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Abstract: The focus of this article lies in the deployment of a comprehensive risk management approach within an SME (Small or Medium-sized Enterprise) which calls for a description and explanation of their idiosyncrasies, in relation to their specific needs and expectations, which change over time.

It describes the evolution of the business using the lifecycle concept which highlights the modifications and changes in configuration that this type of organization experiences during its development. This concept is used in order to characterize the vulnerabilities of SMEs using a model which brings together hazards, consequences and the stage of company development.

This article aims to define and legitimize the use of the lifecycle concept as a basic component of a global risk management approach in an SME. It describes an operational approach to reducing vulnerability based on the level of organizational maturity.

1 INTRODUCTION

Global risk management is one of the solutions classically envisaged to reduce the risks faced by business. It is a methodical, systematic and iterative process which makes it possible to analyze the major risks faced by business (e.g. loss of a significant debtor, increases in production costs or loss of a key worker). Although it is an attractive solution, it is far from obvious how such an approach can be implemented by micro and small businesses (defined by European Union regulation 2003/361/EC as having less than 10 or 50 employees respectively). On the one hand there is little interest from business owners in the implementation of such procedures. For them, the time and complexity of implementation outweighs the relevance of the results for the strategic goals of the enterprise. On the other hand, the available tools are essentially simplified versions of systems operated by big business and not appropriate to the needs of small business.

The aim of this article is to rethink current commercial approaches to risk management, which do not take into account the metamorphosis of the SME and its changing needs at different stages of its evolution. It tries to define the relationship between the developments of businesses' activities (described with the lifecycle concept) and its practices and needs in terms of risk management. It presents the vulnerability of SMEs through the determinant of businesses failure and the risk management process. It also proposes a model which integrates the life cycle concept in order to characterize the vulnerabilities of SMEs. This allows envisaging the design of a diagnosis tool incorporating the notion of organizational maturity.

2 CHARACTERIZATION OF VULNERABILITIES FOR SMALL BUSINESS

2.1 Characterizing the failure of small business

"SMEs are those businesses in which the entrepreneur personally and directly assumes financial, technical and moral responsibilities in the company" (Hirigoyen, 1981).

In France, more than 99% of businesses that fail are SMEs (Altares, 2010). Failure is defined in practical terms as a state of insolvency, i.e. the company is unable to meet its liabilities from its available assets. Several types of failure can be distinguished (Gresse, 1994). Economic failure is a state in which the company consumes more resources than it produces and consequently does not contribute positively to the economy. Financial failure comprises cash flows shortages, collectability risk, etc. Legal failure is a state in which the financial situation of the company is irreparably compromised when due payments are not made. Finally, bankruptcy can be declared through a court judgment.

According to Guilhot (2000), various explanatory approaches can be used to study business failure. These include economic, financial and strategic approaches. Economic approaches aim to bring to light the "factors which affect the existence of companies". Financial approaches highlight "factors related to the disappearance of big and small firms". Strategic approaches study the determinants "of success and failure when the company is faced with its environment". This makes it possible to highlight variations in the factors that bring about the failure of small and big companies and to demonstrate the dominant role played by the environment. In contrast, organizational and managerial approaches emphasize the importance of the personality type of the entrepreneur in SMEs and discuss the different personality types found within failing and successful companies.

From a more general perspective, Coulibaly (2004) also highlights factors which can have an influence on the business propensity to enter the failure process. He details the most widely cited determinants of bankruptcy which are the age and size of the business, its industrial field, its legal status, etc. and also introduces basic elements about a new factor to be taken into account : the lifecycle concept. The life cycle concept is taken from the domain of biology; "Like people and plants, organizations have a life cycle. They have a green and supple youth, a time of flourishing strength, and a gnarled old age…" (Lippitt & Schmidt, 1967). The life cycle metaphor is used both to describe the development of the organization as a whole and also to explain the evolution of some of its constituent components, for example products and technologies.

2.2 The life cycle concept as an explanatory device for the failure of SMEs

Recent research offers a new explanatory device for the failure of organizations. Ooghe and De Prijcker (2006; citing Thornhill & Amit, 2003) stress that management shortcomings, which may contribute to the failure of an organization, differ according to the state of the business. A young business (with managerial and financial management shortcomings) does not fail for the same reasons as an older company (which is unable to adapt to its environment). In the same way, Coulibaly (2004) establishes that the sources of difficulty for businesses vary, depending on the extent to which they have evolved.

