

Creating Strategic Value by Balancing Risk and Opportunities

Leo Brecht and Steffen Bassler

No risk - no reward? The old mantra of business seems to have lost its meaning: cut-throat competition, ever-emerging markets and a general loss of trust in economic stability has led many corporations to tread overly carefully. But help is on the way. In the last couple of years risk management tools and methodology from the financial services sector have been more and more transferred into everyday business. In this article Brecht and Bassler explain the foundations of this approach.

In the financial services sector risk management and its function of identifying possible threats to a company's success became very popular during the 1990s. This "Value-at-Risk" approach is widely used by banks, securities firms, commodity and energy merchants and other trading organisations. Now it is also being discovered by companies in other industries.

Corporations outside the financial services industry used to follow a different approach to proactively identifying risks. Within these limits, risk management was widely seen as an issue for, and mostly limited to, foreign exchange exposure, treasury functions and hazard risks. The more intangible and harder to grasp sources of risks, namely strategic and operational ones, were usually measured on a "dos and don'ts" level by the board of management, but far away from a structured approach to risk management. This may have worked in the past, but with the new realities of business companies face completely new forms of risks almost unimaginable just 10 years ago: terrorism, fierce global competition, totally unpredictable crude oil prices and new challenges for corporate governance are just some of them. Just take a look at the Fortune 1000 of 2004. Of 100 firms suffering a 25 percent drop in share price, over a third of these were attributable to strategic and operational risks. A mere 6 percent were attributable to either financial or hazard risks. Today, risk has a completely new meaning.

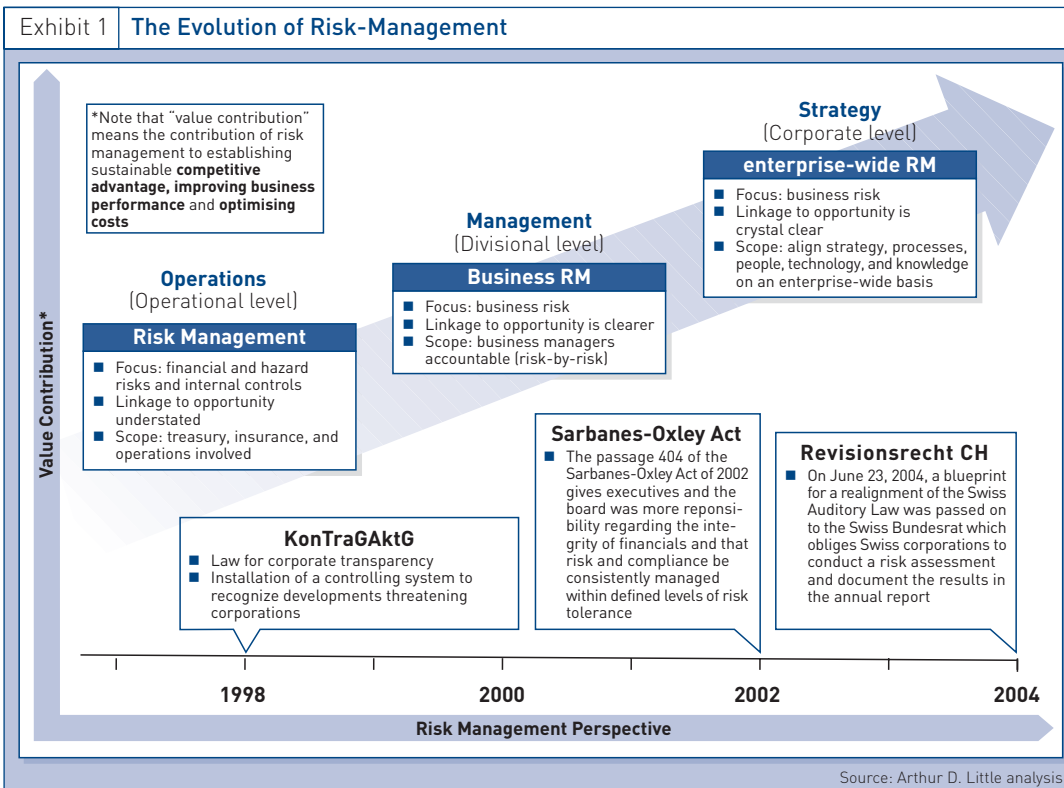
On top of these developments, governments all over the world are responding differently to the new corporate environment. In 2002 the US government very quickly enacted the Sarbanes-Oxley Act to put in place a range of new laws for corporate governance, including new requirements concerning internal controls for the risk management processes.

