a dynamic. The cursor between simple information gathering, idea proposals and, at the other end, development of new products or services, is to be established according to each case. In this respect, each SME is specific.

Revitalizing entrepreneurship in SMEs has three main risk categories related to managers, employees and information management. As regards managers, it concerns their central role, limited rationality, shortsightedness and the trust that they may or may not place. The risk associated with employees refers to the threshold effect related to their skills and abilities, their difficulty in developing new contacts or even to make new contacts at various levels of the company's shell, their lack of understanding of the challenges of an entrepreneurial project and the psychosocial risks associated with high psychological demand, feelings of injustice, lack of room for maneuver, quantity and intensity of work and time pressure, as well as permanent and voluntary instability. The third risk concerns the amount of new information to be processed and, above all, to understand because it originates from "novice" issuers, who use a particular coding and sort only little of this information. There is a risk of drowning in a flow of information.

Our approach aims at highlighting the potential risks to the development of a collective entrepreneurial approach in SMEs and providing elements of reflection on the objectives to be achieved in order to "gain entrepreneurship" by managing these risks. As discussed above, each case is unique and each deployment process is contingent. Developing the ambidexterity of managers, employees and the structure, and developing the agility necessary for the smooth transition from one phase to another, requires that these two abilities are first defined. SMEs need to save time and resources for exploration and such without over-penalizing exploitation. Our approach is collective in nature and excludes the creation of a real research and development service since the financial resources of SMEs do not allow it. To save time and resources, SMEs can first identify the low periods of their business to develop their creativity workshops. They can also seek productivity gains in order to save this time while satisfying their customers. Finally, they can decide to slow down their business in order to anticipate the development of future activities. The next step involves training employees in order to empower them to enhance these new abilities, and develop in them an entrepreneurial spirit, a zeal for initiatives and a sense of responsibility. The management of these new employee profiles is undoubtedly an avenue for research in the direction of entrepreneurial resource management. The recruitment criteria will integrate this entrepreneurial dimension,

and the challenge for SMEs will be to attract technically suitable candidates with the potential to develop new ideas.

To go further, new research is needed in order to better understand the process of collective entrepreneurship, the management of exploitation and exploration abilities, and the development of "entrepreneurial" skills of employees (what skills are involved, how can they be developed?). What structure must SMEs adopt in order to optimize their abilities? What kinds of support are needed in order to allow the success of these approaches? The stakes are high and the demand for SMEs is increasingly strong, offering many fields to researchers.

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12

Perception Biases of Failure Risk among SME Managers

12.1. Introduction

Since the work of Altman [ALT 68], research proposing statistical tools whose objective is to improve the prediction rate of business failure has multiplied. From multivariate discriminant analyses to artificial neural networks, many tools are used regularly within the framework of credit granting by banking institutions. Today, they make it possible to obtain early warning signals. Beyond this detection objective, other works have attempted to better understand the phenomenon of failure by looking for the causes (e.g. [CAS 85]) or by analyzing the process leading to the exit of businesses (e.g. [CRU 07]). In the end, it is clear that business failure is a complex and multifactorial process, and there is need to focus on managers' perception, especially in the context of SMEs where their role is preponderant.

If failure has been the subject of much research aimed at predicting or better understanding it, the theme of its perception remains a recent subject. There are few studies on the perception of the risk of failure and they focus on specific phases of business life, in particular at the start of the entrepreneurial project. This work on the perception of failure has two objectives. The first is to better understand the psychological consequences of an experience of past failure by a manager. The second is to analyze the impact of a perceived risk, which has not yet occurred, mainly on the entrepreneurial will and, at the margin, on the management of businesses. Studies exploring the consequences of perception of the risk of failure on the day-to-day management of businesses remains, to date, the least developed.

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Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

This chapter proposes to study the risk perceived by managers, placing the latter at the center of the reflection. This perception of the risk of failure is not neutral in the management of businesses: it fundamentally influences managers' choices in identifying and assessing opportunities or threats, strengths or weaknesses. However, like any perception, it can be biased by a number of factors, such as the environment, managers' personalities, their degree of optimism or confidence and their ability to anticipate and plan.

Regarding the scarcity of studies on the impact of perception of the risk of failure on the management of businesses, our research is oriented towards two major objectives. The first aims to demonstrate the existence of a gap between perception of the risk of failure by managers and the actual business situation. The second objective is to understand the reasons for this gap, basing our analysis on perception biases. Section 12.2 summarizes the literature on perception of the risk of failure and perception biases. Section 12.3 deals with the methodology of our research. The findings are discussed in Section 12.4 and Section 12.5 deals with managerial implications.

12.2. Literature review

Before presenting the current state of literature on perception of the risk of failure and perception biases, we show how failure should be regarded, not as a state but as a process.

12.2.1. *Failure process*

There are many definitions of the term "failure". In this chapter, we retain the most common, which is the involuntary exit of businesses based on a legal perspective [ALT 68, BAR 01] via the cessation of payments, likely to result in its liquidation. This ultimate situation is often preceded by a situation of economic and financial distress. Studies on failure prediction are mainly based on the detection of failure warning signals during this phase [BAL 06].

In order to better understand these exits, some authors have conducted research on their causes [BLA 97, CAR 06]. In light of the complexity of the phenomenon, other authors focus on failure by considering it more as a process [CRU 07, OOG 08]. The exit of a business is in fact rarely sudden and has its origins in a combination of interrelated factors of an organizational, strategic, financial and operational nature. This combination is likely to evolve over time. Studies in this area therefore propose a dynamic perspective of failure and highlight the chain

effects. The authors then talk of a "path of failure" [KOE 85] or "spiral of failure" [ARG 76, CRU 07]. Based on a succession of exogenous and/or endogenous factors, failure in fact becomes a phenomenon whose anticipation is very delicate.

Some of these works lead to the detection of profiles, referring to different contexts in which managers' behavior can play a prominent role. Thus, Ooghe and Prijcker [OOG 08] distinguish four failure profiles. One of these profiles places the manager at the center of the process. Although the business is properly structured, it is undermined by a period of strong growth. Dazzled by this growth, managers lack realism (exacerbated overoptimism), which can lead them to a lack of lucidity and loss of control, resulting in a decline in the business performance. This behavior no longer allows failure warning signals to be perceived: "*Because of extreme optimism and unrealistic perception, negative signals are ignored or attributed to external and temporary factors*", p. 230 [OOG 08]. Such context combined with managers' personality then explains business failure. In the same logic, Crutzen and Van Caillie [CRU 09] determine seven failure profiles, one of which considers the role of managers as preponderant. This concerns the profile of "businesses in difficulty following the poor management of their growth", which is based in particular on an inability of managers to manage a growth environment. Managers do not know how to anticipate the increase in business activity or are unable to manage a heavier structure induced by this increase in activity.