Stage of evolution	Origin of difficulties
Creation	Understanding of the market, mistakes in marketing policy
Growth	Resources
Professionalism	Management style (planning, organization, control)
Consolidation	Enterprise culture, structural rigidification

Table 1: Origin of difficulties as a function of the stage of evolution of SMEs (from Coulibaly, 2004)

This is confirmed by the work of Crutzen (2009) who highlights the links between a four-stage life cycle model, and five types of failing business. The types of failing business are: the ill-conceived company, the business suffering from growth problems, (old) non-reactive companies, the company that serves other interests and the business that suffers an unexpected shock.

Badly created firms (Creation)	Poor foundations
	Insufficient managerial competences
	Poor foundations + Insufficient managerial competences
	Innovative firms that are little customer-oriented
	Youthful indiscretions
Firms with growth-related problems (Growth)	Overestimation of the future level of activity
	Lack of control
Non-reactive firms (Maturity-Decline)	Progressive misalignment

Table 2. Example of main explanatory failure patterns amongst small firms linked with Life Cycle Theory from (Crutzen, 2009)

Among the different approaches to developmental stages, a model that has received particular attention is that developed by Scott and Bruce (1987), based on (amongst others) the work of Greiner (1972). Founded on Greiner's general model, Scott and Bruce outline various evolutionary stages according to the age and size of the business. This model, which is in no way predictive, is divided into two distinct parts. The first part is the life cycle curve which is a representation of the various evolutionary stages of the product. This curve is divided into five stages (inception, survival, growth, expansion and maturity) which are separated from each other by a crisis. This crisis brings about a transitional phase which leads to the next stage. These five stages correspond to a particular company configuration, and are identified using the following eleven parameters: the state of the industry, the main problems encountered, the role of management, management style, the structure of the organization, product research, control systems, the principal source of funding, cash generation, principal investments and the product(s) and its(their) market(s).

Analysis of the data makes it possible to determine that each stage of the business lifecycle corresponds to a state of organizational structure. This state is to be linked with various causes of bankruptcy in order identify which parts of the business' activities need to be "reinforced". This support can be provided through approaches used by main partners of the company (banks, insurance,…) : the risk management.

2.3 Risk management and the SME

"To run a business is to manage risks and opportunities" (Le Ray, 2006).

"Risk management is a central part of any organization's strategic management. It is the process whereby organizations methodically address the risks attached to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities." (FERMA, 2003, p.2).

There are various risk management standards (AS/NZS 4360: 2004, ONR 49001, JIS Q 2001:2001, CSA-Q850 etc.), supplemented by others which are more specific (OHSAS 18001, ISO 14001 etc.) or more general (e.g. ISO 31000). Despite some differences between them, risk control processes cover the same activities. These are namely: to describe the context, to identify/analyze/assess/treat risks, to communicate and consult with company stakeholders and to monitor and periodically review the process.

The entrepreneur, who lacks access to these management repositories and appropriate methods, can only partially manage risk. The failure to follow standard practices means that it is rarely possible to ensure risk management. In facts, this means that if an incident should occur it may jeopardize the sustainability of the organization's activities. This being the case, it is interesting to ask why institutional actors struggle to convince entrepreneurs of the well-founded benefits offered by standard risk management approaches (even if only for specific risks such as occupational health and safety).

There are several potential answers to this question. First, risk management approaches are developed by, and for, large companies. They are based on a number of presuppositions that appear to be incompatible with the organizational and functional reality of the SME. Their implementation requires a significant effort to formalize information systems via system documentation (or documentation systems). In terms of standards this materializes

in the form of the preparation of communication/consultation plans and reports, policy documents, action plans, procedures, record keeping, etc. However, it is known that in the SME informal communication predominates and internal information systems are poorly organized. External information systems are simple and operational (Julien, 1997).

A second factor is that the available approaches tend to lead the company toward a preventive, rather than curative view of risk management. This seems to be at odds with the decision-making process of SMEs which is generally intuitive, reactive rather than proactive, and responds mainly to constraints dictated by operational factors (which take precedence over managerial and strategic factors (Julien, 1997)).

A third point is that far from the erroneous and simplistic view that the main objective of entrepreneurs is personal gain or improved social status (which is in no way representative of the majority of entrepreneurs), it appears that their performance goals are not just financial (Massey, 2005). Indeed, it appears that it is also necessary to take into account and integrate concepts related to customer service, quality of life and personal values, etc. The levers and drivers that motivate entrepreneurs differ (Gray, 1997) and it is necessary to emphasize the fact that global risk management is a tool that can support the achievement of a wide range of objectives relevant to the company; its organization, its resources, etc.