The "old world" is also responding. In Switzerland, a blueprint for a realignment of the Swiss Auditory Law was

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passed in 2004. The new law obliges Swiss corporations to conduct a risk assessment and document the results in their annual report.

All this shows that risk management, which used to be the exclusive tool of the financial services sector, is about to go through a “redefined renaissance” driven by new laws and regulations which are the result of a complex and fast-changing environment. We are convinced that risk management will soon be a vital corporate function for all types of corporations. Unlike in the past, however, when risk management was seen as a function of avoidance and mitigation of risks, the future will confront corporations with a completely new, defined set of risk management tools that not only evaluate risks but see risk management as a crucial function for business operations and the strategic decision-making process. Risk management will then not only be about avoiding risk but also about exploring and evaluating opportunities and thus creating unexpected value.

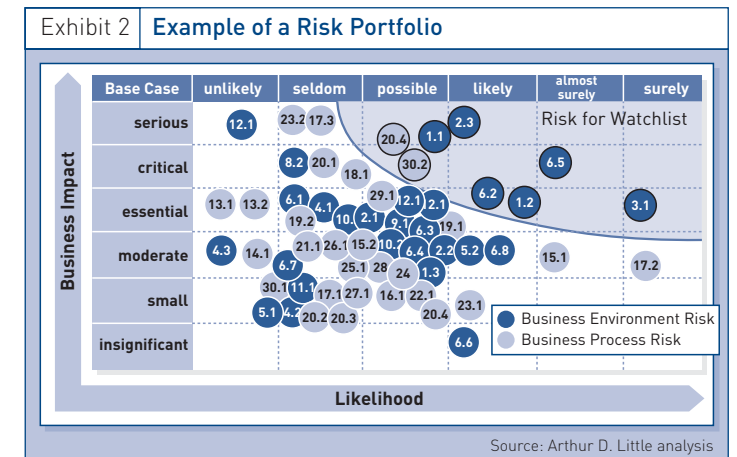


How we See it:

As a continuous process, risk management is an element of corporate governance and corporate strategy. As a methodological application it promotes effective and efficient assessment of risk, increases risk awareness and improves the management of risk throughout the organisation. This includes anticipating and avoiding threats and losses as well as identifying and realising opportunities. Acknowledging both sides of the coin, we allude to risk & opportunity management.

Cash-Flow-at-Risk - the Next Generation of Risk Management

Today, most companies already have tools for risk management at their disposal. Particularly in companies exporting most of their goods, the board of management is well informed about foreign exchange risk exposure and other treasury-related risks. It is not very surprising to find that risks are now widely part of the management reporting system. Some companies go a step further by analysing other risks by means of a traditional risk portfolio.



In doing so, typically, risk assessment and prioritisation processes describe the potential business impact and the likelihood of certain risks - which basically means that the so-called “risk magnitude” is a function of financial impact and likelihood of occurrence. If you take the utili-

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ty industry as an example, this means that the uncertainties of deregulated markets and fluctuating energy prices have to be managed. In other industries like construction or engineering, companies face numerous operational risks like bankruptcy of a key supplier, construction material not meeting required specifications, or the unplanned breakdown of a production site. If we finally look at manufacturing it means that supply-chain management and sourcing of raw materials have to be managed to meet the required specifications. In looking at these various sources, risks have to be prioritised according to risk magnitude and the respective mitigation actions need to be defined.

