

Ch. 15 Decision Analysis, Homework 1

Hale's TV Production is considering producing a pilot for a comedy series in the hope of selling it to a major television network. The network may reject the series, but it may also decide to purchase the rights to the series for either one or two years. At this point in time, Hale may either produce the pilot and wait for the network's decision or transfer the rights for the pilot and series to a competitor for \$100,000.00. Hale's decision alternatives and profits (in thousands of dollars) are as follows:

Decision Alternative	State of Nature		
	Reject (s1)	1 Year (s2)	2 Years (s3)
Produce Pilot (d1)	-100	50	150
Sell to Competitor (d2)	100	100	100

The probabilities for the states of nature are $P(s1)=0.20$, $P(s2)=0.30$, and $P(s3)=0.50$. For a consulting fee of \$5,000.00, an agency will review the plans for the comedy series and indicate the overall chances of a favorable network reaction to the series. Assume that the agency review will result in a favorable (F) or an unfavorable (U) review and that the following probabilities are relevant:

$$P(F/S1)=0.3105 \quad P(U/S1)=0.6975$$

$$P(F/S2)=0.5980 \quad P(U/S2)=0.4030$$

$$P(F/S3)=0.8970 \quad P(U/S3)=0.0992$$

- Construct a decision tree for this problem.
- What is the recommended decision if the agency opinion is not used? What is the expected value?
- What is the expected value of perfect information?
- What is Hale's optimal decision strategy assuming the agency's information is used?
- What is the expected value of the agency's information?
- Does the agency information worth the \$5,000.00 fee? What is the maximum that Hale should be willing to pay for the information?
- What is the recommended decision?