This short review of the literature on failure processes shows that failure is a multidimensional and dynamic phenomenon that can be rooted in multiple contexts within which, in the end, the role of managers is often preponderant. Though these approaches put managers at the center of the process, they do not however allow us to question their perception of failure. According to recent research, perception of a risk of failure may lead managers to a situation of psychological distress [SHE 09, MOR 16], a fear that is likely to affect their behavior and potentially influence their management decisions.

12.2.2. *Perception of risk of failure and perception bias*

The risk of failure can be assessed in several ways, because it is experienced differently according to who perceives it and in what context. The concept of perception is therefore a subjective phenomenon linked to the judgment of an individual on his/her situation [KOU 06]. This perception depends on the environmental context, psychological and cultural factors, managers' knowledge and experience, their interests and expectations, and even the influence exerted by pressure groups (media, political groups, etc.). This perception is not however cut off from reality: it is a social construct [KER 12] combining a more or less objective

risk of failure and the representations associated with it, representations conveyed by different communities (managers, their families, business partners, experts, etc.).

While studies on the impact of perception of a risk of failure on venture creation are developing, works on the effects of this perception on the management of businesses are still few and have negative connotations. Often equated to failure by and for the manager [MOR 16], the perception of failure can lead to a certain emotional distress on the part of the owner-manager [SHE 09], a loss of self-esteem, which may have an impact on the management of businesses. Usually associated with significant financial pressure and the risk of a loss of independence [JEN 14], the very idea of failure is scary. Yet, fear is not without consequences on entrepreneurial behavior. The work of Cacciotti and Hayton [CAC 15] identifying 44 studies on fear of entrepreneurship, for example, clearly shows its negative impact (anxiety or worry) on entrepreneurial intention or the ability to manage businesses. Most often treated as a stable state, fear is also sometimes considered as an emotional state that can evolve over time, resulting from the perception of environmental threats. Consequently, the influence of fear on managers' behavior can also evolve over time.

Mellahi and Wilkinson's [MEL 04] literature review on studies on business failure makes it possible to distinguish research, referred to as "voluntaristic view" by the authors, also putting managers and their perceptions at the heart of the explanations of failure. Managers' perception of business failure is thus likely to affect their decisions. This perception would be the result of different biases influencing them. This work is in line with the work of Crutzen and Van Caillie [CRU 09] and Ooghe and Prijcker [OOG 08], putting managers at the center of the failure process in certain profiles and leaving room for interpretation through biases.

The bias most often studied through this literature remains the overconfidence bias, defined as overestimation, overprecision and overplacement [MOO 08]. Most studies on overconfidence are not specific to the context of SMEs. Indeed, this bias is commonly accepted for managers of large businesses, but studies on SMEs are scarcer and mainly focus on the study of overconfidence as a factor explaining venture creation [CAI 15, HAY 06, ART 15]. Bessiere and Poujet's [BES 12] literature review on the effect of confidence in venture creation also confirms the presence of this bias in managers and highlights its negative effect on business performance. However, a potentially curvilinear relationship between confidence and performance is being discussed in more recent studies. Thus, a moderate confidence level would have positive effects, while a high confidence level would have potentially negative effects.

Optimism bias, often equated to overconfidence bias, although distinct, is more likely to lead to a tendency to overestimate future prospects, to see "life through rose-tinted glasses". The effects of optimism are therefore potentially different from the effects of overconfidence. According to Trevelyan [TRE 08], overconfidence and optimism would both have a positive effect on venture creation, but a differentiated effect within the framework of the management of businesses. Thus, confidence would have a negative influence on the management of businesses in the event of difficulties (lack of lucidity, inability to adapt), while optimism would allow it to continue its activity (willingness to act, commitment, resilience).

Mobilizing the literature on failure processes and the literature on biases aims to improve our knowledge of the perception of failure by managers and its effects on the management of businesses. This chapter therefore has a dual objective. First, to our knowledge, there is no work comparing perception of the risk of failure by managers and the actual situation of businesses in SMEs context. We first attempt to verify the existence of a discrepancy between perception of the risk of failure by managers and the actual situation of their business. Second, we explain this discrepancy by mobilizing the theoretical framework of biases presented above.

12.3. Research methodology

The study's objective is to apprehend a gap between the risk perceived by managers and the real risk experienced by their business, and then to understand the reasons. To this end, we use the data from Observatoire "Prisma" (Prisma Observatory) of Coactis laboratory, composed, on the one hand, of declarative data provided by the manager and, on the other hand, indicators extracted from an accounting and financial database.

12.3.1. *Data from Observatoire "Prisma" (Prisma Observatory)*

Observatoire "Prisma" makes it possible to obtain data collected by questionnaire from managers of SMEs interviewed on 10 themes covering business strategy, its main functional areas as well as the characteristics of the manager and the management team. These declarative data are supplemented by financial and accounting data from the Diane database[1]. The observatory is currently composed of 2100 observations collected since 2012, of which 1049[2] are used within the framework

1 DIANE NEO database, Bureau Van Dijk.

2 The availability of financial and accounting data via Diane database does not allow us to work on the entire sample of 2100 businesses.

of our work. Our sample of SMEs is thus composed mainly of goods-producing (nearly 70%) companies, with an average of 25 employees for a turnover of 4 million euros. The average age of the employees is 29 years.

12.3.2. *Measurements of real and perceived risk*

Real risk is measured by the AFDCC[3] score available in the Diane database. This indicator is calculated using a score function, in line with Altman's [ALT 68] work. It is a score composed of eight categories from 0 to 20 ranging from a very high risk level to a very low risk level. These eight categories are grouped into two classes: businesses exposed to a real risk of failure (rated 0 to 8.5) and businesses not exposed to a real risk of failure (rated 9 to 20).

In order to compile the perceived risk, managers were interviewed as follows: *"Have you been faced with a risk of bankruptcy of your business over the last three years?"* This question also gives rise to two categories: managers perceiving risk and managers not perceiving risk. Perception of the risk of failure is assessed retrospectively over a three-year horizon.

The cross-comparison of these two variables, approximating real and perceived risk, then allows four categories of businesses to be identified and to highlight discrepancies in several areas.

12.3.3. *Analysis variables*

In order to better understand the reason for the discrepancies between a real situation and the perception that SME managers have with regard to it, many variables were chosen. First, financial variables are used to supplement the simple observation of business fragility that is visible through the value of the AFDCC score. Four indicators were obtained from Diane database, classically used in the field of business failure forecasting (liquidity, debt and profitability). To these indicators has been added the presence or absence of a collective procedure, likely to materialize business fragility.