The range of mitigation actions and costs inherent is broad. There are many ways of protecting oneself. In the engineering, manufacturing and resource industry it is common to hedge volatile prices for crude oil and raw material with complex instruments like future contracts and financial derivatives. Another way to mitigate risk is to outsource high-risk business functions, as can often be seen in IT-related functions and services.

The CEO or CFO as Risk Manager

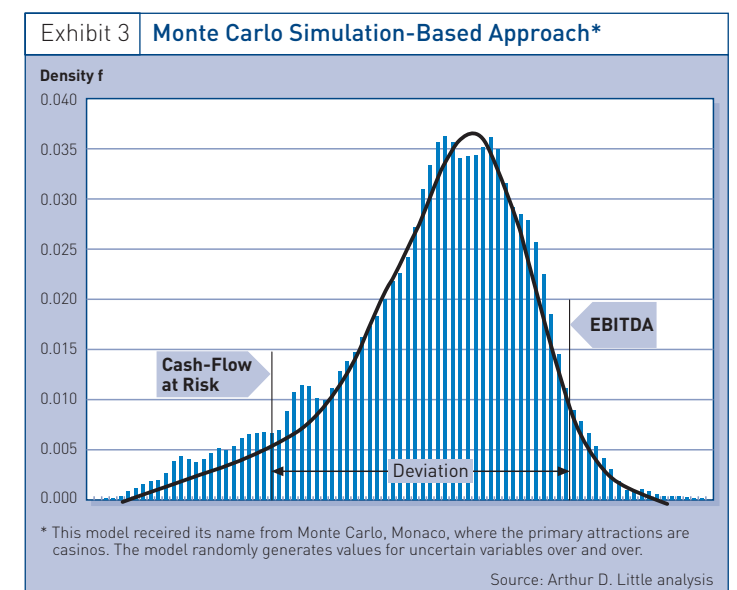
The crucial issue for any CEO and CFO at this point is not to spend too much money on those mitigation actions, but to spend exactly enough to avoid running the risk of a failure. It is the thin line between knowing that the company's exposure "at risk" is or is not covered according to the level of risk the company is willing to take. The solution here is to quantify the risk exposure with the "Value-at-Risk" approach from the financial services industry.

Many companies wonder how to apply these principles of Value-at-Risk (VaR) in non-financial industries. It is inherently more complex as companies have both non-hedgeable business risks (relating to the nature of the specific products and services) and hedgeable market risks (e.g., commodity, currency, interest rate and equity exposures). The difference is that financial managers like traders, portfolio managers and treasurers tend to manage the value of their assets and liabilities, whereas corporate managers tend to focus on growth and volatile corporate

financial results such as earnings and cash flow as benchmarks of good performance.

The approach of judging the risk through the Cash-Flow-at-Risk (CFaR) defines exactly how large the deviation between the actual cash flow and the planned value (or that used in the budget) will be when changing the underlying risk factors. Strictly speaking, the definition of CFaR is the lower limit of a risk-adjusted cash flows with the probability distribution of a company's operating cash flows over a future period of time, calculated with information available today. It states that in 95 percent of all cases the real value of the cash flow exceeds the value of the CFaR. It provides the corporate CEO and CFO with answers to questions like: "How much could my company's operating cash flow be expected to decline over the planned period if we experience a downturn risk that turns out to be a five percent tail event?"

