



# NavIncerta Library

*Dealing with Decisions and Risks as a Joint Endeavour*

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## Disciplines dealing with risks and decisions

Businesses deal with risks, they develop strategies for continuity or growth and make investment decisions. For these purposes a gamut of disciplines and methodologies have emerged that have different levels of penetration and application maturity. We will be considering *risk management*, *decision analysis*, *financial valuation* and *scenario planning*. These partly overlapping approaches are supported by various academic constituencies and professional communities, each typically operating within its own bubble. We believe that there is merit in examining the inter-linkages between these methodologies. It will be found that there are various connection points where one methodology can be considered an extension of the other. We also believe that businesses should aim to use the methods employed in an integrated way leading to better insights and more efficiency.

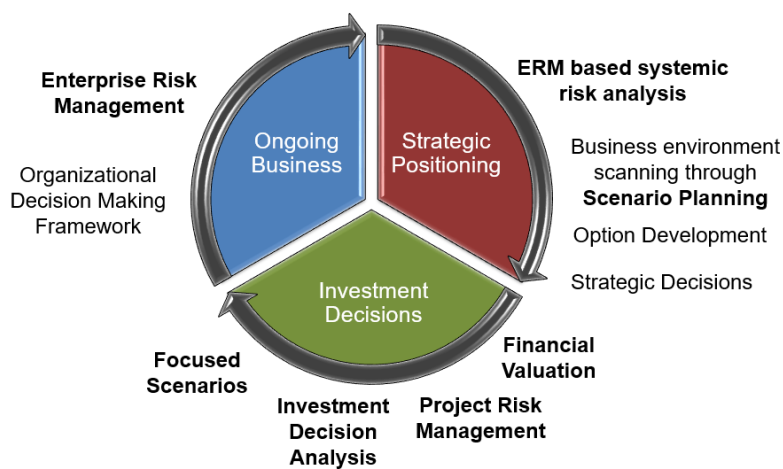


Figure 1: Business cycle with key risk and decision methodologies

### Enterprise risk management – Scenario planning

Risk management is about identifying, assessing and mitigating risks at enterprise or project level. Scenario planning aims to assess the uncertainties in the business environment, and in particular how these hang together, yielding insight in opportunities and risks associated with the future business environment. There is a clear overlap between the two methodologies in the identification phases of driving forces, risks and opportunities. Risk management usually stops at the point of having descriptions and assessments of risks and their possible mitigations. Where these concern external systemic risks, scenario planning can be employed to enrich the assessment by discerning what the possible outcomes of the uncertain developments are, by assessing how these hang together and by creating a few narratives that constitute alternative futures. In this sense, scenario planning can be employed as an extension of an enterprise risk management exercise when the focus is on issues that relate to the broader future business environment.

### Risk management – Decision analysis

Decision analysis (for investments) is a discipline that aims to support investment decision making by means of a set of concepts and tools. The key elements are the development of alternatives, the assessment of the uncertainties and the clarification of the trade-offs to be made. It has various schemes to structure the investment decision problem and tools for uncertainty

analysis (Monte Carlo simulation, decision trees, etc.). The various elements of the methodology come together in the Decision Quality concept which provides a framework for the assessment of the fitness of a decision. An important process step is the decision framing, which is usually dominated by the identification of uncertainties and risks. There is overlap with risk management which also has an identification step. These process steps may well be combined, or at least aligned.

Usually risk management remains qualitative, although occasionally in some areas quantification tools may be employed (cyber risks, etc.). Decision analysis has a strong focus on the quantification of uncertainties and brings these to the level of decision metrics (probabilistic investment analysis). There is a lot of merit in selectively stepping up the quantification as employed in risk management and aligning the quantification techniques used with those employed in decision analysis (but not suggesting that all risks can or need to be quantified).

For a more detailed discussion reference made is to the NavIncerta Insight [DA and RM: Join forces?](#).

### **Financial valuation – Decision analysis**

Decision analysis (for investments) usually relies on some form of financial valuation of the investment opportunity. Finance theory prescribes that the discount rate to be chosen for the cash flow analysis should be commensurate with the opportunity risk using the CAPM model. Although CAPM has some logic and merit, its limitations also need to be recognized. It is therefore appropriate to use CAPM for developing a single discount rate to be used across the enterprise commensurate with its financing structure and the broad brush systemic market risk to which the enterprise is exposed. For more detailed analysis of the opportunity risk spectrum use should be made of a combination of decision analysis, risk management and scenario planning methods, as appropriate.

