BA3320 Operations Management

EXAM 1 Solutions -Odd version - W2004 Dr. Banis

Payoff ($K, NPV)

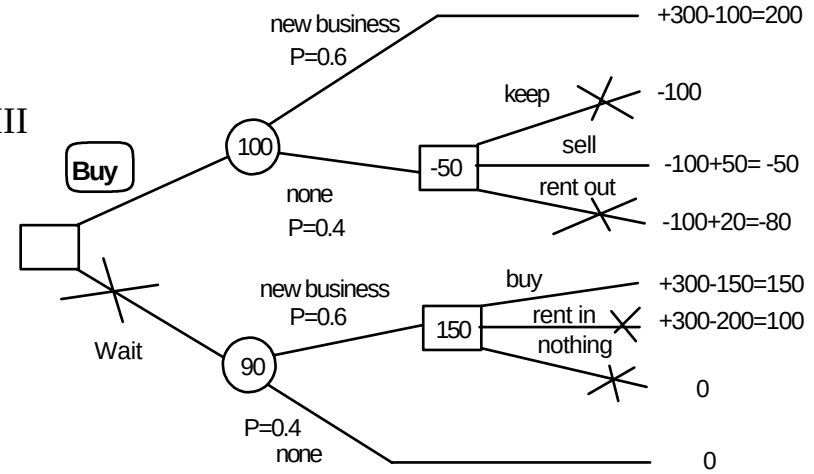
	Popularity			EMV
	Flop	Success	Big hit	
Probability	0.4	0.5	0.1	
Sell Outright	300	300	300	300
Keep Royalties	200	500	800	410 **
Develop in-house	(300)	400	3,000	380
EMVc	300	500	3,000	670

EVPI=670-410 =260

Star would guarantee $3,000K, otherwise EMV is 410K. the star is worth $3,000-410 = $2.59M. Crazy, isn't it?

II.
1)Z=-0.85, X=6-.85*3=3.45yrs
2)Z=0, P=50%, ExpCost=$50
3)10+35Pr=20-15Pr; Pr=20%
4) 3*Sigma/sqrt(n)=1.5; n=16
5)easy way to calculate reliability of each section is 1-Pfail
then it comes out to .9375*.992*.8=0.744

III



EVPI= EMVc - EMV= (0.6 *200 + 0.4 * 0) - 100 = 120 -100 = 20

Selling price to make you indifferent: would have to give an EMV for buying ahead that is equal to the EMV for not buying ahead. Solve for the value that would have to be in the box for the secondary decision in the buy-ahead branch: $EMV_{wait} = 90 = EMV_{buy} = 0.6 * 200 + 0.4 * \text{Value in box.}$; Value in box = (90 - 0.6 * 200)/0.4 = -75; For this value to be -75, the selling price would have to be 25 (the difference between the 100 it cost and the loss)

Regrets($M, NPV)

	Popularity			MAX
	Flop	Success	Big hit	
Sell Outright	0	200	2,700	2,700
Keep Royalties	100	0	2,200	2,200
Develop in-house	600	100	0	600**

This strategy is usually called CYA

V

1)A. .07Q+200=.02Q+1000; Q=16,000
B. .07*15K+200=.02*15K+X; X=950
1) bologna sandwich technique
2) tit-for-tat
2) get information when it's worth more than it costs

IV

Costs in $M as a function of repair and guaranty strategies

Bill / / Sally	Hide & Lie	cosmetic repair	Full disclosure	Sally's Minimum Cost
be open & trusting	10 / / 1	15 / / 5	0 / / 10	1
Insist on inspection	6 / / 7	8.5 / / 13.5	1 / / 11	7
Insist on third party guarantees	5 / / 11	5 / / 12	5 / / 15	11
Bill's Minimum cost	5	5	0	

expected stable combination 5 +11 =16, hide & Lie, 3rd party guarantees
Minimum total cost would be 0+10 =10, full disclosure,open & trusting
Ways to stabilize might be through considering future transactions/ relationship, sharing cost-savings, just be good people (PollyAnna-ish?)