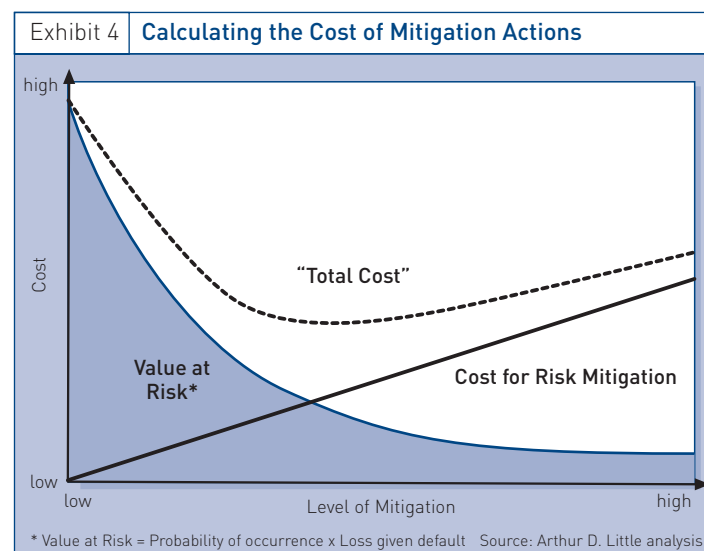
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An obvious strength of this methodology is that, since we are looking directly at cash-flow variability, by definition it on average comes up with the correct answers to certain market conditions. And since they tend to continually change on a short-term basis, different scenarios can be calculated and taken into consideration, resulting in mitigation actions that are always adequate. In order to grasp a better understanding of the impact of any risks on a company's financial results, the quantification approach is inevitable.

After quantifying the overall risk exposure (or the values for individual risks), companies can better define how much money they need to spend on mitigation actions.



The mitigation actions can then be revised depending on how much uncovered risk the company is willing to take. The goal for the board of management is to spend the exact amount of money on the necessary mitigation actions. The ideal level can be reached by looking at the total cost of risk (i.e. the loss given default and the cost for mitigation actions).

Warehouse insurances, for example, are a costly investment, and companies always try to lower overheads by renegotiating insurances after installing additional security features like fire walls or fire extinguishers. Here, it is important to foresee the total cost of those investments.

The Case of the American Electricity Industry

The electricity industry in the USA is a good example of the usefulness of CFaR measures in thinking about capital structures - namely in the sense of how hitherto neglected figures could have been used in forecasting. As a result of rapid deregulation, the American electricity industry went through enormous changes, with the volatility of EBITDA for the typical firm roughly doubling between 1992 and 1999.

The question relating to this development is: have electricity companies' capital structures adjusted appropriately? In 1992, the median electricity company had an interest coverage (defined as the ratio of earnings before interest and taxes [EBIT] to interest expense) of 2.81. When using the results of a CFaR analysis for the early 1990s that figure fits - the projection that in 95 percent of cases the actual cash flow is higher than projected. In the other five percent worst-case scenarios the coverage figure falls to 2.23. Although a lower figure, but this would still seem to indicate more-than-adequate cash flow relative to debt obligations.

Thus it appears that, prior to deregulation, the capital structure of the typical electricity company was not posing a very high risk of financial distress. By 1999 debt ratios for the industry as a whole had not changed much from their earlier levels. Indeed, the median coverage, at 2.82, was virtually identical to its value in 1992.

But more importantly, with the large increase in cash-flow volatility, the five percent worst-case coverage had fallen to 1.65. This suggests that the risk of financial distress in the electricity industry, though maybe still not enormous by the standards of other industries, had become significantly greater in the later part of the decade.

The point here is not to say that the electricity companies' current capital structures are "right" or "wrong" in any absolute sense. But the example illustrates how a CFaR estimate can be used in conjunction with capital-structure data to help formulate debt-equity trade-offs in a more precise, quantifiable fashion. Clearly, the same apparatus can be used to think about other closely related financial-policy questions such as the appropriate level of cash reserves and credit lines.

And the same procedure applies here: a company needs to balance the cost for additional safety features with the bonus this brings in terms of better insurance terms. In this simple illustration it may be that the marginal benefit for risk mitigation of any additional fire extinguisher after the tenth becomes negative - which leads to an increase in total cost.