Other declarative variables to gain better understanding of the gap between managers' perception of the risk of failure and real business situation were also used. First, since SME managers play a central role in the failure process

3 AFDCC score (French Association of Credit Managers and Advisors).

[CRU 07, JUL 98], several factors concerning managers and their entourage are taken into account: their level of education, areas of expertise, experience or confidence in their skills, changes in their management team and their degree of optimism[4]. Then, managers were asked about their perception of their business situation [KOU 06] concerning funding difficulties, the existence of a competitive advantage, the market and business growth trajectory, the sector dynamics, skills in the business and causes of the perception of a risk of failure. Finally, the assessment of the financial performance of the business that could be relative [GIM 97] and dependent on managers' objectives and measures of their managerial behavior were performed (the formalization of their objectives, the horizon, the formalization of strategic management, strategic orientations, the mobilization of actors on recent decisions and the nature of decisions taken). The details of the variables are given in the Appendix at the end of this chapter.

12.4. Findings and discussion

12.4.1. *The existence of gaps between perceived and real risk*

The cross-comparison of the two variables measuring, on the one hand, the risk of failure perceived by managers and, on the other hand, the real risk of businesses measured by the AFDCC score made it possible to determine four categories of businesses. These different categories reveal a gap between what managers perceive and their real business situation (Table 12.1).

	Perception of a risk of failure	**Lack of perception of a risk of failure**
Existence of a real risk	**Lucids** 17.16% 180 individuals	**Myopics** 44.14% 463 individuals
Absence of real risk	**Paranoids** 1.71% 18 individuals	**Zens** 36.99% 388 individuals

Table 12.1. *Perceived versus real risk*

Of the total sample of 1049 SMEs, nearly 19% of managers report having perceived a risk of failure in the past three years, while more than 61% of businesses were confronted with real risk during the same period or at least to vulnerability

4 This bias is addressed by measuring the difference between the turnover achievable within one year reported in the questionnaire and the turnover actually achieved in the same year from the financial database.

revealed by the AFDCC score. Conversely, more than 81% of businesses did not perceive a risk of failure, but only 39% of them did not actually face this type of risk. In this study, what interests us is the observation of a gap between a perceived situation and a real situation. Hence, two groups are representative of a gap: the Paranoids (less than 2% of the sample) overestimate risk and the Myopics (over 44% of the sample) underestimate it. A comparison with Zen and Lucid groups, whose perception seems to be in line with the real situation, may enable us to better understand this finding.

12.4.2. *Groups characterization*

The characteristics of the businesses in the four categories are given in Table 12.2.

	Lucids		**Myopics**		**Paranoids**		**Zens**	
	Aveg	**Med**	**Aveg**	**Med**	**Aveg**	**Med**	**Aveg**	**Med**
Age	25	18	30	17	22	10	31	22
2012 turnover	3117	1152	4294	1510	3940	421	4493	1885
AFDCC 2012	5.9	5.5	8.1	7.5	12.1	11.8	13.1	13
Coll Proc %	26.67		5.61		5.55		1.80	

Table 12.2. *Description of the four groups*

The Lucids have the highest collective procedure rate and the lowest AFDCC score, thus revealing real difficulties that managers are aware of. The latter consider that the risk of failure is associated with financial difficulties and macroeconomic factors. They also state many funding difficulties and say that they are uncomfortable as regards the management of their business funding. Conversely, they declare being comfortable with decisions in risky environments and say that they mobilized different actors during their last decision-taking. They also state not having a clear vision of their objectives and define them as “along the way”. They find their business less performant than the market and seem to have taken decisions to reduce their activity. They seem to be less pessimistic than the average population. This risk awareness does not however allow them to prevent it.

The Zens have the lowest collective procedure rate and the most encouraging AFDCC score, indicating a healthy situation without any risk of failure, which is confirmed by clearly positive financial indicators. Logically, managers therefore perceive no risk. Managers declare themselves comfortable in decision-taking regarding calculated risks and in their business funding. Like the Lucids, managers define their objectives as "along the way". They consider their company to be in a deceleration phase but with performance in line with that of the market. They also seem more pessimistic than the average.

The Myopics have an AFDCC score lower than the sample average and the same is true for financial indicators, thus reflecting fragility. Managers perceive funding difficulties, but not the risk of bankruptcy. They plan the development of their business and control the achievement of their objectives. They see their market as being in a growth phase and say that they have good business prospects with an activity in acceleration phase.

The Paranoids seem to benefit from a rather healthy situation with regard to the AFDCC score and financial indicators, but nevertheless managers claim to perceive a risk of failure. The perceived risk is related to financial difficulties and macroeconomic factors. Managers declare being rather comfortable in production and think to be "along the way". They see their market as subject to rapid and unpredictable changes.

12.4.3. *Discussion*

The comparison between real risk and perception of a risk of failure perceived by managers makes it possible to note the existence of a gap for certain businesses. For the Zens and Lucids, managers' perceptions are in line with the real risk incurred by businesses. In contrast, the Myopics and Paranoids present a gap between perception and the real situation. How can these discrepancies be explained? Why do some businesses seem to overestimate the risk while others underestimate it? The literature on biases used in section 12.2 provides interesting avenues for reflection.

First, overoptimism bias, seen mainly as a tendency to overestimate business prospects, shows mixed results. When optimism bias is addressed by measuring the difference between the turnover achievable within one year reported in the questionnaire and the actually achieved turnover, such bias does not seem to potentially explain a lack of risk perception. The variable is significant only for two business groups, the Zens and Lucids. Businesses in Zen group are more likely than others to underestimate their prospects (turnover achieved exceeding projected turnover). Therefore, they do not seem optimistic. Businesses in the Lucid group are less likely to underestimate them but are also not optimistic.

When overoptimism bias is discussed as regards business prospects, the findings are significantly different. Thus, observing, more specifically, businesses in the Myopic group, it appears, despite financial indicators and the AFDCC impaired risk score, that managers continue to perceive favorable business prospects. Coupled with the fact of not perceiving the risk of bankruptcy, while these businesses present deteriorated indicators, this can be analyzed as an overvaluation by managers of their business performance which could be interpreted using overoptimism bias. This bias leads managers, despite the difficulties encountered, to perceive a favorable context [MEL 04], continue their business [KHE 16] and maintain their commitments [SHE 09]. Managers declare having had difficulties in funding their business, but with an encouraging view of their business, they do not perceive (or do not conceive mentally) a risk of failure. In the end, as noted by Ooghe and Prijcker [OOG 08], managers, above all, lack a lucid understanding of the real performance of their business. In particular, businesses in this group decided to increase their staff, showing a certain irrationality with regard to the business situation, which could be analyzed as an escalation of commitment [SHE 09].

These findings contrasted according to the measure of optimism, especially for businesses in the Myopic group, which could be explained by the work of Khaneman and Tversky taken up by Bessiere and Poujet [BES 12]. The latter show that optimism would tend to decrease with experience, under the effect of the negative perception of failures. However, businesses in the Myopic group are the oldest in the sample (30 years on average and a median of 17 years) and may therefore also have lost part of their optimism.

