Risk Management
Risk Management

Lever for SME Development and Stakeholder Value Creation

Edited by

Céline Bérard
Christine Teyssier
Preface ........................................... xiii
Introduction ....................................... xvii

Maria CREMA

Part 1. Risk Management, Governance and Stakeholder Value Creation ........................................ 1

Chapter 1. Role of the Governance System in Strategic Risk Management ....................................... 3
Martine SEVILLE and Christine TEYSSIER

1.1. Introduction ..................................... 3
1.2. The role of managers and the governance system in risk management: enabling and constraining influences ................................. 4
1.2.1. Managers of SMEs shape risk management in their company ........................................ 4
1.2.2. Extended governance system as support to managers of SMEs in the strategic management of risks ........................................ 5
1.3. Comparison of proposals in nine SMEs cases ........................................ 9
1.3.1. Presentation of the sample ........................................ 9
1.3.2. Findings and discussion ........................................ 12
1.4. Conclusion ...................................... 18
1.5. Bibliography ..................................... 19

Chapter 2. Integration of ISO 26000 International Standard by SMEs: Toward a Better Understanding of Risks ........................................ 25
Camille DE BOVIS and Sylvaine MERCURI CHAPUIS

2.1. Introduction ..................................... 25
2.2. When risk leads to reliability ........................................ 27
2.3. Toward a better understanding of risks by actors: the role of ISO 26000 ............................................................... 29
  2.3.1. Risk-specific standards are not effective for SMEs ................................................................. 29
  2.3.2. ISO 26000: reading grid for SMEs ................................................................. 34
2.4. Toward a better understanding of risks by responsible actors ................................................................. 38
2.5. Conclusion ................................................................................................................................. 39
2.6. Bibliography ............................................................................................................................. 41

Chapter 3. Managing SMEs' Economic Dependence Risks: in Favor of Disciplinary and Relational Governance ......................................................... 45
Martine SEVILLE, Caroline CHAMPAGNE-DE-LABRIOLE
and Nathalie CLAVEAU

3.1. Introduction ................................................................................................................................. 45
3.2. Structural approach to the economic dependence of SMEs and its implications in terms of risk management ......................................................... 47
  3.2.1. An approach based on the asymmetry of initial powers and resources ................................................................. 47
  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 ......................................................... 48
  3.2.3. Tools to manage the risk of abuse of economic dependence before any necessary disciplinary measures but with limitations ................................................................. 51
3.3. An approach to economic dependence by embeddedness: towards relational governance ................................................................. 52
  3.3.1. From a structural approach to economic dependence relationships to an embeddedness approach ................................................................. 52
  3.3.2. SME development challenges for embedding their economic dependence relationship with their partner ................................................................. 54
  3.3.3. An embeddedness that is not without risk for SMEs and which must be managed by means of a suitable governance ................................................................. 56
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 ................................................................. 62
3.5. Bibliography ............................................................................................................................. 63
Chapter 4. Reputation Risk: Anticipation and Management of Reputation Failure ........................................... 65
Laure AMBROISE and Isabelle PRIM-ALLAZ

4.1. Introduction .......................................................................................................................... 65
4.2. Reputation, definition and challenges for SMEs ................................................................. 66
  4.2.1. Reputation: definition ........................................................................................................ 66
  4.2.2. Reputation challenges for SMEs ..................................................................................... 69
4.3. Reputation risk for SMEs ..................................................................................................... 72
  4.3.1. Lack of reputation ............................................................................................................ 72
  4.3.2. Loss of reputation ........................................................................................................... 73
4.4. Actions and tools to build and preserve reputation ............................................................ 74
  4.4.1. Quality of offerings and expertise .................................................................................. 74
  4.4.2. The role of the quality of the relationship with different stakeholders ....................... 75
  4.4.3. Enhance commitment in the city and territory .............................................................. 76
  4.4.4. Managers’ image ........................................................................................................... 78
4.5. Conclusion ........................................................................................................................... 78
4.6. Bibliography ........................................................................................................................ 79

Part 2. Risk Management as a Lever for Organizational Development ........................................... 85

Chapter 5. Proactive Management of Operating Risks: A Lever to Improve External Funding for SMEs? .................................................................................................................. 87
Josée ST-PIERRE and Richard LACOURSIÈRE

