Decision Table

Basic Structure

When to use a table?

- ❑ For decisions involving more than one criterion (e.g., difficult trade-offs between pros and cons)

Criteria: What matters in this decision? ❑ Time, money? ❑ Risks, side effects? ❑ Stakeholders? ❑ Fears and hopes?	**Criterion 1:**	**Criterion 2:**	**Criterion 3:**	**Criterion 4:**
Action 1:	What are consequences of Action 1 for Criterion 1?			
Action 2:				
Action 3:				
Action 4:				

Weighted Decision Table

When to use a weighted table?

- ❑ To evaluate your options quantitatively and determine the winner
- ❑ To reflect about your criteria and values

	Criteria: What matters in this decision? ❑ Time, money? ❑ Risks, side effects? ❑ Stakeholders? ❑ Fears and hopes?	**Criterion 1:**	**Criterion 2:**	**Criterion 3:**	**Totals:** **V = Value** per Action: Sum of (W*R) per row
	W = Weights: How important is this criterion?	*W1 =*	*W2 =*	*W3 =*	
Action 1:	R = Raw Ratings: How good is this? (1=worst, 10=best)	R =	R =	R =	
	Weighted Ratings	*W1*R =*	*W2*R =*	*W3*R =*	**V (Action 1) =**
Action 2:	R = Raw Ratings: How good is this? (1=worst, 10=best)	R =	R =	R =	
	Weighted Ratings	*W1*R =*	*W2*R =*	*W3*R =*	**V (Action 2) =**
Action 3:	R = Raw Ratings: How good is this? (1=worst, 10=best)	R =	R =	R =	
	Weighted Ratings	*W1*R =*	*W2*R =*	*W3*R =*	**V (Action 3) =**

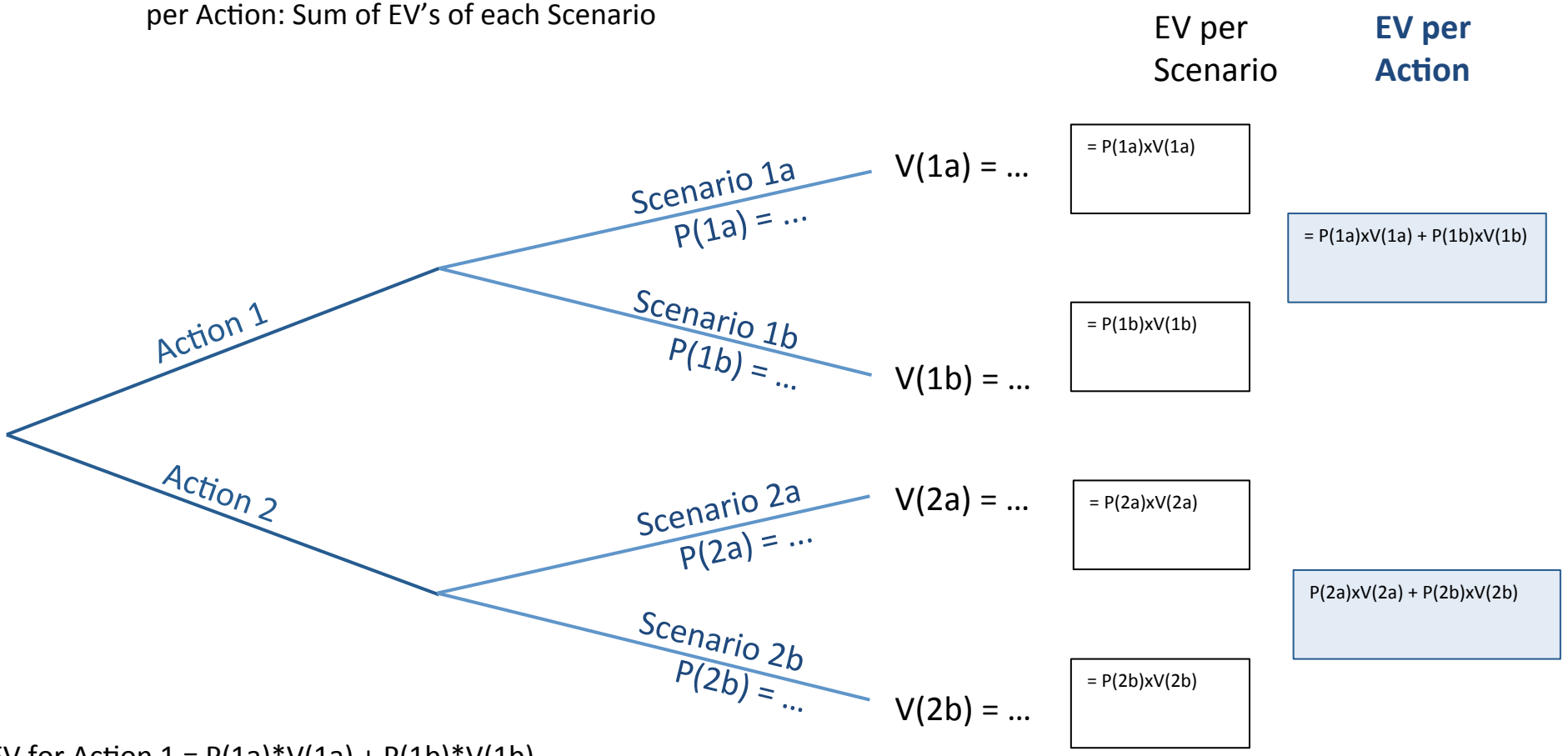
Decision Trees

When to use trees?

- ❑ For decisions involving uncertainties
- ❑ Most useful if there are known risks and probabilities (e.g. medical decisions: likelihood of complications)

P = Probability: how likely is each scenario in %?
V = Value: how desirable is each outcome? (1 = worst, 10 = best)
EV = Expected Value:

per Scenario: P*V
per Action: Sum of EV's of each Scenario



EV for Action 1 = P(1a)*V(1a) + P(1b)*V(1b)
EV for Action 2 = P(2a)*V(2a) + P(2b)*V(2b)

Decision Table and Tree Combo

When to work with a combination of table and tree?

- ❑ For decisions involving major uncertainties as well as multiple criteria

Criteria: What matters in this decision? ❑ Time, money? ❑ Risks, side effects? ❑ Stakeholders? ❑ Fears and hopes?		Criterion 1	Criterion 2	Criterion 3	V per Scenario: Sum of (W*R) per row	EV per Scenario: P*V	**EV per Action:** Sum of EV's of each Scenario
W = Weight: How important is this criterion?		W1 =	W2 =	W3 =			
Action 1:	Scenario 1a:	R =	R =	R =		EV(1a) = P(1a) x V(1a)	EV(2) = EV(1a) + EV(1b)
	P(1a) = …	**W1*R =**	**W2*R =**	**W3*R =**	**V(1a) =**		
	Scenario 1b:	R =	R =	R =		EV(1b) = P(1b) x V(1b)	
	P(1b) = …	**W1*R =**	**W2*R =**	**W3*R =**	**V(1b) =**		
Action 2:	Scenario 2a:	R =	R =	R =		EV(2a) = P(2a) x V(2a)	EV(2) = EV(2a) + EV(2b)
	P(2a) = …	**W1*R =**	**W2*R =**	**W3*R =**	**V(2a) =**		
	Scenario 2b:	R =	R =	R =		EV(2b) = P(2b) x V(2b)	
	P(2b) = …	**W1*R =**	**W2*R =**	**W3*R =**	**V(2b) =**		