Overconfidence bias, often confused with overoptimism bias, does not seem to be a factor altering perception of the risk of failure. The managers of SMEs in the Paranoid and Myopic groups do not have the tendency to declare more skills than the others. On the contrary, especially among the Myopics, managers see themselves as less competent than managers of other groups, especially in the field of production. Managers of the other groups find themselves competent in innovation as regards the Lucids, production with regard to the Paranoids and HR and production as concerns the Zens. This perception, limited to particular skills, tends to show that overconfidence does not systematically characterize the majority of SME managers. The preponderance of this bias among the managers of large businesses has been observed many times [BES 07] and has multiple foundations [VIT 14]. However, this does not seem to be the case for our sample of SMEs, although consistent.

The variable on the perception of skills present in businesses can make it possible to complete this overconfidence analysis. Managers who perceive risk (Lucids and Paranoids) declare fewer skills than managers who do not perceive risk (Myopics and Zens). This managers' perception of the business competence could be some sort of confidence in their teams' capacities. In our case, it can thus be seen that businesses perceiving a risk of failure, rightly or wrongly, are those that declare themselves the least satisfied with their competences in certain fields. This does not confirm an overconfidence bias, but the significance of these variables for businesses perceiving a risk at least allows us to highlight a "lack of confidence" on the part of some managers (Paranoids and Lucids). Thus, the most successful SMEs in the sample do not present what some call the "curse of success" [MEL 04], where success can lead to overconfidence or even arrogance, and ultimately, failure through lack of lucidity. At the most, it can be argued that those who perceive a risk are underconfident on many aspects, while those who do not perceive a risk (Myopics) seem to perceive more positive elements.

Other biases could be used, but it is difficult to propose avenues of reflection for such biases based on our exploratory research. Thus, confirmation or anchorage bias could also play a role in the lack of perception of failure. This is the tendency to see only what confirms expectations and ignore the rest of the signals, often associated with overconfidence bias [BES 12]. In the context of businesses in the Myopic group, certain signals are actually visible, such as the weakness of financial indicators or financial difficulties already apparent, but which do not lead managers to fear for the survival of their business. Based on a context they see as favorable, managers seem to conceal or at least minimize certain difficulties. Another bias which could be mobilized is planning bias that tends to increase the chances of being disappointed by the results obtained and to overestimate certain risks. It could explain the Paranoids' perception. In effect, how do successful businesses feel in situations of fragility? The disappointment of obtaining results lower than the estimates could be an explanation, thus consistent with the work of Gimeno *et al.* [GIM 97]. In order to be able to test this bias, it would be necessary to conduct a longitudinal study to observe the behavior of these businesses over several years. Thus, our optimism variable (discrepancy between the achievable turnover and the real turnover) could also allow us to observe a "disappointment" and to try to measure its impact on the perception of the situation by managers.

Beyond the biases, Khelil's [KHE 16] approach complements our analysis. It proposes putting managers and their "emotions" (satisfaction, disappointment, etc.) at the center of the analysis, which could, in our case, explain the discrepancies between the real and perceived situation. Such discrepancies are likely to appear irrational. Satisfaction with regard to results would thus depend on the level

and nature of the initial objectives. The author obtains five groups of businesses[5], two of which are similar to two of our groups. Businesses in the Paranoid group can be compared to the "Dissatisfied Lord", that is businesses with successful outcomes but which are nevertheless disappointed. The Megalomaniacs are closer to businesses in our Myopic group, for which, despite real difficulties, managers overestimate their economic success, level of control and power.

Finally, the work of Cacciotti and Hayton [CAC 15] on entrepreneurial fear can also provide elements of answers likely to promote better understanding of these discrepancies, but they are not verifiable as far as our exploratory research is concerned. Thus, the attitude of the Myopics could be explained by the work of Staw *et al*. [STA 81], who talk of Threat Rigidity Effect Theory to explain the status quo maintained by some businesses in view of threat. Klaukien and Patzelt [KLA 09] find that responses to fear are different depending on the fear level. Thus, on the one hand, a "low" fear level would increase the vigilance of managers, while, on the other hand, a very high fear level could accentuate denial.

12.5. Conclusion and managerial implications

Comparison between the real situation of risk of failure and the perception that managers have of it has allowed us to identify the existence of a gap in the case of two categories of businesses, the Myopics and Paranoids. Although the Paranoid group represents less than 2% of the sample, the percentage of businesses qualified as Myopics (more than 44% of the businesses in the sample) justifies all the stakes involved in taking an interest in the perception of SME managers. The mobilization of literature on overconfidence, optimism and planning biases, as well as responsiveness to emotions and fear felt by managers are all avenues that could be explored. The results obtained in the context of large businesses on optimism and overconfidence are difficult to transpose directly to SMEs that have their own characteristics.

Beyond the gap observed, this analysis can also be useful for understanding the survival of some fragile businesses and for explaining the exit of some of them although successful, via an escalation of commitment [OOG 08] or disappointment with regard to initial unachieved objectives [GIM 97], for example. Intertwining the characteristics of managers, contextual factors and influence of the situation on the evolution of their characteristics requires the implementation of a longitudinal study and transdisciplinary case study approach (management/psychoanalysis), taking into account the multifactorial aspect of managers' perception.

5 The five categories include: Dissatisfied Lord, Confuses, Big Time Gambler, Megalomaniac and Supporter at Arm's Length.

The main contribution of this exploratory study is that it goes beyond the apprehension of risk by financial indicators alone or by scores. This approach is not sufficient to alert managers, with experience and a relevant background, who may not perceive the danger or minimize it despite actually present and visible warning signals. The results of this analysis should make it possible to reflect on the accompaniment of SME managers, beyond the mere awareness of risks. The warning role of public authorities is not enough, since some businesses already perceive difficulties without translating them as a perception of real risk of exit. The issue must therefore further focus on the reflection on better knowledge of what their business and they themselves are capable of supporting.