5.1. Introduction .......................................................................................................................... 87
5.2. Decisions for funding SMEs and risk measurement .......................................................... 88
  5.2.1. Assessment of SMEs risk by funders ........................................................................... 89
  5.2.2. Risk measurement: financial and non-financial data ................................................... 90
5.3. Risks, risk sources and risk control ................................................................................... 91
  5.3.1. Different risk sources .................................................................................................... 91
  5.3.2. Risk management practices ......................................................................................... 92
5.4. Methodology ....................................................................................................................... 93
  5.4.1. Presentation of sample .................................................................................................. 94
  5.4.2. Identification of variables ............................................................................................ 94
  5.4.3. Analysis tools ............................................................................................................. 96
5.5. Presentation of results and discussion ............................................................................... 96
  5.5.1. Presentation of results .................................................................................................. 96
  5.5.2. Analysis and discussion ............................................................................................... 99
5.6. Conclusion ........................................................................................................................... 100
5.7. Appendices ......................................................................................................................... 102
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.7.1. Typological analysis of group companies</td>
<td>102</td>
</tr>
<tr>
<td>5.7.2. Implementation rates of practices in cluster 2 subgroups</td>
<td>103</td>
</tr>
<tr>
<td>5.8. Bibliography</td>
<td>104</td>
</tr>
<tr>
<td>Chapter 6. Risk Management: A Lever for Organizational Change for SMEs?</td>
<td>107</td>
</tr>
<tr>
<td>Céline BÉRARD and Nathalie CLAVEAU</td>
<td></td>
</tr>
<tr>
<td>6.1. Introduction</td>
<td>107</td>
</tr>
<tr>
<td>6.2. From risk management to organizational change</td>
<td>108</td>
</tr>
<tr>
<td>6.2.1. Organizational change: the forgotten link between risk management and performance?</td>
<td>109</td>
</tr>
<tr>
<td>6.2.2. Organizational changes: how to qualify them</td>
<td>110</td>
</tr>
<tr>
<td>6.3. Methodology</td>
<td>112</td>
</tr>
<tr>
<td>6.3.1. Selection and presentation of cases</td>
<td>112</td>
</tr>
<tr>
<td>6.3.2. Data collection and analysis</td>
<td>113</td>
</tr>
<tr>
<td>6.4. Results and discussion</td>
<td>114</td>
</tr>
<tr>
<td>6.4.1. Decision to adopt a risk management system: contexts and organizational changes induced</td>
<td>114</td>
</tr>
<tr>
<td>6.4.2. Synthesis and discussion of results</td>
<td>119</td>
</tr>
<tr>
<td>6.5. Conclusion</td>
<td>122</td>
</tr>
<tr>
<td>6.6. Bibliography</td>
<td>123</td>
</tr>
<tr>
<td>Chapter 7. Product Innovation in SMEs: Risk Identification Capacities</td>
<td>127</td>
</tr>
<tr>
<td>Jacques BERTRAND and Josée ST-PIERRE</td>
<td></td>
</tr>
<tr>
<td>7.1. Introduction</td>
<td>127</td>
</tr>
<tr>
<td>7.2. Literature review and development of the analysis framework</td>
<td>128</td>
</tr>
<tr>
<td>7.2.1. Risk management and SMEs.</td>
<td>128</td>
</tr>
<tr>
<td>7.2.2. Characteristics of SMEs and their ability to identify risks</td>
<td>130</td>
</tr>
<tr>
<td>7.3. Methodology adopted</td>
<td>134</td>
</tr>
<tr>
<td>7.3.1. Identification of sample</td>
<td>134</td>
</tr>
<tr>
<td>7.3.2. Data collection and coding of variables</td>
<td>134</td>
</tr>
<tr>
<td>7.4. Findings and discussion</td>
<td>135</td>
</tr>
<tr>
<td>7.4.1. Presentation of results</td>
<td>136</td>
</tr>
<tr>
<td>7.4.2. Discussion</td>
<td>139</td>
</tr>
<tr>
<td>7.5. Conclusion</td>
<td>141</td>
</tr>
<tr>
<td>7.6. Appendix: examples of verbatim and testimonials used to assign scores</td>
<td>142</td>
</tr>
<tr>
<td>7.7. Bibliography</td>
<td>144</td>
</tr>
</tbody>
</table>
Chapter 8. Counterfeiting Risk Management for SMEs and Industrial Subcontracting Activities: A Literature Review

Manal El Bekkari, Catherine Mercier-Suissa, Céline Bouveret-Rivat and Lynda Saoudi

8.1. Introduction ..................................... 149
8.2. Literature review on industrial subcontracting and counterfeiting risk .................................. 151
8.2.1. Industrial subcontracting .................................. 151
8.2.2. Industrial Property Rights (IPR), strategic assets to be protected .................................. 153
8.3. Counterfeiting and counterfeiting risk factors associated with industrial subcontracting .................. 155
8.4. Counterfeiting hedge strategies .................................. 158
8.5. Conclusion ...................................... 161
8.6. Bibliography ..................................... 163

Part 3. Risk Perception and Management by the Manager-Entrepreneur ..................................... 169