Seen from a corporate level, the capital structure policy also benefits from an accurate estimate of a company's CFaR. The classic debt-equity choice is usually framed as trading off the benefits of debt (tax shields, increased discipline on managers) against the potential costs associated with financial distress. To operationalise this trade-off, a quantitative sense of the probability of really getting into distress is necessary. The most important determinant of this probability of distress is the variability of cash-flows, i.e. CFaR.

Opportunity Management - the Upside for Risk Management

So much for risk. But don't expect comprehensive and big reports on corporate risks and mitigation actions to be produced for review and assessment by your company's senior executives. Someone will ask for a lean solution. Moreover, there might be colleagues wondering about the fact that the other side of the coin has not been considered for the last three years, colleagues who are tired of concentrating on the dark side when there is light at the end of the tunnel. And that light is opportunity.

In times of smart growth we have to recognise the need for a balanced management of risks and opportunities, on a corporate and business level as well as on a functional level. Diethelm Boese, Director Risk Management & Control, ALSTOM Power, puts it like this:

"Within the R&D unit of ALSTOM Steam Turbines & Generators, risk management has become an integral part of the product development process. Specific processes and tools for new product development and continuous improvement programmes have been established in order to identify and eliminate technical risks up-front. Hence, risk management has become an instrument

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which provides a pro-active approach towards risks and allows us to realistically assess and realise new business opportunities."

The difficulty in exactly forecasting developments limits companies' ability to make strategic decisions on a long-term basis. But strategy is the foundation for future growth. Companies must have a clear understanding of the strategic opportunities they are taking on in their growth initiatives. We have talked about risk management as a way of measuring concrete figures and thus preventing negative effects. But there is more to it. There is opportunity in the inherent uncertainty about how the future will be and how business objectives will be met. The only way to deal with this uncertainty is to include it actively in the planning or decision-making process, to find the right balance between risk and reward. Risk and opportunity management aligns strategy, processes, people, technology and knowledge with the purpose of improving your enterprise's ability to evaluate and manage uncertainties as it creates value.

Opportunities others have overlooked are touchstones of any manager's success. Identifying opportunities for gain is one thing, but strategic opportunity management is another, as it better enables you to actually seize them. While virtually nothing can guarantee total future success, opportunity management encourages managers to:

- Create or be watchfully open to opportunities;
- Evaluate and measure opportunities as they develop;
- Remain ready to act on those opportunities that appear promising;
- Introduce new operating procedures that grasp chosen opportunities in timely ways and, if they prove successful, make these new operating procedures part of the organisation's routine activities; and
- Assess over time whether seizing each chosen opportunity has benefited the organisation and those whom it serves.

危機

An interesting exhibit for the connectivity of risk and opportunity can be found in China, where the traditional Chinese character "ki" encompasses both directions of critical situations - it means "danger" as well as "opportunity".

The organisational implementation of opportunity management can be set up on top of the risk management infrastructure. A good example is an opportunity management report as a complement to the risk management report, giving the board of management an overview of:

- Possible opportunities and innovations within the industry;
- Qualitative (descriptive) analysis;
- Quantitative analysis and business impact.