12.6. Appendix: List of selected variables

Wording of the question - Observatoire Prisma	**Type**
Variables from the questionnaire	
Year of business creation	Continuous
Turnover achieved in the previous year and year before last	Continuous
Subcontractor of major outsourcers	Binary
Perception of offer in relation to the market	Categorical
Expected staff and turnover (realistic assumptions and ideally) within one and three years	Continuous
Market phase of the business' main activity	Categorical
Main activity phase of the business	Categorical
Business' position in relation to the market	Scale
Turbulence of the industry (rapidly changing, competition, business prospects)	Scales
Strategic targets	Categorical
Strategic management priorities	Categorical
Formulation of strategic objectives (in terms of turnover, profitability, etc.)	Categorical
Strategic movements in the last three years (diversification, internationalization, etc.)	Binary

Actors involved in recent strategic decision-making	Scales
Formalization of strategic direction	Binary
Strategic approach (planning, emergence, resources, etc.)	Scales
Level of satisfaction with regard to skills (in marketing, HR, etc.)	Scales
Difficulties encountered recently in funding the activity	Scales
Distribution of responsibilities of the business' functions	Binary
Existence of a management team	Binary
Events experienced by the management team over the last three years	Binary
Events surrounding the management team (arrival / departure of a member, changing of tools / methods, etc.)	Binary
Activities in which managers feel most comfortable	Scales
Risk of bankruptcy in the last three years	Binary
Year of risk of bankruptcy	Continuous
Reasons for the risk of bankruptcy (financial difficulties, poor strategies, market problems, etc.)	Scales
Risk of perceived bankruptcy? What were the reasons (markets, costs, strategy, financial difficulties, etc.)	Scale
Does the manager currently manage other businesses? How many?	Binary / Continuous
Has the manager created other businesses? How many?	Binary / Continuous
Number of years managing a business for manager	Continuous
Manager's level of education	Categorical
Manager's specific skills (production, innovation, management, sales, etc.)	Categorical
Variables from Diane	
General liquidity for the year under consideration	Continuous
Debt ratio for the year under consideration	Continuous
Economic profitability for the year under consideration	Continuous

Gross operating margin for the year under consideration	Continuous
AFDCC score for the year under consideration	Continuous
Collective procedures initiated	Binary
Turnover growth rate between two years	Continuous

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Conclusion

Risks, Management and Strategy: Some Epistemic Benchmarks

Introduction

If the famous thesis by the German sociologist Ulrich Beck [BEC 01], on the fact that we have entered the "risk society", can and should be criticized all the more because it seems consensus had been reached too quickly, there is no doubt that the phenomenon and concept of risk is ubiquitous, multidimensional and polysemic. This issue has reached a point where it is recurrent in most debates due to the correlative leitmotiv of the absence of zero risk often confusing risk, its estimation and object or subject concerned. More than 30 years ago, Beck had the merit of focusing on the power of techno-economic actors who are leading the world at the sub-political level of national political institutions, and whose main problem is the distribution or redistribution of risks. In any case, these risks are inseparable from fears, threats, dangers, and finally from the realities sustained and created by man throughout history and, consequently, from the projects and realities to come and those which will not happen. Thus, in a more or less implicit manner, the human models and anthropological reports that he forged in a more or less distorting image of himself, of others, of relationships and their links with nature, the cosmos, immanence and transcendence [MER 09]. During the neo-liberal movement of recent decades, risks have been presented as being managed, controlled, insured and under control while, at the same time, risk or risk taking was promoted by entrepreneurial rhetoric and high-risk practices, including sports, bringing about ideological and symbolic divisions among those who dare and those who abstain, those who act and those who suffer.

Chapter written by Alain Charles MARTINET.

Risk Management: Lever for SME Development and Stakeholder Value Creation,
First Edition. Céline Bérard and Christine Teyssier.

Within this context, management techniques and sciences are more than ever key stakeholders and factors in the destruction and creation of realities and their uncertainties or associated risks, as it is now obvious that companies and their management in the process of appropriating the world through the establishment of a global empire, *Dominium Mundi* [LEG 07]. However, they are dominant factor and vector of their modeling, mutations, bifurcations and ruptures that constitute and strike off entire societies and planet.

Management now bears an eminent responsibility in the designation, control, and also the production of minor or major risks which, like mistigri or Sisyphus, keep coming back. Scoring or rotundity on certain risks goes hand in hand with concealment if not denial of others, their management erects winning actors who take advantage of them, outsource them or blame the potential damage on losing players, especially as they do not possess the legal and political philosophical attributes to be recognized as such ("nature", animals, slaves under their successive masks, including the most current ones). Their "control" is often a temporary solution rather than a permanent solution, thus marking their political dimension and imagined mechanisms or even more so, technological innovations that generate new ones as they are brought under control. *Homo sapiens*, who have become *homo technologicus* on their way to *homo artificialis*, will not return to their natural state but must relearn *sapiens and sophia* [PUE 16].

From an economic and restrictive interpretation to a managerial and strategic risk perspective

For a long time, management was able to maintain the idea that it was only at a *micro* and internal level and it was mainly concerned with structuring and running the organization. Consequently, efficiency gains could only be macroscopically beneficial. It is up to economics, as well as sociology, law or political science, to adopt wider perspectives to define macro balances and dysfunctions, and perhaps suggest policies or measures to correct them. Culmination in this regard was achieved with the harmonious embedding of Taylor's OST and Walras's theory of pure and perfect competition. The first, through the chronometer of elementary times, contributions as well as remunerations of each, by setting production to the millimeter, proposed a timing mechanism that pretended to ensure optimum and determined functioning of the "box" and therefore perfectly compatible, if not assimilable, with the competitive "firm", in spite of the fictional or purely mathematical character – a point without dimension – of the latter. It is also known that Walras' brilliant construction was a timeless axiomatic that puts aside time, space, power, asymmetries and externalities, and therefore risk and *a fortiori* uncertainty rejected in a world outside of markets.

This fiction of the division of tasks and responsibilities under the guise of economism is no longer feasible if it had ever been; companies, including SMEs, are obviously "embedded in the society" and not only "in the market", they are not just rule/price takers, but rule/price makers and distort beyond their environments, as François Perroux has always pointed out in his relentless criticism of the neo-classical theory. Unless, of course, the market fully absorbs the company. It is only in this limited situation that agents could insure themselves against all the risks via a complete market as well as price system; economic theory and rules of law would suffice to render management irrelevant. But it is not (yet, fortunately) the case in practice and the "disillusionment of the world" analyzed by Max Weber is incomplete; however, it is very advanced via the commodification processes of the world that is inseparable from globalization, desired by some and deplored by others.

The social and political responsibility of the company is thus questioned and solicited, and management must decide on the risks which it can take, those which it can insure, transfer, and those which it must bear or cause others to bear. Company practices, and the notions and tools that they use, constantly shape their environments and entire societies through the effects of imitation, interdependence, propagation, standardization and conventions. Management sciences can no longer be confined within organizations or reduced to the economic aspect. They must, at the same time, continue to describe, understand, evaluate their functioning and evolutions and propose remedial measures or innovation. And they also raise their epistemic and ethical issues to a meso if not macro plan, where the resulting effects, whether intended or not, of these corporate policies and practices manifest, possible damages to these concepts, instruments and behaviors are vectors.

Responsibilities and risks are intertwined; the choices made about them, their "management", bear responsibilities that companies must ensure, assume or seek to exonerate themselves. And it is clear that the overshadowing of the social, political and ecological dimensions, etc. to the benefit of the only economic, even financial dimension, as has often been the tendency in recent decades, exposes societies and also companies to incompatible risks with real sustainable development and encourages them to use an often makeup rhetoric of the CSR to highlight the efforts made and associated risk management in some judiciously chosen areas, such as to better disguise much heavier hazards elsewhere and that we decide not to evoke. Let us bear in mind that it is cost and not risk that is usually managed or, in other words, risk is managed on cost basis. Risks can dissimulate dangers, their management can dilute responsibilities as well as overshadow very dangerous activities that are ethically and politically irresponsible to pursue or engage.