The diversity of goals pursued by entrepreneurs can also be studied in terms of the perception and understanding of risk. In reconsidering the view of an entrepreneur as a systematic risk taker (Knight, 1921) it is necessary to separate out "what is available in the matter of risk management and prevention" (Antonsson, 1997). This is a function of the set-up of the particular organization and therefore the profile of the entrepreneur (among others).

The external environment of the organization plays a pivotal role in terms of risk management (Walters, 2001). This was demonstrated by Martin and Guarnieri (2008) who describe the importance of social, regulatory and economic pressures on the level of prevention of Occupational Health and Safety (OHS) risk. The general hypothesis of Favaro (1997, p.44) states that "observed safety practices are to a large extent functions of a set of organizational and structural determinants which are external to the health and safety domain". From this, the work of Martin and Guarnieri (Martin & Guarnieri, 2008) reaffirms the need to take into account the professional network of the entrepreneur, client relationships, legislation and the proximity of prevention bodies in order for the SME to sustain OHS risk prevention measures.

This suggests that risk management procedures, and specifically risk management procedures designed for SMEs must be structured in a way that takes into account the profile of the entrepreneur, the characteristics of the organization and its environment.

All these elements allow highlighting that vulnerabilities of a SME are to be considered in a wider perspective. It should integrate functional and organizational particularities of these structures in order to rethink models used behind provided tools.

3 MODELING THE VULNERABILITY OF SMES TO MAJOR RISKS

3.1 Characterization of the SME

In the European context, SMEs are defined by European Commission recommendation 2003/361/CE which classifies companies according to three main criteria related to turnover, headcount and their degree of independence. However, it seems that these criteria used for the definition of the SME, which can be applied to every type of company, are not sufficient to characterize the specific realities of this entity. SMEs differ from big companies not only in terms of the financial, human and temporal constraints that are a result of their size, but also in terms of their organizational and functional characteristics i.e. their intrinsic properties.

SMEs are rarely or never structured into a hierarchy. They often revolve around the owner-manager who through their knowledge, skills and personality, shapes the organization and determines its evolution over time. This person, who is involved to a greater or lesser extent at every level of the structure, is multidisciplinary, as are operational staff who

rarely limit their activities to one field of expertise (Julien, 1997). The processes that describe the activities of the company are usually informal, as is communication between the various actors in the structure. On the one hand, these characteristics make the SME adaptive and reactive in a way that is inconceivable in larger organizations. On the other hand, it makes this type of organization extremely vulnerable to the endogenous and exogenous conditions it has to face.

In general terms the SME can be understood as comprising the following internal functions which structure its activities in a more or less formal and visible way: the head (strategic) office; financial management, accounting and control; administration; legal and fiscal functions; information systems; human resources; HQSE (Health, Quality, Safety and Environment); sales and trading; market research and development; maintenance; production and the supply chain. The following stakeholders form the external environment of the company: suppliers and subcontractors; competitors; customers and distributors; financiers and shareholders; insurers; public authorities and local institutions; NGOs, associations and local residents; the media; employees and their families, and staff representatives and unions.

3.2 Characterization of the hazards

The precise reasons for the failure of a business are not always obvious (Megginson *et al*., 2003) and it appears that the failure process has multiple causes.

The typical reason given for failure is financial difficulties. In fact, financial difficulties only manifest as the result of deeper causes, of which the most commonly cited are: management problems, demand problems and problems related to an internal crisis. Moreover, it is known that one-third of the causes of failures are accidental and that the remaining two-thirds are predictable (Deminski, 2002). In addition to financial difficulties and mismanagement Deminski also highlights a third feature called ‘critical phases’. These comprise the first two years of operation after creation, development and hand-over of the business.

Several typologies exist to define business risk. For example, Véret and Mekouar (2005) use seven categories to describe the diversity of risks faced by companies: financial, logistical, regulatory, tax, legal and risks related to production and consumer markets. Another example is Le Ray (2006) who highlights three classes of risk:

- Risks arising from financial activities. These comprise strategic, financial, knowledge and operational risks.
- Risks arising from the need for resources. These include technological, human, financial, information and natural risks.
- Risks arising from organizational approaches. Examples are strategic, project, structural, management, process-related, resource and environmental risks.

