

THE METHODOLOGIES FOR IDENTIFYING CORPORATE RISKS

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Abstract

The purpose of this paper is to provide an overview of business risk management. It does not claim to solve the problem of the presence of risk in the life of the company with which it has to live but to highlight that it exists and that the company must act promptly in order to intervene and stem the damage to the company. The objective of the paper, therefore, is to highlight the risks with which the company comes into contact and which can compromise the achievement of company objectives. Globally assessing the risk to which a company is exposed has been declared a rather difficult and arduous operation. The paper after outlining risk management will focus on identifying risks, a very important phase for achieving the set objectives. Obviously, failure to identify a risk can have serious consequences for business stability.

Keywords: risk management, methodologies for identifying corporate risks

1. Risk management

Following the growing complexity of the economic reality, companies have had to learn to deal with risk as a characteristic feature of their management. Risk is in fact a factor characterizing the business of the company, although it should be noted that there are significant differences in risk management depending on whether it refers to large companies or small and medium-sized companies. In fact, while the small business must only manage the risks associated with its business, which can be production or sales, the large business must often carry out both production and distribution activities at the same time and therefore has many more risks to manage. . Since these risks are not inevitable, it is essential to put in place a process of managing these risks that is adaptable to changes in the context in which the company operates, in order to protect it from adverse events; that is, it is necessary to acquire greater awareness of all the risk factors that can compromise the achievement of objectives and to develop adequate controls, management techniques and organizational behaviors capable of measuring dangerous situations, defining the threshold of acceptability and operating in order to modify the risk profile, bringing it back to the desired limits. In practice, in the new corporate governance system, one of the objectives is to make the risk analysis, assessment and control process efficient and effective. The mere description of the risk profile, however complete and systematic, is not in fact sufficient on its own for the elaboration of a rational and coherent action plan; an adequate survey methodology is needed. It is therefore configured as an essential moment of the company strategy. It should be emphasized that only the use of appropriate techniques can provide adequate support in risk assessment. The importance that mathematical techniques and tools assume in the context of business management is therefore considerable. Their use in the company allows the decision-maker to have a summary picture of reality in order to be able to make decisions in the most rational way possible. Obviously it is essential that the company

management know the theoretical basis on which these techniques are based because, only through their knowledge, can they recognize their limits and the real informative contribution they produce. Without it, the use of techniques and tools constitutes a significant source of risk for the business system as it could lead to decisions that differ from the optimal ones. Furthermore, the strategy developed during risk management must then be recomposed with the broader corporate financial planning. The company's ability to identify, measure and treat risk translates into a competitive advantage, since, knowing the risk a priori and adopting the most appropriate technique, it will be able to direct the risk so as to be able to transform it into a opportunity or at least to resize the effects. Therefore, risk management is interpreted as a process aimed at identifying, measuring and treating the risk in order to achieve the business goal by minimizing the impact, that is, the costs, of the risks. However, it is advisable, before going into an analytical examination of the techniques and characteristics of Risk management, to make some preliminary considerations in support of the intrinsic reasons underlying risk management. Two substantially opposing positions emerge in the literature regarding the content to be assigned to business risk management. For one of them, the management of all risks is the responsibility of the Risk manager; for the other, however, the Risk manager is responsible for the strategic and operational management of pure risks¹ only, while that of entrepreneurial risks² should be attributed to the other various functional managers. They share the first thesis Rienne (1961), who was also the first to propose it, Bannister and Bawcott (1981), Greene and Serbein (1981), Pfeffer and Clock (1974), Haller (1976), while, they share the second Mowbrey (1979), Blanchard (1979) and Williams (1979). There are obviously also intermediate positions between the two extremes as claimed by M.R. Greene, J. Trieschmann, Carter and Head. The position of the Risk and Insurance Management Society (RIMS) is different, criticizing the traditional approach both as regards the mission of Risk Management and as regards the process and the phases in which it is articulated, argues that the Risk Management is to coordinate and apply interdisciplinary forces in order to contain the risks that can reduce the future value of public and personal resources. There are even those who come to the conclusion that "all management is risk management" and that only reasons of operational convenience require that pure risks and speculative risks be handled by different functions within the company. The risk management activity in the company is not easily schematized even if it is possible to identify the following fundamental phases:

- a) Identification of risks, a very important phase for achieving the set objectives. Obviously, failure to identify a risk can have serious consequences.
- b) Risk measurement or assessment
- c) Risk treatment
- d) Choice of techniques for risk treatment

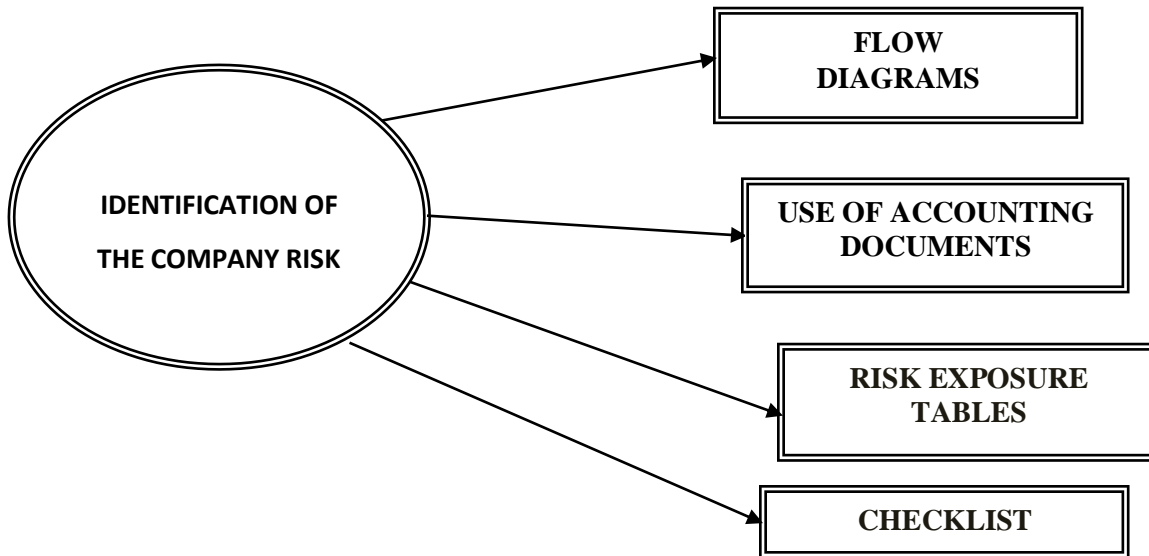
In the following paragraph we will discuss, considering that the failure to identify a risk can have serious consequences on the company, we will focus on the identification of risks: a very

¹By pure risks we mean all those risks strictly related to business activity.

²By entrepreneurial risks we mean all those risks not strictly related to entrepreneurial activity.

important phase for achieving the set objectives. In future papers we will examine the other phases mentioned above.

2. Methodologies for identifying corporate risks



The first step of the risk management process is to define and know the risk that the company faces in its operations. Once the company has become aware of the risk, it must analyze its possible positive and negative consequences, evaluate the management strategies to give it to reduce or cancel it and finally seek alternative actions that do not involve risks or whose risks are minor. The process of identifying company risks makes use of some application techniques that cannot be used in isolation because none of them, alone, can guarantee an exhaustive recognition of all the risks present in the company. A key element of the entire process of entrepreneurial risk management is the identification process (risk Identification) which is designed with the intent of researching and selecting all those components which need to be paid attention to in order to ensure the achievement of both objectives: short-term and medium- and long-term ones. This process, therefore, consists in researching, identifying and analyzing unfavorable events, that is, capable of producing losses for the company and compromising the achievement of the pre-established company objectives. Identifying risks, therefore, means searching in the external environment and in the system against all the elements that may expose the company to the risk of not achieving the pre-established business objectives. In this preliminary phase, the information necessary for a clear and exhaustive description of the company's risk profile is sought. Whatever the Risk Management has adopted, the information is therefore of important importance.

From this process, therefore, two groups of information can be found:

1. In the first group we find all the information coming from past entrepreneurial experience which, through a statistical-mathematical re-elaboration process, is updated to the new economic context in which the company operates. Past information is part of the entrepreneur's assets and by providing valuable and indispensable information on both the frequency and severity of events that have already affected the Company and the associated consequences, it allows to highlight the decisions taken previously, results obtained and, consequently, any errors made, in order to make improvements to current management processes or to foresee possible threats and new future risks.
2. In the second group, however, there is information that is generated by the evolution of the environmental context in general and in particular by the economic-entrepreneurial one in which the company carries out its corporate mission. These data guarantee the risk management to know the level of risk of the company products and to highlight the implications, positive or negative, on the company reality.