Canonical distinction of economics: risk and uncertainty

If Schumpeter thought that his "creative destruction" was the inspiration of a French tradition, Cantillon, Turgot and Say were anxious to highlight the role of the entrepreneur as the agent who, by agreeing to pay for factors at a certain price without being sure of the quantities and prices of the products that he/she can sell afterwards, faces and bears risk and therefore entitled to residual profit. It was only in 1921 that Knight gave this concept a technical turn by introducing objective and subjective probabilities to distinguish between risk and uncertainty, or two forms of uncertainty, where the first is measurable and the other is not. Moreover, he endeavors to specify them empirically based on the different insurance categories. Knight is generally considered as the founder of the Chicago school, where Friedman, Stigler and many others excelled, together with one of the fathers of the Mont Pelerin Society, initiated into the famous Lippmann Colloquium. A society where they eventually imposed along with Hayek, an ultra-liberal vision that makes contract and market the cardinal instances that are intended to control risks, to the detriment of continental European trends (advocated by the Germans Eucken, Röpke, Ehrard and the French Allais Rougier, Rueff [AUD 08]), a social market economy enabler where public regulation and collective bargaining are supposed to stabilize relationships and transactions. In this regard, Knight prefigures corporate governance (Jensen and Meckling) and CSR limited to profit-maximization (Friedman) theories, which will be validated by the conservative revolution initiated by Reagan and Thatcher and transformation of fordist capitalism into financial capitalism, redistribution of income and risk among the various stakeholders and introduction of new uncertainties within and around companies under the umbrella of flexibility and competition, not only on the market but also within the hierarchical structure itself. Alain Supiot, a legal anthropologist at the Collège de France, analyzed this as the end of "The Philadelphia Spirit" [SUP 10, SUP 15] which had set up, through labor rights and institutions, social securities and solidarities that marked the second half of the 20th Century, yielding to the accomplishment of the total market and governance by numbers where the law is put aside in favor of the Brownian agitation of contracting particles animated by the mere calculation of economic interest.

Knight's direct and indirect influence is therefore significant, even though the risk/uncertainty distinction, which remains unspecific, ultimately amounts to distinguishing situations where the repetition of cases, withdrawals, etc. makes it possible to consider insurable risks in relation to those where decisions are always specific, singular and ultimately only facilitate estimates of very vague, subjective or implicit probabilities. We agree that these are frequent situations in the business world.

Knight's contribution is clear from an epistemological point of view, as a technician, he reminds us that uncertainty is consubstantial to our human condition and that many domains resist our efforts of knowledge. On the whole, according to Knight and Keynes, the essential components of the company's life and, consequently, the entrepreneur's decisions as well as his/her own contributions, are simply not measurable and fall under uncertainty in the sense where it is impossible to calculate probabilities objectively. Meanwhile, the descendants of Knight and Hayek and their Austrian disciples consider market as the only mechanism for managing uncertainty and therefore necessary to be protected from external interference, Keynesians are in favor of political intervention to create institutions that promote stability and coordination as well as regulated processes for the building and functioning of markets which, in their opinion and unlike Hayek, are in no way a "spontaneous order". Keynes argues convincingly that in radical uncertainty, agents tend to rely on the often tacit agreement that the current state of affairs will continue unless there are clearly defined reasons to expect a change [PRA 06]. We remember this true joke by the City Group CEO in the Financial Times on July 10, 2007, cynically announcing the crisis triggered by subprime loans during next summer: "When the music stops in terms of liquidity, things will be complicated. But as long as the music plays, you have to stand up and dance. For the moment we continue to dance" even on the deck of the Titanic! According to Keynes, recourse to the calculation of anticipated profits intensified by quantitative probabilities gets lost in the midst of "animal minds", these readily mimetic impulses of the mind and soul, these spontaneous needs to act judged by Pareto and the standard economic theory as irrational but Gabriel Tarde's forgotten genius had placed it at the center of his laws of imitation/repetition/innovation, a century before the Internet provided the technical platform for their full accomplishment [MAR 14] and the Nobel Prize winners, Akerlof and Shiller, brought them back at the center of their analysis of this crisis [AKE 09].

Uncertainty around the very principle of management

If just one justification was necessary for the raison d'être of management and its critical study, it would reside in the irreducible uncertainty that characterizes the business world, more generally, human actions and activities. This is detailed by different opinions as well as theories of organizations following the same footstep, for example, Simon's study on bounded or procedural rationality and that of Cyert and March, where the decision makers, in the absence of predicting, probabilizing and thus optimizing, adopt the first acceptable option (satisficing) while striving to negotiate with the actors in their environment in an attempt to stabilize transactions and relations. For economics which propose a rational agent "in substance", a *homo oeconomicus* maximizing a given and stable preference function in a finite,

determined or probabilized set, management sciences substitute empirical actors "in flesh and blood", with limited, hesitant, uncertain capacities while discovering their objectives and methods as they proceed, and hence, fond of heuristics, guides, conventions accepted by others, which (reassure) ensure the merits of their choices, thus implementing at best, a procedural rationality, which is often collective or reticular nowadays.

In this respect, major economists like Simon, Hirschman, Perroux, Sen, etc. who proposed alternative models have proven to be more of managers or strategists than orthodox economists. A very unique axiomatic attempt unfortunately with little impact was proposed by Shackle in 1938 [LEB 67], based on the assumption that all the important decisions by entrepreneurs are crucial, unique and contextual, taken by subjects who demonstrate their freedom by creating bifurcations, interruptions and ruptures in their course of actions that is inseparable from time that elapses. Shackle's innovative concepts of "eventual surprise" related to an event, "desirability" of expected results (and symmetrically their influential character) and the "level of attention" that it provokes the decision maker who are composed in a non-probabilistic, descriptive and also heuristic model, much closer to its cognitive and psychic situation in uncertainty than probabilistic models.

"That which cannot be avoided must be embraced". Shakespeare's well-known fulgurance refers to the need for an epistemology of risk and/or uncertainty, since the latter are inherent in organized and let alone organizable action, that is to say prior to the decision [MAR 13]. It is not a matter of tackling or confronting an uncertainty that is general and objective, tended as a vast, undifferentiated, opaque and disturbing backdrop to executives and managers, but rather embracing and coping with the various risks and uncertainties that everyone perceives and handles in their own way, and which offer as many possibilities as threats, freedom and deployment spaces as constraints, for those who are not afraid to face them or who are desirous or obliged to act. Taking the bull by the horns rather than invoking them in a rhetorical way to protect against any liability, while postponing indispensable changes.