When the aim is to model risk, it is useful to think in terms of a functional organization in which various events can be identified. For example, events related to the management of the company are: management team disagreement, the death/illness/departure of the founder, absence of or errors in strategic orientation, excessively high expenses/debts, difficulties in transmission/succession and the failure of important projects (e.g. partnerships, investment, restructuring and innovation). Once these events are identified for all functions, it is necessary to confront them with the company in order to be able to characterize their consequences.

3.3 Characterization of the consequences of risk

The consequences of risk can take many forms. One example is damage to company property, which should be understood in its broadest sense. Both the physical and intangible assets of the organization must be taken into account in order to estimate the probable effects of damage on the functioning of the organization (Mengual, 2008). With respect to company responsibilities, both public liability and criminal responsibilities (tort, contract etc.) must be taken into account. In terms of personal injury, those concerned comprise the company’s employees (individually and as groups of co-workers), shareholders, managers, senior executives, key workers, etc. Operating and income losses

originate from events which disrupt the normal functioning of the company over a period of time and create an increase in expenses or a decrease in earnings.

The same threats confront all businesses. For example, the emerging small business, the mature small business and big businesses can all be faced with the rising cost of raw materials. However, while in a large company, such an increase leads to a search for a substitute product, in an emerging small business it may be considered fatalistically as the 'dramatic rise' in operating costs that caused its failure. It is also interesting to consider why this increase in costs does not lead to the failure of all similarly-sized SMEs in the same area of activity. (Clusel, 2011). The variability in consequences lies in the fact that the cause of failure is not (only) the rising cost of raw materials but rather the inability (or limited capacity) of the organization to anticipate and respond when faced with a threat.

It appears that the inability to anticipate and respond to an event is not immutable, and the severity of the consequences of an event vary according to the state of evolution of the organization concerned. An emerging SME is able to handle a certain range of risks which expands as it develops. From this it follows that the vulnerabilities of an SME in a growth phase differ from those of the same company as it matures. This is due to the evolution of practices in the various processes that emerge, formalize and finalize during the various phases of company development.

These elements point to an approach that describes risk management practices in terms of the state of evolution of the organization. Taking the production function as an example, in the case of a newly-created organization, diagnosis would be at the level of the context. For an organization in a state of survival or growth, diagnosis is at the level of understanding and treatment of particular risks. When the company is expanding or mature, work can center on the implementation of a formal risk management process related to production.

The last step in modeling the vulnerability of SMEs to risk is the identification of explanatory factors. To identify these factors it is necessary to investigate the criteria that influence the intensity and severity of damage for the business in question. For example, the consequences of litigation are more likely to be fatal for a business with a cash flow shortage. These factors are identified using the characterization of the consequences of risk previously described, together with the causes of failure for SMEs.

Once the explanatory factors are identified, a structural analysis demonstrates the predominance (or not) of the role they play in characterizing the vulnerability of the business in question. Structural analysis is a tool which describes a system using a matrix that links all its constituent components. The key variables in the evolution of the system become clear through the study of these relationships (Godet, 2001). The analysis highlights the links between the characteristics and the vulnerabilities of the system, and demonstrates the importance of taking these links into account in the development of appropriate tools.

4 DESIGN OF THE DIAGNOSTIC METHOD

4.1 Elements of the diagnostic method

A structural analysis was used to analyze the vulnerability criteria. The analysis was divided into two main stages. The first stage identified the relationships between criteria, and the second involved the preparation of influence-dependence charts.

A Boolean matrix was used to identify the relationships between criteria. The Boolean matrix was a square matrix based on the predetermined vulnerability criteria. Criteria were compared on a one-to-one basis. If it was shown that criterion *i* had an influence on criterion *j*, a 1 was recorded in the corresponding box of Matrix *A*. Otherwise, a 0 was recorded. The analysis was completed by calculating the sum of each row and each column, in order to obtain the Cartesian coordinates for each criterion. The coordinate dataset was used for the preparation of influence-dependence charts. The *x* axis demonstrated the dependence and the *y* axis the influence of each criterion on the system. The resulting scatter plot allowed the classification of criteria using the following rules:

Excluded criteria are considered minor. These criteria have little or no importance for understanding the system (e.g. the gender of the entrepreneur, the soil type of the land on which the company offices are built).

Driving (input) criteria have a significant influence on the dynamics of the system. Examples include: the financial or technical support capability of associates or shareholders, the means available for technical development and the reputation of the business.

Result (output) criteria are most dependent on others. Their state and evolution depends on that of the system. Examples include: the skills and abilities of staff, their loyalty and willingness to serve the interests of the company.