In summary, the flow of information necessary for an effective description of the risk profile of a company must allow the description of the risk units that characterize the company, of the dangers and accidents inherent in each of them and of the type damage that may possibly occur. All for the dual purpose of allowing the complete and correct identification of all the possible risk management actions that can be adopted and their suitability assessment. Furthermore, the better the quality of the information inputs, the more satisfactory the results of the Risk Management will be. Incorrect or incorrect inputs lead to bad choices and disadvantageous investments. Furthermore, to aggravate this situation there is the impossibility of remedying the errors committed in the identification phase: an undetected risk leaves the company without any defense, while an identified but non-existent risk causes unproductive expenses.) examining are numerous, complex and interrelated, the Risk Manager must have a rigorous analysis scheme, which guides the investigation through the many obstacles that stand in the way. In other words, the identification process can be broken down into the following logical steps:

- Definition of the risk units, i.e. definition of the elements of the company assets that must be separately examined. Risk units can be one or more tangible assets (such as machinery or a plant for an industrial company), intangible assets (such as information assets for a bank) or people (such as a key employee);
- Identification of the type of potential damage to the company; which can be classified as damage to property (tangible or intangible), damage to persons (death, permanent or temporary disability), civil liability damage (damage to third parties) and damage resulting from the total or partial interruption of the business.
- Identification of randomness or conditions that can create or increase the probability of an event occurring. The accidents can be divided into physical, moral and psychological accidents; where the former all include accidents connected to the technical structure of the company (such as the presence of highly flammable raw materials and the lack of fire extinguishers, the presence of ice on the road elements capable of increasing, respectively, the probability of manifestation and the relative consequences of the danger); the second ones include the accidents connected to the dishonest behaviour of an individual (for

example arson, theft) the third accidents connected to non-prudent behaviours (such as those of negligent employees and careless of possible risks).

- Analysis of the dangers, ie the causes that may give rise to the unfavourable event; as regards the dangers, there are two possible classifications: the first subdivision classifies the dangers into "internal to the company" and "external", where among the latter it is possible to distinguish between dangers connected to the system of social actors, to the system competitive and macro-environment. This classification criterion, in fact, sorts the hazards according to a decreasing order of "controllability" for the company, starting from those manageable with normal (internal) risk control techniques, passing through those that can be controlled through a reset business management activities (external connected to the system of social actors and to the competitive system) and ending with the dangers whose controllability is extremely critical if not, at times, impossible (dangers connected to the macro environment). The second possible classification, according to the origin of the events, tends instead to order the dangers according to the possible control techniques, distinguishing between dangers of physical and non-physical origin; where all the peculiarities originating from the technical structure of the company belong to the first category, while to the second those related to people, their actions and, more generally, to the organizational structure and operational mechanisms. In order to further focus on the possible control techniques corresponding to each subset, it is also useful to subdivide the first category according to the type of damage potentially capable of generating) and the second according to the lawfulness of the act (thus distinguishing between licit and illicit acts).

The knowledge of the different types of dangers, the randomness and the effects of possible events that potentially loom over the company is not, however, sufficient to guarantee an exhaustive recognition of the identification process but necessarily requires the adoption of appropriate investigation tools. Before moving on to their rapid exposure, however, it is advisable to make a brief clarification about their correct use. In fact, they must in no way be interpreted as techniques in themselves capable of identifying the risk profile of a company, but only as models of approach and decomposition of complex realities, to be adopted, to be used as logics. of research and classification of disjointed information, but not to be applied slavishly in order to obtain a concrete output. The investigation tools are therefore necessary for a correct identification of the risks, they are learned through simple examples and then they are transferred to any other complex situation without having to make explicit recourse to them. Their knowledge, in fact, is only useful insofar as it teaches a structured way of thinking, capable of showing the company reality with "new eyes". And this is the only objective that is proposed to us with their treatment in this place. Three different investigation tools will be described: flow diagrams (able to facilitate the identification of risk units), the use of accounting documents, risk exposure tables and checklist.