Saulo Dubard Barbosa and Luc Duquenne

9.1. Introduction ..................................... 171
9.1.1. The entrepreneur: a risk taker? .................................. 171
9.1.2. Two types of entrepreneurial risks: the risk of failure and the risk of missing an opportunity .................. 172
9.1.3. Venture creation support and mentoring .................................. 173
9.1.4. Heuristics and cognitive biases .................................. 174
9.2. Methodology ..................................... 175
9.3. Cognitive biases in action in the mentoring and support of entrepreneurs. .................................. 176
9.3.1. The phenomenon of substitution, the heuristics of representativeness and the law of small numbers ............ 176
9.3.2. Overconfidence, confirmatory bias and planning fallacy .................................. 178
9.3.3. Availability ..................................... 180
9.4. Understanding cognitive biases from a risk management perspective .................................. 182
9.4.1. Training of mentors ..................................... 182
9.4.2. Shared mentorship ..................................... 184
9.4.3. Going beyond the business plan .................................. 185
9.5. Conclusion ...................................... 186
9.6. Bibliography ..................................... 186
Chapter 10. From Necessity to Vulnerable Entrepreneur

Caroline BAYART and Séverine SALEILLES

10.1. Introduction ..................................... 193
10.2. A different way of perceiving necessity entrepreneurs ........................... 194
  10.2.1. From the necessity entrepreneur to be motivated ....................... 194
  10.2.2. ... to the vulnerable entrepreneur to be secured .................... 196
10.3. Risk management, an ability to develop in vulnerable entrepreneurs ..................... 198
  10.3.1. Risk management challenges in entrepreneurship ....................... 198
  10.3.2. The issue of risk management in entrepreneurial support ............... 199
10.4. Supporting vulnerable entrepreneurs through proactive risk management practices: an exploratory study ....... 200
  10.4.1. Presentation of study and respondents ................................ 200
  10.4.2. Multiple dimensions of vulnerability within the entrepreneurial context .................. 201
  10.4.3. Supporting the implementation of risk mitigation strategies by vulnerable entrepreneurs .......... 203
10.5. Conclusion ..................................... 206
10.6. Bibliography .................................... 207

Chapter 11. Entrepreneurial Approach in SMEs: Specificities, Vulnerabilities and Risks

Lynda SAOUDI and Stéphane FOLIARD

11.1. Introduction ..................................... 211
11.2. Re-entrepreneurship in SME: genealogy of the concept ....................... 212
  11.2.1. The specificities of SMEs ........................................ 213
  11.2.2. Entrepreneurship in SME: contribution of the literature on large businesses ............. 213
11.3. Entrepreneurship in SMEs, a risky activity ................................ 216
  11.3.1. The vulnerability of traditional SMEs ................................ 216
  11.3.2. Risks associated with managers ................................... 217
  11.3.3. Risks associated with employees ................................... 218
  11.3.4. Management risks associated with information .......................... 219
11.4. Anticipating and managing risks to develop SME entrepreneurship ................. 220
  11.4.1. Developing the entrepreneurial agility of managers ..................... 220
  11.4.2. Developing the entrepreneurial agility of employees ................... 221
  11.4.3. Developing organizational agility .................................. 222
  11.4.4. Developing relational agility ..................................... 224
11.5. Conclusion ..................................... 225
11.6. Bibliography .................................... 227
Chapter 12. Perception Biases of Failure Risk among SME Managers

Nathalie CLAVEAU, Muriel PEREZ and Thierry SERBOFF

12.1. Introduction ..................................... 233
12.2. Literature review .................................. 234
  12.2.1. Failure process .................................. 234
  12.2.2. Perception of risk of failure and perception bias .............. 235
12.3. Research methodology ................................ 237
  12.3.1. Data from Observatoire “Prisma”
    (Prisma Observatory) .................................. 237
  12.3.2. Measurements of real and perceived risk .................. 238
  12.3.3. Analysis variables .................................. 238
12.4. Findings and discussion .............................. 239
  12.4.1. The existence of gaps between perceived and real risk ........ 239
  12.4.2. Groups characterization ................................ 240
  12.4.3. Discussion ................................... 241
12.5. Conclusion and managerial implications ..................... 244
12.6. Appendix: List of selected variables .......................... 245
12.7. Bibliography ....................................... 247

Conclusion ........................................ 251

Alain Charles MARTINET

List of Authors ...................................... 265

Index ................................................. 269
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-SUISA, Céline BOUVERET-RIVAT and Lynda SAOUĐI 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
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.
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).
<table>
<thead>
<tr>
<th>Business risks</th>
<th>Pure risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic risks</strong></td>
<td><strong>Operative risks</strong></td>
</tr>
<tr>
<td>Competitors and increase of competition [JAY 12, TUR 02]</td>
<td>Human resources [JAY 12, VIR 05]</td>
</tr>
<tr>
<td>Changes in the market and customer demands [VIR 05, TUR 02]</td>
<td>Process management [JAY 12, VER 13, HEN 08]</td>
</tr>
<tr>
<td>Lack of market data and skills [SUN 15, TUR 02]</td>
<td>Regulatory requirements [SUN 15]</td>
</tr>
<tr>
<td></td>
<td>Personal absence rate [TUR 02]</td>
</tr>
</tbody>
</table>

**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.

**Bibliography**