Review of fundamentals: the two dimensions of management in uncertainty

Let us leave market finance and its sophisticated engineering to its mission to transform some of these uncertainties into more or less well calculated risks and to derive more or less masked supports, to focus here on company management and more especially strategy, precisely made, from its origin in the West likewise the

East in the 5th Century BC with Xenophon or Sun Tsu to move, despite or thanks to uncertainty, component with incompleteness, from this complexity that Edgar Morin has transformed into a method of thinking and acting. Everyone will agree that, in the absence of uncertainties, planning, programming and economic calculation would suffice and render strategy useless or purposeless. And that conversely, strategy would become impossible if uncertainty were total. Between these two formal extremes, the range is wide, which accommodates the multitude of concrete situations combining more or less strong points of near certainty and areas of uncertainty which make these situations complex and poorly structured. It is this imbrication that requires strategic work to feel, imagine, design and configure ways and means that contribute to the construction and monitoring, for a certain period, of the entity considered.

The various management aspects, associated risks and uncertainties that have been analyzed in this book can fundamentally be reduced to two major management modes that experts know are not only complementary but also partly conflicting, and solicit clearly contrasted issues, approaches, cognitive abilities, concepts and tools, in particular concerning the consideration of risks and uncertainty.

Exploitation, operational management and risk management

Managing, of course, involves ensuring that the exploitation of resources, skills and abilities functions and permanently produces what they were brought together for. It is well known that this exploitation of the existing potential is mainly governed by concern for performance, productivity and optimization under multiple constraints and widely knowable or otherwise known that, “the devil residing in the details”, the list of risks inherent in each function can be lengthy. The various insurances, procedures, rules, standards, certifications, controls, audits, inspections, etc. compete but never fully succeed in securing, making reliable and building confidence among stakeholders concerning the manufacturing, sale and use of products, and ultimately reduce a whole series of risks for each other. The nagging, recurring and endless question is whether “we do things right”, if it is not possible to improve, within acceptable limits, this exploitation in order to further secure the socio-technical processes on which it is based and increase performance. Although still pending, uncertainty is reduced by a willingly positive, if not positivist epistemology of informed action passing through a risk inventory, the objectification of each with a view to safety, security and control where the “signal-scout” and its more or less material and elaborate devices play a central role [MAG 17].

Fundamentally, this mode of operational management and anticipation as well as management of associated risks constitute the greatest part of the attention and activity of operators and managers, as they determine the achievements, performances and pursuit of exploitation. We also know that it can be seriously jeopardized in the event of certain failures or accidents, especially in technologically sophisticated systems – an aircraft, a nuclear power plant, an SEVESO-classified industrial site, a drilling platform, etc. – and then failure to control operational risks can affect the strategic situation of the entity, compromise its reputation, legitimacy and even sustainability, and more seriously, cause harm or serious damage to the environment. The crash of AF 447 Rio–Paris flight, the explosions of the Deepwater Horizon platform in the Gulf of Mexico, the accidents at the Mont Blanc tunnel, Fukushima or Chernobyl are tragic examples.

Exploration, strategy and management in uncertainty

Thus, we are dealing here with accidents or events that have a strong strategic impact on companies, but which originate in the poor control of risk or failure to take risk into account, then in failures of routine operations or operational management. In complex technical systems, investigation reports generally highlight a sequence of anomalies, breakdowns, the late or inappropriate reaction of operators – the famous "human error" – the likelihood of each being low but ending in an accident or disaster. Technical and human failures that are often attributable to negligence or underestimation of certain operational risks, are, if not at least plausible, associated with the insufficient training, experience or simulations of certain stakeholders.

Strategy already has a purpose here: providing early reflection on incidents, accidents, events that could cause breakdowns, discontinuities or even impossibilities in exploiting the existing potential and calling into question the entity's sustainability. If this concerns anticipation, it is rather in the safety, security and risk "control" register.

Beyond this mission, strategy basically consists of devising ways and means to more or less continuously recreate companies' potential, anticipate and then direct the necessary investments to regenerate products and techniques, or open markets which enable the survival, growth, and achievement of vision and goals that managers set over a longer time horizon than the three, six or twelve months during which they are called upon to account operating performances.

In this strategic mode, the issue is rather to ask if "one is doing the right things", creating, modifying or influencing the competitive game and rules that condition exploitation to one's advantage. An entrepreneurial and innovation approach as well as a more or less radical modification of the rules of the game become a substitute

for incremental improvements in the operational mode. This is evidenced by the success of the idea of "disruption" resulting in investments that can offer companies long-lasting performance and sustainable development.

While operational management is constantly focused on identifying and closing the gaps between the installed potential and the realized – the basis of management control – strategy drives managers' abilities to diagnose the situation and ensure the business model is always adapted: understanding and qualifying what is in action, the "existing", then conceiving a motor image, the "virtual", a subsequent power of achievements, a force of becoming, towards which they wish or consider appropriate to make companies evolve towards permanent construction/destruction. It is this virtualization that in principle guides the recreation of potential, a new "possible" that will have to be made "real".

Thus, the two fundamental management modes refer to a four-stroke engine "virtual/existing – potential/real" and it is easy to understand that they do not carry the same forms of risk and uncertainty. Although the potential–real couple can be satisfied with a positivist epistemology, at least positive, in which efforts are made to observe actual achievements compared with the installed potential, the same cannot be said for the "existing–virtual" couple that falls within conception, projective imagination, and ingenium, and therefore a different epistemology. In all the cases, if we consider that the aim of management sciences is organizable collective action/activity and not just the organization that is already there, we fall within knowing in order to act and also knowing by acting or even acting in order to know, all the attitudes appropriate to fall within a pragmatist epistemology [MAR 15].

Pragmatist epistemology as a paradigm which unites management and strategy in complexity

Uncertainty would be, as some say, a major obstacle to this imaginative conception, to this elaboration of a virtual path, and would invalidate the very idea of strategy. Difficulty or even the impossibility of forecasting would make strategy impossible. This judgment is based on an erroneous reduction of strategy to plans, programs and calculations. Like the misconception according to which a strategy has to be formulated in detail for it to be "applied", then implemented for several years without retouching, such is its *ex-ante* design. A very French idea, a true epistemological bias contrary to Anglo-Saxon and Oriental pragmatism [NON 12, JUL 96], nourished by the four principles of Descartes' Discourse on the Method – obviousness of obviousness, fragmentation of problems and projects, reduction into simple elements and exhaustive enumeration in all things – posited as the only valid

cognitive processes to explain and manage the whole. Associated with Auguste Comte's positivism, with a taste for general ideas and universal laws, following the esthetics of French gardens designed in advance in their smallest masses and the centralization and preferred mode of exercising power of major bodies of the civil service – "State nobility" according to Bourdieu – these rules justified the design of the long-term strategy which dominated among French top leaders and was advocated by Pierre Massé in his famous work *Le Plan ou l'AntiHasard*: overvaluation of formulation to the detriment of implementation, primacy of saying over doing, announcement of decisions after realization, less interest in evaluation and feedback along the way, excessive use of binary logic alone – there is rarely a plan C, and plan B often serves as a reinforcement to plan A – hierarchical and highly symbolic separation of power between strategists and others, and the evacuation of effects in favor of reasoning alone which is now demonstrated to be insufficient in forming a sound decision [DAM 95, DAM 03].