a) Flow diagrams

The risks to which the company is exposed can adversely affect the solidity of the company to the point of compromising its business functionality. One of the techniques often used to identify

risks is represented by flow diagrams which consist of schematic and structured representations of flows (of materials, information, people, ...) characterizing a specific company or a part of it. If properly constructed, they can give useful indications on the lines of investigation to be explored; that is, they help the Risk manager in the analysis of complex situations, especially for identifying critical points. Flow diagrams can be general, if they consider the entire production process of goods or services, particular, if they refer to individual departments or divisions, simple if they only display the path of materials, documents or people, or weighted, when the flow of information is subject to physical or economic measurement. The latter are more used by the risk manager because, unlike simple flowcharts, they provide information on the degree of dependence of the company on external economies (customers, suppliers, etc.) and on the relative importance of the various stages of the production process. In this context, the following techniques are helpful:

✓ ***La fault-tree analysis***

The fault-trees technique (or responsibility trees) introduced in the early 1950s as part of the US Minuteman space program, is of considerable help to deepen the analysis of complex realities or rather the analysis of single ones. risk units identified, facilitating the identification of any dangers and accidents. The main feature of this technique is its ability to investigate a particular event backwards, identifying not only all the possible cause-effect relationships between it and the factors that determined it, but also the relationships of concatenation existing between the factors themselves, which can be traced back to relationships of complementarity (indicated with the operator and of the Boo-leana algebra) when all the causative factors must manifest themselves simultaneously to produce the event, or of independence (indicated with the 'or operator of Boolean algebra) when the manifestation of only one of the causative factors is sufficient to produce the event.

✓ ***L'Hazard and Operability Study (HAZOP)***

The Hazard and Operability Study (HAZOP) is an investigation tool which, although normally used in the field of chemical engineering with very different levels of detail, can be usefully adopted as an investigation tool in the identification process allowing, through the " application of a standard analysis grid, a more articulated and coherent forecast of possible future evolutions of particular risk units, highlighting the causes (and therefore the dangers and accidents), the consequences (and therefore the type of effects produced) and possible control actions. It is divided into five different phases which can be summarized as follows:

1. Search for the intention of the risk unit being examined. For example, if the risk unit being examined is a heating system, the intention is "to heat an environment";
2. search for possible deviations from the intention through the application of a set of "driving situations"
3. research of the possible causes of each previous deviation mind identified;
4. research of the possible consequences of any deviation previously identified;
5. research of possible control actions

b) The use of accounting documents

The survey tools just analyzed for a valid conduct of the process of identifying a preliminary and in-depth knowledge of the company or rather of the characteristics of the production processes, of the organizational structure, of the markets in which it operates, of the social, political and geographical area in which it is inserted, of the economic-financial characteristics and, more generally, of all the strengths and weaknesses. This objective can be considered the particular conditions of control and structured use of all available sources of information and in: accounting documents and extra accounting, lists of exposure of assets to risks, checklists.

✓ *The analysis of accounting and non-accounting documents*

The analysis of accounting and non-accounting documents allows us to acquire "background" information on the characteristics of the company, the context in which it is inserted and its way of relating with it, explaining:

- ❖ *the economic structure (consulting the latest financial statements, the forecast budget, the analytical accounting data, ...);*
- ❖ *the financial structure (through the analysis of projection cash flows, cost of capital, liquidity, credits, credit lines, ...);*
- ❖ *the characteristics of the assets (peculiarities of the assets - intangible, immovable, motor vehicles, airplanes and boats - owned, leased and leased);*
- ❖ *the attribution of responsibilities (through the analysis of the company organization chart);*
- ❖ *the characteristics of the personnel (through the analysis of occupations, the results of pre-employment medical examinations, ..);*
- ❖ *some characteristics of the production process (through the analysis of the plant maps, the technical data sheets of the materials used and the products, the quality controls performed, copies of permits and licenses,)*
- ❖ *existing legal obligations (through the analysis of*
- ❖ *contracts and conventions of various kinds stipulated between the company and third parties: contracts of sale, lease, etc.);*
- ❖ *incoming and outgoing distribution dynamics (relations with suppliers and customers, contracts, means of transport, logistics costs);*
- ❖ *research and development.*