Challenging criteria reveal the dual nature of influence and dependency. These criteria are interesting because of their instability. Changing the state of these criteria affects the input and output criteria for which they act as relays. Examples include: business profitability, the economic and financial health of stakeholders and the level of regulatory compliance.

Pack criteria do not individually play a major role in the functioning of the system but must be incorporated because they have a significance impact on influence and/or dependency characteristics. From an operational perspective, pack criteria are too numerous to be exhaustively integrated. An additional weighting identified the 38 most influential and/or dependent ones. These 'high pack' criteria included: the level of standardization activities in the business, the monitoring of technological developments, the level of customer satisfaction, etc.

The first influence-dependence chart demonstrated the direct interactions between criteria. Matrix *A* was then progressively raised to the power of 2, 3 and 4. This had two benefits. The first was that it widened the graphical spread of the data and made it easier to differentiate between individual criterion or sets of criteria. The second was that it highlighted indirect interactions through comparison with associated influence-dependence charts.

4.2 Preparation of the diagnostic tool

The objective here was to develop a tool to help SMEs reduce their vulnerability to their major risks. The approach draws upon the work of Mengual (2008) *inter alia* on reducing the vulnerability of SMEs to flooding. Mengual subscribes to risk analysis methods that are based on a deterministic approach (i.e. seriousness is the main parameter of the analysis).

The tool had two modes of operation. These were: a) identification and diagnosis and b) the treatment of problems. The diagnosis had two objectives. The first was to identify and prioritize the vulnerabilities of the business in question in terms of its evolution. The second was to determine the extent to which the company had developed a risk management system. Using the diagnosis, the treatment stage aimed to supply and evaluate a range of possible solutions appropriate to the capabilities of the organization.

From an operational perspective, the objective of the tool was to make the entrepreneur more aware of the vulnerabilities of their organization and to consider ways in which these vulnerabilities could be treated. The value of using the life cycle approach was that it shifted the 'center of observational risk' from a vast and complex environment to a known system. The effect of this was to integrate the entrepreneur (as the knowledge holder) into the process. Furthermore, founding the tool on the concept of the maturity of the company reduced the scope of the investigation and made it possible to propose solutions of sustainable proportions for the business.

The method was implemented using a series of questionnaires which focused on the various functions of the business. This made the results easier to understand and increased the entrepreneur's awareness and knowledge of the major risks faced by their business.

The diagnosis was divided into three phases:

The first phase (Stage 1; questionnaires 1-4) consisted of the characterization of the system. In this phase the system state was determined through questions which established where the organization was in terms of its life cycle, described vulnerability criteria and defined the level of organizational maturity. This stage of the diagnosis can be likened to the 'establishment of context' which forms part of the risk management process.

The second phase (Stages 2-6; questionnaires 5-19) aimed to discover the company's vulnerabilities. This information was gathered through a series of fifteen questionnaires, divided into five sets which corresponded to: the definition of the general and functional context, determination of what constituted an event, determination of the level of analysis, determination of the level of treatment and the prioritization of vulnerabilities.

The objective of the third phase (Stages 7 and 8) was to reduce the vulnerabilities of the company. This phase consisted of two Stages. In Stage 7 (Hierarchical organization of vulnerabilities), measures to reduce vulnerability were chosen and planned. Stage 8 (Selection and planning of measures to reduce vulnerabilities) consisted of implementation and follow-up.

Taking the production function as an example, respondents were asked:

- To describe the internal context of the business in terms of the composition of functional teams, the relations between them, their ability to react in normal and abnormal situations, their skills, etc.
- To describe the external context of the business in terms of subcontracted activities, purchasing conditions, the state of the relations between the company and its main suppliers/subcontractors, its financial health, etc.
- To estimate the extent to which the owner-manager is affected by critical events. This is done using two temporal spheres. The first concerns the company's history and experience which has influenced and conditioned the type of information that impacts the entrepreneur's decision-making. The second is an estimate of future impacts. This is arrived at by asking the entrepreneur to forecast their front-line exposure to relevant potential events.
- To identify and estimate the nature and gravity of the consequences of events, taking into account both events that have already happened and potential future events.
- To determine if the organization has put in place, for each function, actions that respond to known events and also to establish if the company ensures their efficacy.