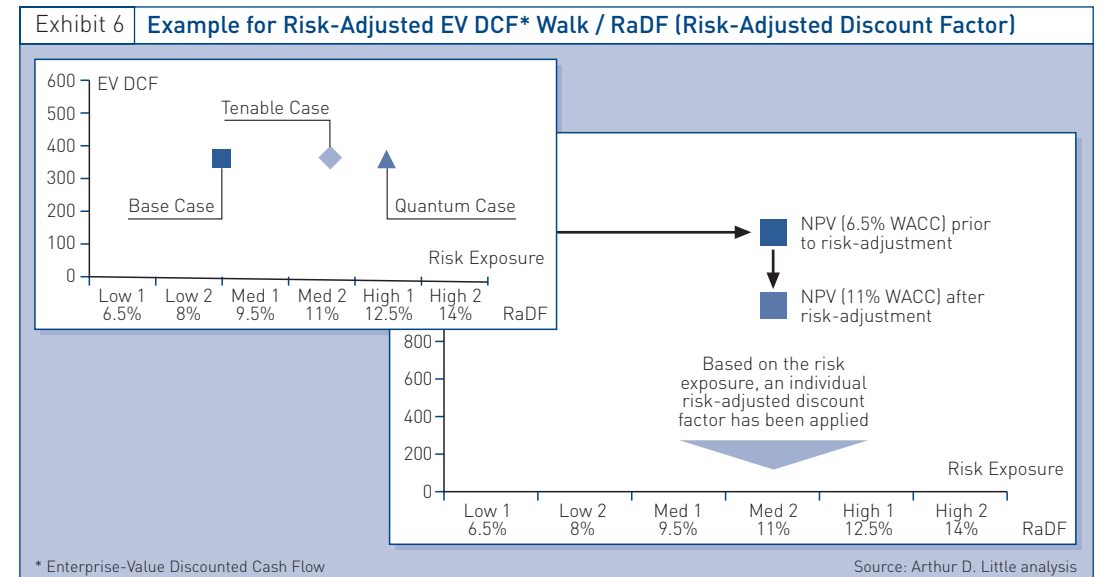
Strategic Risk & Opportunity Management in Action

In traditional risk management, where accidental losses are the sole focus of attention, countering these losses is the essence of risk management. Countering accidental losses involves reducing the probability, magnitude or unpredictability of accidental losses, and financing recovery. A risk and opportunity management framework in line with a company's strategic goals needs to be designed and embedded into the strategic and operational planning process.

A strategic risk and opportunity management approach including both business improvement and compliance can lead organisations to the achievement of sustainable value and greater business confidence.



This means that any executive's expectations for the future greatly affect how much risk and opportunity the organisation will be confronted with. Managers with a clearly defined set of very specific expectations for their organisation



are mostly not prepared to accept alternatives, with the result that their organisations face great risk and miss out on potential opportunities. They will only have Plan A - but strategic risk and opportunity management is about recognising other scenarios, thus having Plan B, Plan C and perhaps Plan D. The methodological toolbox provides various instruments that can help corporations to identify both sides of the coin called future:

- Through strategic risk and opportunity management, executives and managers up, down and across the organisation use a common language. It supplies them with effective assessment tools and frameworks, clearly defined strategies and risk tolerances - all of which serve as foundations for decisions about balancing risk, return and growth;
- Companies particularly exposed to interest rates, foreign exchange rates, energy prices and other market variables can better manage profit volatility by applying risk and opportunity management;
- Quantification of risks and opportunities has a direct impact on a company's financial statements;
- Reduction of risk means increased (shareholder) value. Reduced risk should be reflected in decreasing costs of capital (WACC).

Risk & Opportunity Management in Manufacturing - a Step-by-Step Approach

An international client from the manufacturing industry asked Arthur D. Little to conduct a risk and opportunity management analysis. Founded in the late 1920s, the company grew into an international manufacturer of three different product lines with worldwide operations and plants, a headcount of 5,000 employees worldwide and a yearly turnover of approximately €1 bn. Faced with difficult future perspectives in all of its three divisions, the company was particularly interested in the identification of additional upside opportunities within its business segments. We applied a five-step approach in order to identify and quantify risk and opportunities.

Step 1: Qualitative risk assessment with our risk catalogue

Side-by-side™ with the management of the company, the risk catalogue was discussed and as a result logged and documented with the identified risk for each of the company's categories.

The manufacturing company was a major provider of capital investment goods for other businesses. Thus, a decline in capital equipment spending was one of the major possible risks - particularly likely in case the economic environment fostered a decline in purchasing power. This event could be noticed by closely monitoring the GDP growth rates of the markets the company was exposed to as well as looking at the inflation rates.