✓ *Inspections*

Finally, in order to develop a risk profile as objective and complete as possible, the set of information collected through the analysis of documents and the conduct of interviews must necessarily be integrated by the concrete "vision" of the company., obtainable only by personally inspecting every physical place in which it occurs (factories, warehouses, offices,...). The inspection, therefore, despite being an extremely onerous source of information in terms of time, constitutes a fundamental and essential moment of the identification process, allowing the integration of the available information assets with

information and "sensations" that are difficult to do perceivable by other subjects, you do not use to analyze reality with the knowledge and investigation tools described above. The inspection visits must be prepared taking into account all the objectives to be achieved, evaluating the time to devote to them and the time of year that is most suitable for the purpose. There are no absolute criteria capable of defining the optimal ways of conducting, which, depending on the particular aspects to be investigated, may or may not provide for prior notice, the adoption of a rigid pre-established "road plan" or a certain flexibility depending on the elements identified, periodic repetition, etc. In summary, therefore, the only methodological advice that can be established a priori is the need for a preventive work of preparation, aimed at establishing the objectives and ways to satisfy them, according to a logical and coherent approach. Before concluding, it should be remembered that inspections and interviews, as well as representing the two main sources of information of the identification process, also constitute real tools for psychological control of risk, as they manage to create external visibility to the risk manager and his work, making staff aware of the importance of risk management.

c) Risk exposure tables

This technique, which is also a valid aid for identifying risk, consists in formulating a double entry table, in which the rows highlight the asset or groups of corporate assets (tangible and intangible) most exposed to risks, while the columns, on the other hand, the most recurring risks, that is, those dangers with which the company finds itself having to interact. At each intersection between rows or columns, the risk manager will have to express a judgment on the existence or otherwise of the risk in question. Obviously, the risk exposure tables can be formulated with reference to individual departments or company offices and taking into account the type of activity carried out. With these tables and with the help of additional information, it will subsequently be possible to construct the Table of the main vulnerabilities. This table will represent a reasoned summary of the previous tables and will allow to highlight the crucial points of the company from the risk point of view. The main disadvantages of the method illustrated can be summarized in the danger of a non-exhaustive recognition of the threats facing the company and even more in the absence of a strict correlation between them for the purpose of their overall appreciation.

D) Checklist

The checklists are intended to guide the manager towards a reasoned and sequential search for risk exposures; they can be external or internal depending on the source they come from: the former are mostly developed by insurers, agencies, risk management consultants and managerial associations; the latter are instead carried out within the company. Since the external lists can only be of a widely applicable nature, the most rational solution appears to be that of using lists of external sources modified in relation to the company's peculiarities.

The criteria for arriving at the formulation of the checklists may be different depending on whether they are based on:

- *categories of resources.* In this case, the starting point will be represented by the list of the various types of goods (buildings, plants, etc.) and people. For each type there will then be a sequence of questions aimed at bringing out the existing threats and their consequences;
- *categories of consequences.* In this case, we will proceed to a list of potential unfavorable situations affecting the company, such as for example loss or damage to assets, loss of income and so on. For each type of consequence, a suitable questionnaire will direct to detect the resources involved and the existing threats;
- *categories of threats.* Having as a starting point the types of possible threats (natural forces, human error, deliberate damage, natural deterioration), this checklist will lead to the identification of the subject resources and the consequences;
- *categories of business operations.* In this case, the planning of risk identification follows a subdivision of the business activity into more or less detailed areas (for example personnel, sales, etc.), searching in each, through a sequence of questions, exposed resources, threats and consequences

3. Conclusion

The classification of checklists in the above sense does not of course exclude the existence of mixed forms. The main advantages of checklists can be glimpsed in the simplicity of application and in their ability to grow risk situations through a logical situation. However, this is provided that they are also ensured as a condition, as a result of experience following the occurrence of unforeseeable events. On the other hand, it should be emphasized that some caution should be exercised in their use, since, however rigorous their situation may have been, there is always the danger of omissions with respect to real company situations. In light of the above, it is useful when a series of checklists based on different legal criteria are available, is to proceed with the coherent lines, in the relation of the procedure to the different logics and diversified starting points. The various techniques mentioned above do not have the capacity to guarantee an exhaustive recognition of all the adverse events and all the dangers affecting the company. Therefore, it will be up to the intuition and experience of the Risk manager to choose the most appropriate techniques in relation to the nature and specificity of the activity carried out and the cost to be incurred to make the chosen techniques operational.

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