

ISE 562; Dr. Smith

Decision Theory

Decision Theory
Americo Case Solution

9/11/2022

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- Example: Americo Oil is considering making a bid of \$110M for shale oil development. The company estimates it has a 60% chance of winning the contract. If it wins, it can choose one of 3 methods of oil extraction: 1) new method; 2) use existing ineff. process; 3) subcontract to smaller companies. Data are summarized in the following table. Cost of the contract proposal is \$2M; If company doesn't bid, will invest with a return guaranteed to be \$30M. Construct the decision tree and identify the correct decision.

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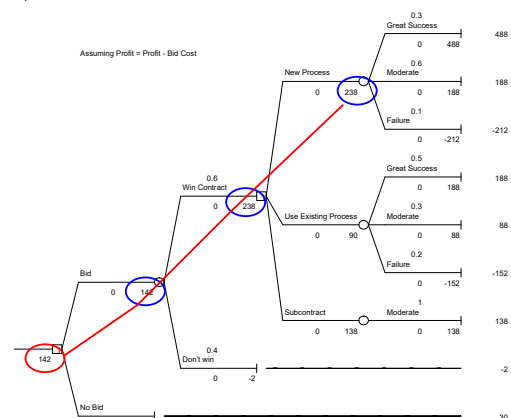
• Example

Develop new process		
Outcomes	Probability	Profit (\$M)
Great success	.30	600
Moderate	.60	300
Failure	.10	-100
Use existing (ineff.) process		
Great success	.50	300
Moderate	.30	200
Failure	.20	-40
Subcontract		
Moderate	1.0	250

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