

A practical method for valuing real options: The Boeing approach

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Boeing, the aircraft manufacturer, has pioneered a real options approach that is equivalent to the Black Scholes approach for valuing financial options but is convenient to use for people familiar with the widely used Net Present Value concept.

The Datar Mathews (DM) method is simple, transparent, allows for more insightful strategic planning and valuation and helps firms in reducing risks while improving outcomes. The different sources of uncertainty in a project are not considered properly in the NPV method. The DM method can do so more effectively. The method can give structure to early scenario based decisions and provide a way of introducing quantitative analysis.

NPV analysis is more appropriate for annuity like investments. Real options are more suited for evaluating investments with flexibility, critical decision points and major discontinuities. NPV tries to reduce everything to a single most likely scenario. Real options in contrast can look at various scenarios produced by strategic planning discussions and translate them into a business plan with flexibility and critical decision points. Unlike NPV, real options can work with different estimates of operating profits every year and also with different discount rates for different cash flows based on their riskiness.

Much of the benefit of real options lies not in the calculation of their value using a model but in a new mindset which brings structure to strategic planning discussions. The DM method simplifies real option value calculations and creates transparency in the process. This enables practitioners to embrace real options more easily. The DM method also reduces to an NPV calculation when uncertainties become small, cash flow distributions converge to a most likely point value and there are no timed investment decision events.

Real options work for strategic decisions because of their ability to simplify and manage complex investment problems. It is true that all uncertainties cannot be identified and quantified. But the real options approach helps in defining the boundaries without undermining the quality of the decision-making process. Real options help us to identify bad outcomes and help concentrate resources on the truly promising opportunities. The real options approach helps in

reducing costs and uncertainty while maximizing the value of a firm's products and services.