



2. EVOLUTION OF THE NEW APPROACH



The world of motor sport understands what it means to make changes in method and practice. Aerodynamic performance, for example, is always being scrutinized and further developed. In the past, prototypes of new components were constructed using a 1:3 ratio and then tested in a wind tunnel. But the development and testing process changed fundamentally once CFD (computational fluid dynamics) technology made its debut.

Up to the final minute utmost flexibility in the face of unforeseeable situations is required of the racing strategist and his team. And then? Well, one race leads to another...

Nowadays component parts and even entire race cars are developed, measured and calculated using computer simulations and nothing more. If these simulations deliver ideal results, the parts are then built and tested in high tech wind tunnels. Because of the highly reliable nature of CFD technology, some teams have opted to completely jettison wind tunnel testing and place the new developments directly on the race track. The testing is then handled by stopwatches, vehicle sensors – and, of course, the drivers themselves.

For a long period, wind tunnel tests prevailed as the optimal providers of key data used in race car production decisions. And just as these have diminished in importance, the Discounted Cash Flow (DCF) method will also decrease in significance as more advanced methods build upon it. But currently it is the preferred approach to guide all sorts of business decisions, be they investments, strategic decisions, corporate transactions or contractual arrangements and their impact.

The drawbacks
of the
Discounted
Cash Flow
method now
prove to
outweigh its
advantages

Over the years the DCF method with its various KPIs has successfully boxed out other decision making tools such as the payback method and static profitability calculations.

The application of DCF has created a huge advantage for the field of strategy development and assessment. Using this method it finally became possible to calculate and quantify the value of strategic decisions. On the other hand, this method is also guilty of oversimplifying such evaluations. However, the greatest drawback of DCF is not necessarily the results it produces but rather its effect on our thinking. It teaches us **not** to think in terms of probabilities and alternatives. As Abraham Maslow said, *"If the only tool you have is a hammer, you tend to see every problem as a nail."*

Our first critique of the DCF method highlights two points in particular that limit its validity:

- It emphasizes risks rather than opportunities.
- It generalizes the risks, assuming that all factors of influence and their related cash flows have the same risk profile.

Considering that the net present value is calculated based on a selected scenario – scenarios being defined as a set of assumptions about future developments – additional weaknesses of this method include:

- 1. Subjectivity:** *Any set of assumptions not based on hard facts is subjective. This reality alone does not mean an opinion is automatically wrong or insufficient, for we know that experience-based advice from experts is likely to be well-founded. However, as long as this input is not substantiated with reliable data, it remains subjective in nature.*

- 2. Incompleteness:** *No matter how many scenarios are calculated and applied, the mural of possibilities will always be incomplete. In nearly all cases things develop differently, and the face of that future situation ends up being unlike any of the predicted scenarios. As such, the scenarios present only a patchy view of reality.*
- 3. One-dimension:** *The probability of whether and to what extent a scenario will materialize is linked directly to a series of individual probabilities. The DCF method does not take these into account, neither in an isolated or interrelated sense. However, these probabilities significantly determine the success or failure of a business decision.*
- 4. Static nature:** *The method does not consider alternative courses of action and the value these create for the company.*

Analysts exert extensive effort in conducting analyses to develop the final DCF scenarios, mining a wealth of valuable data. In spite of this, the scope and significance of this information is not reflected in the financial valuation of these final scenarios. As such, the valuations do not adequately represent the ever growing complexity and uncertainty of the economic and business environment.

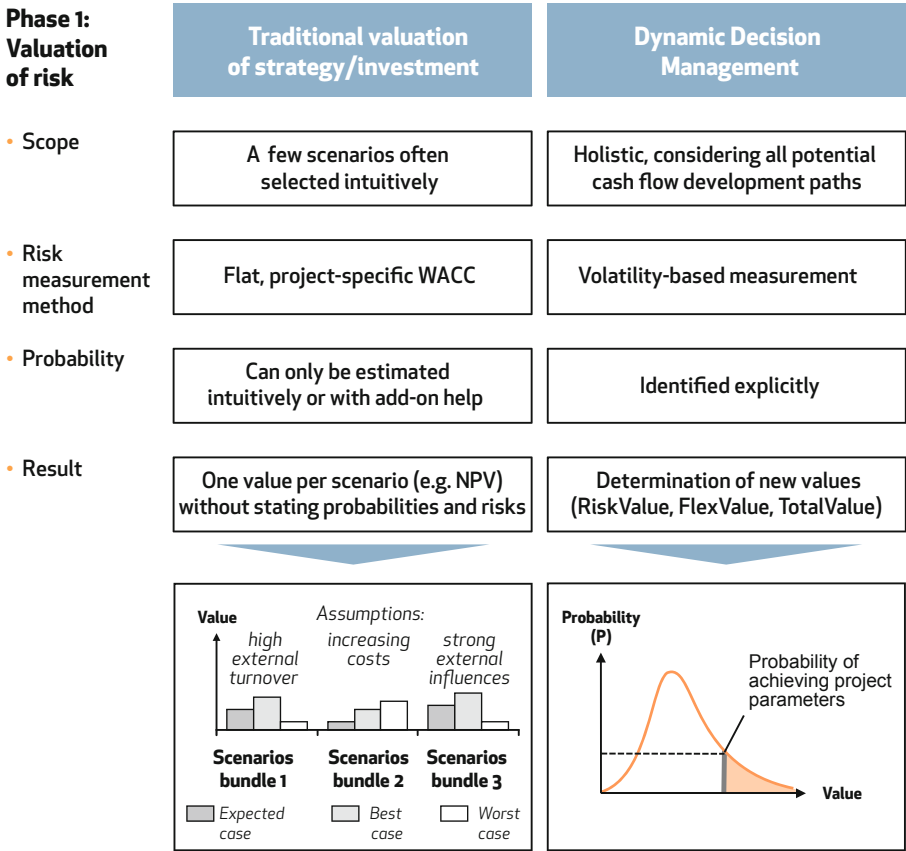
The appendix includes an illustration of how DCF scenarios are developed, as well as a more detailed discussion of the weaknesses of this method.