For a more detailed discussion reference is made to the NavIncerta Insight [Risk and discount rate: an unhappy marriage](#).

### **Decision analysis – Scenario planning**

The typical investment decision analysis approach, comprising financial valuation and probabilistic investment analysis, assumes that all uncertainties can be quantified. This is not always the case or meaningful. In particular external business variables (commodity prices, taxes, etc.) may not be credibly modelled with probability distributions. Instead, sensitivity analysis can be used (i.e. without assigning probabilities). However, such analyses will become much more meaningful if they are linked to coherent scenarios of the future business environment. This calls for the development of focused scenarios, zooming in on the opportunity being analysed. Consideration is given to how the key uncertainties in the relevant business environment hang together, leading to a different financial valuation for each scenario of the business environment.

For an informal discussion of how scenario planning may be used in the context of decision making one is referred to the NavIncerta Insight [Scenario planning and the so what question](#).

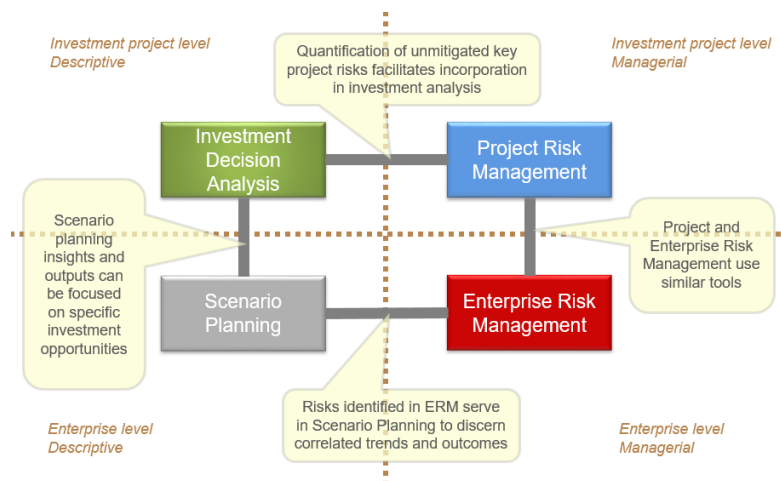


Figure 2: Interconnectivity between methodologies at enterprise and investment project level

## Neuroscience – Decisions and risks

Neuroscience plays a role across the three disciplines risk management, decision analysis and scenario planning alike. Decisions and risk/uncertainty assessments can be significantly influenced by human biases. Pierre Wack, the founding father of the Shell scenario practice, considered the primary purpose of scenario planning to be the challenging of the decision maker's mental model of the real world. A red thread across the different disciplines is hence the use of neuroscience principles to minimize cognitive biases.

## Implementation

How can a company make use of these insights and suggestions?

Firstly, the description in the preceding paragraphs is high level and will need further detail and understanding. NavIncerta can arrange more detailed review sessions (video conference or face to face) zooming in on the areas of highest relevance for a particular company.

Secondly, in case some methodologies exist already within the company it will be good to test whether the alignment is optimal. For example, one may combine the decision framing and risk identification workshops, align the quantification approaches, etc.

Thirdly, a company may have implemented some of the methods described, but likely not all. It will be of interest to inventorize current practices and identify prioritized areas for improvement.

Fourthly, if a gap is identified, one can choose an additional component (for example: scenario planning) that may have some promise to augment the current toolkit available. A pilot can be executed. The highest chance of success may be provided by an approach where a new methodology is introduced as an extension or deepening of an approach already implemented (for example scenario planning as a deepening of ERM).

**Ultimately, safe-guarding business continuity, strategy development, investment decision making and dealing with risk are multi-disciplinary activities. There is not a single discipline or profession that can claim to 'own' the lot. There is much to be gained by aligning various methodologies and working across professional borders. This will require professionals to get out of their bubbles and familiarize themselves with the merits (and limitations) of other disciplines.**