4.3 Testing and validation of the method

Adjustment of the diagnosis development

An initial test of the theoretical elements was carried out using a group of internal experts from the AFNOR Group (the French National Organization for Standardization). The group was given the objective of investigating the question, 'how does the maturity of the organization influence its risk management practices?'. It was composed of AFNOR's Marketing and Innovation Director, an engineer and two Regional Delegates, and was led by AFNOR's Research and Marketing Analyses officer. The procedure for the working session was the following:

- Step 1: Presentation of the general context of the session (research carried out, development of a diagnostic prototype, etc.) by the researcher to invited experts.
- Step 2: Specific contributions from the researcher to experts in order to explain the risk management process, the life cycle concept, etc.
- Step 3: Methodological contributions from AFNOR's Research and Marketing Analyses officer to experts in order to present the organization and objectives of the working session, to describe the working grid, etc.
- Step 4: Each expert completes the working grid taking into account the life cycle model provided and each individual's personal experience.
- Step 5: A debriefing is conducted in order to collect the conclusions of each participant and to identify variations between responses.
- Step 6: The group was asked to discuss each difference in order to identify and collect explanatory elements.

- Step 7: An assessment of the session served both to check the information collected and to carry out an initial cross-check of the various components gathered.

Adjustment of the diagnostic questionnaires

To validate that the questionnaires used in the diagnostic tool were logical and understandable, meetings were held with two entrepreneurs.

	Workforce	**Education level of the entrepreneur**	**Maturity of the business**
Enterprise A	2.5	Vocational qualifications	Survival
Enterprise B	1	Vocational qualifications	Creation

Table 3: Characteristics of companies used for adjustment of the questionnaires

Validation was carried out in four stages:

- Stage 1: first meeting with the entrepreneur
- Stage 2: the entrepreneur completes the diagnostic questionnaires
- Stage 3: the researcher delivers the results of the analysis and an action plan is established
- Stage 4: the entrepreneur completes the method validation questionnaire

The exercise highlighted the necessity to make several elements clearer, such as questions related to the role of stakeholders, and research and development. Several questionnaires were reorganized to reduce the time taken to complete the diagnosis. As the tool evolves from a diagnostic tool to an auto-diagnostic tool, it may be necessary to include a glossary.

Initial validation of the method and research hypothesis

An initial experiment aimed to validate the proposed method, i.e. to verify its coherence and relevance with respect to the target user. In order to reduce the impact of contextual biases, testing was carried out in a limited geographical area of France. Five companies constituted the working sample.

	Workforce
Enterprise 1	1
Enterprise 2	2
Enterprise 3	7+1
Enterprise 4	5
Enterprise 5	To be selected

Table 4: Characteristics of the companies participating in the initial validation of the method and research hypothesis

This experimental phase began with a meeting with the entrepreneur. The first meeting was central to the diagnosis. In it, the general context and objectives were presented, progress was evaluated on the Stage 1 questionnaires related to the characterization of the company and Stages 2, 3, 4, 5 and 6 (questionnaires 5-19) of the diagnosis were completed. From this, the researcher proceeded to Stage 7 (Hierarchical organization of vulnerabilities) and prepared Stage 8 (Selection and planning of measures to reduce vulnerabilities).

In a second meeting the results were presented and the diagnostic report was delivered. Discussion of the proposed measures made it possible to establish an action plan (Stage 8). In conclusion, the entrepreneur was asked to complete a questionnaire related to :

- the coherence of the results obtained compared to the actual situation of the company
- the benefits of the diagnosis for the entrepreneur and the company

The research hypotheses were validated or invalidated using the results obtained from the various companies forming the sample. To achieve this, it was necessary to compare the detailed results of the analysis with the research hypothesis.

5 CONCLUSION

The development and integration of a risk management system in an SME should be dictated by level of its organizational maturity which influences, among other things, the actual needs of the company.

In practice, the results obtained suggest that a number of assessments designed for small businesses and based on the concept of risk should be modified. These include assessments in the fields of insurance and banking. The results can also serve as a framework for the development of procedures and associated tools designed for SMEs which require the use of dynamic and evolving approaches to risk management.

However, it is important to underline the fact that these works only represent a first contribution which necessarily has to be continued through various aspects.
About descriptive elements of the problem, it would be interesting to deepen one by one the various constituents of the contextual triptych of the risk management.
Considering the studied organization, an important work is to be done with the aim to obtain a more detailed functional typology of the company. The main objective of this reorganization is in fine an optimization of the solutions of treatment which are offered to the organization.
Finally at the level of the environment in which evolves the company, a very big work remains to be carried out in terms of description, estimation and understanding of interrelations and the combined relations which impact the existence and the functioning of the company.

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