It is indeed this purely planning-based conception of strategy that is made difficult, if not impossible, in dense and fluid, as well as competitive and pressurized, worlds, where the connection of ideas, agility, relationships and networking, etc. proves more effective than positions, barriers and fortresses. Especially for SMEs that rarely enjoy the incomes that the large world oligopolies are now striving to establish.

But in a world of uncertainty, real strategy can no longer be absorbed by economic calculation, contrary to Williamson's thesis, issued not without provocation and arrogance in *Strategic Management Journal* – strategizing would be a simulacrum or gadget, only economizing would be important – since it is precisely this economic calculation that proves insufficient and sometimes impossible. Moreover, it suffices to observe the magnitude of estimation errors, sometimes abysmal discrepancies between the estimates of certain projects and their actual cost or between the expected gains in a merger-absorption and the achievements after a few months or years.

Strategy cannot further be reduced to a reaction to problems posed by others or to following of technological innovations alone or the dictatorship of the moment. But strategy must strive to create favorable rules of the game, virtualize and potentiate collective enterprise, keep control in poorly anticipated events, to preserve forms and degrees of autonomy, as well as create uncertainties for competitors and opponents, while managing the growing interdependencies of our complex worlds where any action generates reactions, any project generates counter projects, and also brings forth unexpected allies and partners. The geniuses of Descartes and Spinoza are obvious while opposed, but it is the latter that catches our attention more because of its relevant prescience and prodigious actuality [BOV 12, CIT 08].

Let us substitute this orderly planning, although undermined by its rigidity and dependence on forecast alone, for a pragmatic, if not pragmatist conception of strategy, recently synthesized by Nonaka and Zhu. The so-called "6C" strategy is mnemonically put forward as "contingent, co-emerging, continuous, co-creative, collective and courageous". The 500 pages of this major work, *Pragmatic Strategy* [NON 12], consistently intersect with our own "results", formed over 45 years of work on strategy and its epistemology [DEN 11], with and by entrepreneurs and businesses of all sizes, in different fields of activity, leaders and managers, researchers from various disciplines and some top military personnel.

Complexity calls for strategy and strategy in return calls for complex thinking. Uncertainty of action and incompleteness of knowledge are very much related, the two calling on a pragmatist epistemology where active and transforming knowledge has to be scientifically elaborated rather than passive knowledge and general explanatory laws of positivism.

In the first place, the primacy of context, place and time, singularity and custom against the temptation and ideology of "open management", are universal rules of strategy and management, keys to success, ready-made thinking of "best practices" – those of statistical averages? Strongest companies? Most observed? Best promoted? – practices that would suffice to repeat and whose most likely effect is to lead the imitators to failure. Primacy of context and therefore clear understanding of situations are cultivated and deepened by a demanding interaction within the field of operations. They need to be attended to regularly, as further done and better than others, for example, by engineers and technical sales representatives of successful German or Swiss ETIs and, for strategy researchers, by rediscovering the efficiency and legitimacy of research-intervention or different forms of clinical research. Careful and reactive consideration of fields to better nurture intentionality, debate it at the top with innovations and innovative behaviors that only reveal themselves on the ground, in action and activity.

Second, the use of generalized dialogic, which has understood the power of digitization and also all the limits of binary reasoning for the conduct of human affairs, and tries instead to maintain in creative tension, polarities which are almost always in conflict-cooperation, conflict-competition and ago-antagonists, where the third party, far from being lack of reasoning, is indispensable to the self-maintenance of dynamics. There is no relevant and effective strategic action without support for the ecosystem, no successful and legitimate technology without sociology of acceptance and diffusion, no factors without actors, no plan without learning on the way, no centralization without decentralization, no autonomy without interdependence and no freedom without uncertainty. From Descartes'

genius to the binary logic, of little help to strategic thinking, we prefer the fulgurance and relevance of that of Pascal: "I hold for impossible to know the parts without knowing the whole, either to know the whole without knowing the particular parts" (Pascal, *Les Pensées*, p. 34). And it is indeed this permanent back and forth between the parts and the whole, never completely known, which makes it possible to sufficiently understand to act.

But in uncertainty, simultaneously nurturing deliberate intentionality and innovations, anticipatory reflection and experience feedbacks [MAR 06] cannot be effective without some endogenous fixed points that depend on the wealth and clarity of a corporate policy worthy of the name, in no way reducible to the maximization of profit at any time and any place, the legitimacy of governance and the responsibility of managers, and also a strong internalization within the organization, ethical red lines, equitable and legitimate incentives and possible rewards and sanctions. Was it essential for the VW Group to expose itself to billions of dollars in fines and suffer such uncertainty with regard to its future, through miserable rigging software, whereas 20 years of intelligent construction of a particularly remarkable strategy and organizational model would ensure the group sustainable leadership?

The "6C" strategy and generalized dialogic undoubtedly make it possible to create better cognitive, affective and organizational conditions for anticipating uncertainties. However, they are inoperative and disoriented if they cannot refer to some strong and sufficiently stable general policy criteria. Evolutionary criteria of course, but certainly not versatile, modified by what we learn and discover in the actual path, what block or allow environmental changes, and also the inevitable recursivity between the ends and means that manifest over time. Every new entrepreneur experiences this creative tension: deal with objective-average causal rationality and business plan demanded by its funders, and which is taught by one's trainers, and above all cleverly put together an effective, viable and promising business model, by mobilizing the available means, develop one's objectives according to available resources and effects observed, progressively forge a vision in action, meetings and dialogues, enlist partners with new skills who really commit themselves [SIL 14, SIL 15], in short, develop and evolve along with one's ecosystem. If the market is, as we have been saying since the time of Adam Smith, guided by an invisible hand, mankind also needs a hidden hand to innovate and act.

Entrepreneurship (autonomous, small, medium and large, intra-corporate and also within giant organizations) and yet sufficiently open and flexible to foster the creation of knowledge and to bring about innovations in stream, etc., are all the situations where uncertainties are multiple but can be subdued and transformed into potentialities by ordinary managers and leaders, provided that all are clear and responsible regarding the values that sustainably drive them. As John Dewey, one of

the three founders of the powerful American pragmatist philosophy put it: what we assign value to is what we value most, which is also that by which we are sustained. If we want freedom, a desire to live and act to make the world a little more livable via sustainable and responsible organizations, let us wish ardently that many uncertainties replicate for a long time against companies and totalitarian organizations of any type.

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