Step 2: Impact-likelihood analysis including risk portfolio

For each risk identified, a certain impact and likelihood was then applied. A risk portfolio summarised the peculiarity of each risk and derived a short list (watch list) of risks.

Step 3: Quantitative risk assessment for individual risks identified on a short list

Taking the risk short-list for each business division, the risk quantification was run using a Monte Carlo simulation model. Within the quantitative risk assessment, the risks were linked to the company's income statement by

applying different scenarios to budgeted plans to forecast so-called "worst-case" or "downside-case" scenarios for future financial results, as well as including possible "upside-potential" (opportunity). As a result, for each business division the model generated a discounted Cash-Flow at risk (CFaR) and a discounted risk-adjusted Cash-Flow (raCF), including statistical measures such as variance and standard deviation.

Step 4: Strategic risk & opportunity assessment

The risk exposure for each corporate strategic option identified was derived from the strategy process. Depending on the risk exposure, ranging in six steps from low to high, a risk-adjusted discount factor (WACC) was applied to come up with a risk-adjusted enterprise value (DCF). In general terms, the higher the risk, the higher the discount factor that needs to be applied.

Step 5: Business risk & opportunity management strategies ("mitigation actions")

In the last step, industry-specific risk-related mitigation strategies were developed. Although tactical choices were nearly endless, fundamentally there were only a handful of broad risk-management strategies. They ranged from strategies to avoid risks, through strategies to reduce, retain and exploit risk to the transfer of risks. By using the quantitative results, the existing mitigation actions (e.g. insurances) were analysed and adopted accordingly. For certain production sites, additional safety measures were identified and calculated for the total cost.

Overall, the enterprise-wide risk assessment was a key factor in the company's strategic decision-making process. Both on a divisional and corporate level, the findings from the risk assessment played an integral part within strategy development. Not only the risk identification, but more importantly the risk quantification linked to the income statement clearly stated the impact of the identified risks and opportunities on the company's cash flow and overall performance. Since each strategy scenario had a different risk exposure, an appropriate risk-adjusted discount factor had to be applied in order to derive a risk-adjusted enterprise value (raDCF).

Roles and Responsibilities

Risk and opportunity management needs ambassadors within the company. In most cases we found it best when top management is willing to fulfil this role. At the same time the job of Chief Risk Officer is emerging in non-financial firms, a position responsible for co-ordinating the integration of business risk management across the organisation. Companies that have already established these job descriptions include DaimlerChrysler and Holderbank among others. Once the risk and opportunity management structure is established, the ongoing monitoring of risk and opportunity exposure via reports and the continuous enhancement of management capabilities is key to the success of any risk and opportunity management initiative.

Insights for the Executive

Companies aiming at more than mere survival in today's business environment need to know the risks and opportunities underneath the various business processes and strategies within their organisation. Therefore we recommend the application of systematic processes and appropriate tools enabling corporations not only to assess risk and opportunity but also to quantify the financial impact.

The new approach is the result of the extension of risk-management methodologies from the financial services sector into non-financial firms. Finance managers always proved well able to cluster, analyse and then hedge risk according to certain market factors. The sector even carved out a specific job profile for this role, namely the Corporate Risk Officer, whose task is to cluster, analyse and quantify the business and environmental risks the company could face - and guide the company through the five steps of risk management.

But that's not where it all ends. The other side of the coin is the pro-active search for opportunities throughout this process. This is very much about a certain mindset: behind every negative or gloomy aspect looms a hidden opportunity to be discovered with the right questions.

Simply describing it is a matter of looking at things - the glass can be either half-empty or half-full.

For companies already running risk-management processes this creates a need to check existing processes and risk reports, particularly concerning the question of whether or not opportunity is already a factor in the process. If not, set it up and link it with the existing management system.

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