



Decisions Under Uncertainty

Module 5: Summarizing The Methods For A Simple Cost Benefit Analysis

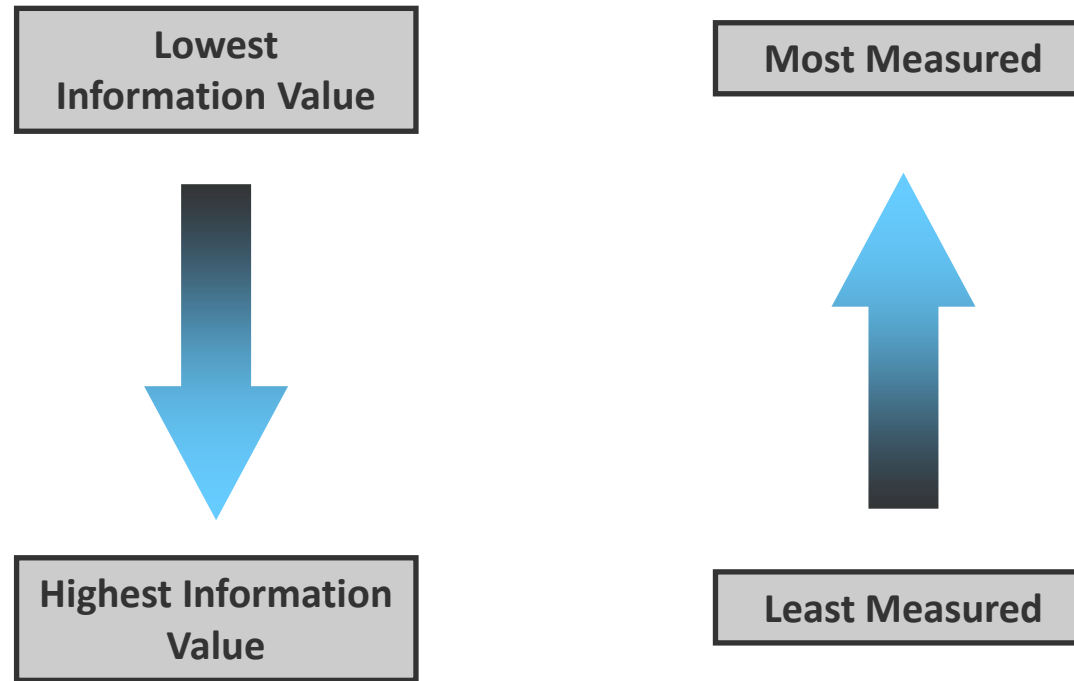
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The Measurement Inversion

What You Measure Is Probably Not What Matters

In a business case, the economic value of measuring a variable is usually inversely proportional to the measurement attention it typically gets.





Examples of Measurement Inversions

Real Cases Where What Mattered Was Different Than What They Would Have Measured

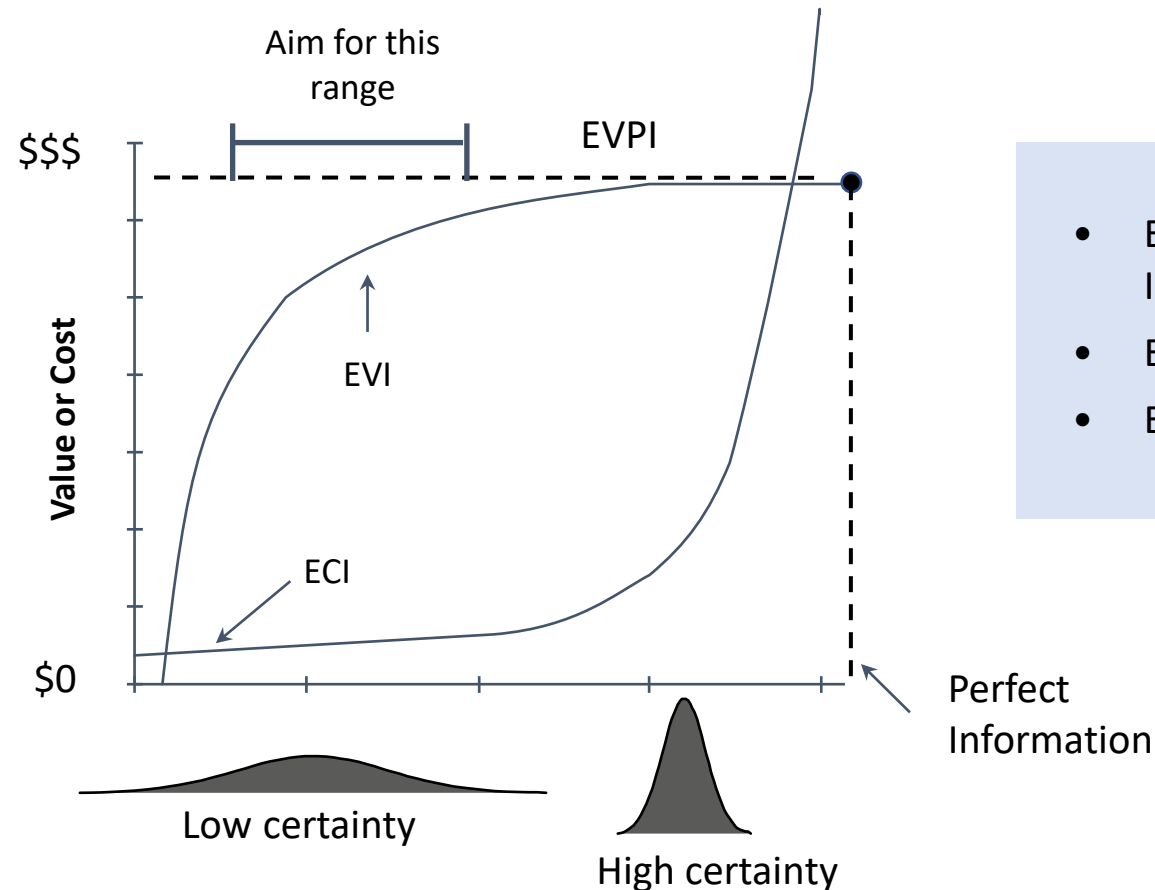
Subject	What they would have measured	What they needed to measure
New procurement system for government	Detailed “time and motion” study of procurement process	The price savings from using reverse auctions
Battlefield fuel forecasting	Chance of enemy contact, forecasts vehicle maintenance	The difference in mileage between paved and gravel roads
Risks of flooding in mining operations	Drilling test holes all over the mine	How much water the main pumps can handle
Market for new pharmaceutical products	The adoption rate of the new drug in all global regions	The duration of phase 1 testing, chance of a particular clinical outcome
Impact of pesticide regulation	The value of saving endangered species	Whether pesticide regulation ever saves any endangered species



The Method of Measurement

The Value of Information

If we can model uncertainty about decisions, we can compute the value of information.



- EVPI – Expected Value of Perfect Information
- ECI – Expected Cost of Information
- EVI – Expected Value of Information

First Law of Extreme Uncertainties:
If you know almost *nothing*, almost *anything* will tell you *something*.



Thank You for Your Time!

Questions?

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Measure What Matters.

Make Better Decisions.