SMART CHOICES

LECTURE NOTES

Chapter 8
RISK TOLERANCE

What to do when the risk profiles have been specified and no clear alternative appears?

At this point focus on the degree of risk you are willing to assume called risk tolerance. Risk Tolerance depends primarily on how significant you consider the downside or poorer consequences of any decision – compared to the upside.

In other words, your risk tolerance expresses your willingness to take risk in your quest for better consequences. Most people are risk averse, the poorer consequences will weigh more heavily in their minds than the better ones.

The basic principle is: the more desirable the better consequences of a risk profile relative to the poorer consequence, the more willing you will be to take the risks necessary to get them. However, to make a smart choice you also need balance the desirability of the possible consequences with the probability that they will occur.

Steps to follow:

1 Think hard about the **RELATIVE** desirability of the consequences of each alternative.

2 Balance each alternatives' desirability with the chances of it occurring.

3 Choose the most attractive alternative.

Let's assume that you are offered a 50-50 chance at either making $10,000 or losing $5,000. How should you decide? If you are risk averse you will be very concerned about the possibility of losing $5000 and not participate. If you are a risk taker or less risk averse you would be more inclined to participate because you have an equal chance of making $10,000 and that is attractive.

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Now if the chances in the decision above were changes to 90% in favor of gaining $10,000 even a risk averse person may find this a smart choice.

Quantify risk tolerance with desirability scoring to express precisely the desirability of each consequence:

1 Assign desirability scores to all consequences – rank them from best to worst with 100 being the best and 0 the worst.

2 Calculate each consequence's contribution to the overall desirability of the alternative by multiplying its outcome's probability by its outcome score. For example if the desirability score is 70 and the probability is 30% the contribution would be 21 (70 X .3 =21).

3 Calculate each alternative's overall desirability score by adding together the desirability scores of all its consequences.

4 Compare and choose.

Quick example:

Risk Profiles for Marisa's Job Decision

ALTERNATIVE: ACCOUNTING FIRM

Uncertainty: Office Assignment

		Consequences		
Outcome	Chance	*Living*	*Job*	*Society*
New York	90%	Very Good	Excellent	Fair
Santiago	10%	Poor	Fair	Excellent
	100%			

ALTERNATIVE: CONSULTING FIRM

Uncertainty: Office Assignment

		Consequences		
Outcome	Chance	*Living*	*Job*	*Society*
Buenos Aires	75%	Good	Good	Very Good
London	25%	Excellent	Excellent	Good
	100%			

Table 1 shows a consequence table for a job decision with the desirability score associated with each outcome.

The two choices are to accept a job with an accounting firm or a consulting firm. The uncertainty lies in where Marisa will be posted. The chances of going to the accounting firm in New York are 90% and Santiago 10%. Listed are the consequences of the living environment, job environment and society environment.

Consequences are also listed for the consulting firm offices for Buenos Aires and London with each of its chances.

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Table 2 below isolates the consequences or outcomes for each firm and shows the desirability scores.

Ranking and Scoring the Consequences of Marisa's Job Decision

		Consequences				Desirability
Alternative	Outcome	*Living*	*Job*	*Society*	Rank	Score
Consulting Firm	London	Excellent	Excellent	Good	1	100
Accounting Firm	New York	Very Good	Excellent	Fair	2	80
Consulting Firm	Buenos Aires	Good	Good	Very Good	3	50
Accounting Firm	Santiago	Poor	Fair	Excellent	4	0

Again the uncertainty lies in where Marissa would be posted. So if you look at the ranking and scoring consequences of Marissa's job you can see how she ranked the preferences and jobs based of course on the conditions and consequences.

The desirability score is how much she desires a particular location. London is her first choice, New York is her second choice and Buenos Aires her third. She doesn't really want to go to Santiago at all. These are arbitrary: kind of high, medium and low but you need to put some numbers to it so you will see what we need to do with the numbers in a minute.

Determining the Overall Desirability for Marisa'sRisk Profiles

ALTERNATIVE: ACCOUNTING FIRM

Outcome	Chance	Desirability Score	Contribution to Overall Desirability
New York	90%	80	72
Santiago	10%	0	0
	100%		
	Alternative' overall desirability score:		72

ALTERNATIVE: CONSULTING FIRM

Outcome	Chance	Desirability Score	Contribution to Overall Desirability
Buenos Aires	75%	50	37.5
London	25%	100	25
	100%		
	Alternative' overall desirability score:		62.5

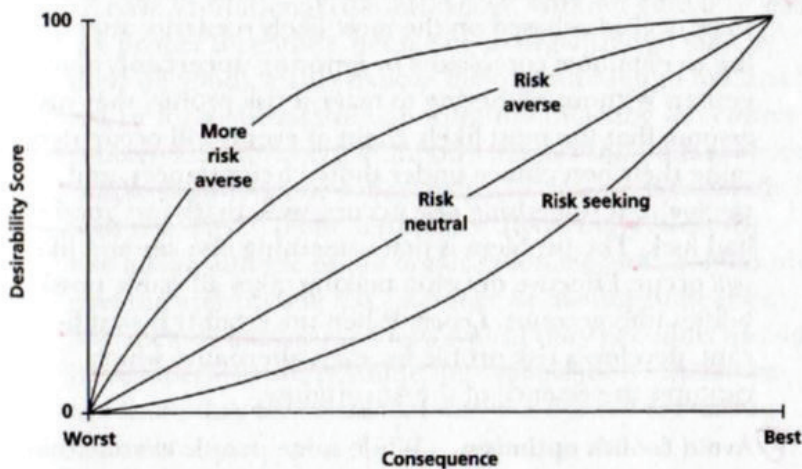Interpreting Risk Attitude from a Desirability Curve

Table 3 shows the calculation of the overall desirability and the clear choice being the accounting firm.

The desirability score times the chance that it will happen gives you a 72 overall contribution for going to New York. Santiago was 0, because anything times a 0 equals 0. So the accounting firm alternative goes to 72. If you do the same math and apply it to the desirability score for the consulting firm and add the two options together you will get a 62.5. The 72 exceeds the 62.5 by a significant amount so in this case it is obvious to go with the accounting firm.

When you have a number of choices creating a desirability curve may be a helpful shortcut. Plot desirability curves for a few representative consequences – typically 5 – then connect these points on the graph to form a curve.

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This approach helps you gain insights about your risk tolerance from the shape of the curve. Research has given us some representative curves for various risk profiles. You can see that the more upwardly bowed the curve is the more risk adverse. A straight line indicates risk neutral and downward bowed indicates risk seeking.