New developmental steps

In order to address and overcome the weaknesses of the DCF method, we developed Dynamic Decision Management in collaboration with industry leaders. DDM can be divided into two phases. Phase 1 examines key factors in detail, the focus

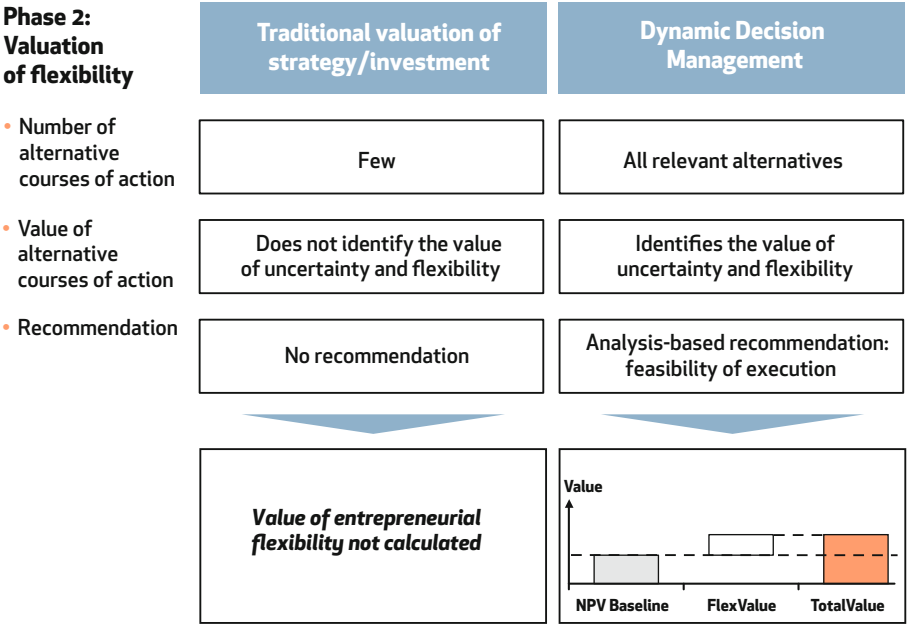
being on valuating risk and opportunity assumptions and introducing volatility as risk measurement.

Figure 2.1: Comparison of valuation approaches –
Phase 1: Valuation of risk



In Phase 2 (see Fig. 2.2) the so-called TotalValue is calculated. TotalValue integrates volatilities and flexibility to determine the overall value of all opportunities. The calculation is made based on a wide spread of detailed data in conjunction with experience and intuition.

Figure 2.2: Comparison of valuation approaches –
Phase 2: Valuation of flexibility



TotalValue – the heart of Dynamic Decision Management

TotalValue enables you to incorporate the true individual value of risks and opportunities into the decision making process. It also helps you consider all potential future business environments instead of a limited number of scenarios, and it helps you understand the value of alternative courses of action, showing you the overall likelihood of achieving your desired results. TotalValue supports the development of a new management mind-set that emphasizes alternatives and incremental, contingency-based decision making.

Key terms of DDM

The method-specific terminology is defined and summarized in Fig. 2.3.

Figure 2.3: Fundamental terms of the Dynamic Decision Management method

Net Present Value (NPV)	• The difference between the discounted present value of the future cash flows from an investment and the amount of investment of a defined point of reference (baseline) • Value depends on defined scenarios and a flat-rate discount factor • Calculation method: Discounted Cash Flow ➤ Shows a strategy's value based on clearly defined assumptions; does not presuppose management action in terms of modifying strategy
RiskValue	• Discounted present value of future cash flows taking uncertainties into account • Probabilities of values are calculated • Value depends on specific uncertainties of cash flow parameters • Calculation method: Dynamic Decision Management ➤ Shows the potential deviations in a strategy's value when the assumptions change
FlexValue	• Discounted present value of future cash flows of strategic alternatives • Additional value inherent in the alternative courses of action in view of specific uncertainties of cash flow parameters • Probabilities are calculated • Calculation method: Dynamic Decision Management ➤ Shows the value of strategic alternatives that are possible because of a pro-active management of the "baseline"
TotalValue	• NPV (baseline) plus FlexValue (the value of strategic alternatives) = TotalValue depends on the correlation of volatilities and future alternatives • Probabilities are calculated • Calculation method: Dynamic Decision Management ➤ Shows the total value of a strategic decision
DDM	➤ A holistic process of assessing and calculating the uncertainties and flexibility of strategic decisions, generating a quantitative value as the basis for decision making.

Though Dynamic Decision Management is comprehensive and elaborate – to the point of being daunting to newcomers – it is certainly doable. The concrete results generated by the approach – RiskValue, FlexValue, TotalValue – are a reduction of complexity. These simplify the implementation and communication process. Details of these key terms are explained in the following chapters. The stages of development leading to Dynamic Decision Management are presented in the appendix.

KEY QUESTIONS FOR DECISION MAKERS:

- 1. How probable is the calculated outcome of your latest investment?*
- 2. What scenario did you base your latest investment on?*
- 3. How do you currently evaluate the financial value of alternatives and flexibility?*
- 4. How do new opportunities influence your decision making?*

Leveraging Flexibility

Win the Race with Dynamic Decision Management

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2014, XV, 144 p. 40 illus. in color., Hardcover

ISBN: 978-3-642-54361-6