Question: PRACTICE PROBLEM: PROBABILITY ANALYSIS Solve the followi...

PRACTICE PROBLEM: PROBABILITY ANALYSIS

Solve the following problems showing your solution. Submit in pdf format.

1. The Lada Express FudStop sells "chili-cious lugaw" in cup at Ibalong Centrum everytime the Liga ng mga Barangay holds its basketball games there. The frequency distribution of the demands for the cups of "chili-cious lugaw" per game is shown below:

Unit sales volume	Probability
60 cups	5%
80 cups	10%
100 cups	25%
120 cups	40%
140 cups	20%

The cup of chili-cious lugaw is sold for P25 and the cost per cup is P15. Any unsold lugaw is freely given to an elderly residing near the terminal collecting left-over foods for his pigs.

Required;

A. What is the unconditional profit (loss) of having 120 cups of lugaw and only selling 80 cups?

B. What is the estimated demand for chili-cious lugaw at the next Liga ng mga Barangay basketball games at Ibalong Centrum using an expected value approach?

2. Whong enterprises is developing its budgeted cost of goods for 2022. Whong has developed the following range of sales estimates and associated probabilities for the year:

Sales estimate	Probability
P1,800,000	20%
P2,300,000	45%
P2,700,000	35%

The cost of goods sold averages 60% of sales. What is the expected value of Whong's 2022 budgeted cost of goods sold?

3. Bee-Czara Drinks can sell either softdrinks or cofee on any given day. If it sells softdrinks and the weather is hot, it will make P17,500; if the weather is cold, the profit will be P7,000. If it sells coffee and the weather is hot, it will make P13,300, if the weather is cold, the profit will be P14,000. the probability of cold weather on a given day at this time is 60%.

Required:

A. What is the expected payoff of selling coffee?

B. If the probability of hot weather given a hot weather forecast is 50%, how much would Bee-Czara be willing to pay for the forecast? [hint: value of perfect information]

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Expert Answer

Anonymous answered this
198 answers

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Q1)

a) Unconditional Profi (loss) on 120 cups and selling 80 cups = Sales - Cost

= (25*80) - (15*120) = P 200

b) Estimated Demand = (Demand * probability)

= (60*.05) + (80*.1) + (100*.25) + (120*.4) + (140*.2)

= 3 + 8 + 25 + 48 + 28 = 112 cups

Q2) Estimated Sales = (1,800,000 * .2) + (2,300,000 * .45) + (2,700,000 * .35)

= P 2,340,000

Expected COGS = 2,340,000 * 60% = P 1,404,000

Q3)

A) Expected Payoff at selling coffee = (13,300 * 40%) + (14000 * 60%) = 13,720

B) Bee-cazara will be willing to pay = Excess profit earned due to excat information

= Profit on Coffee - Profit of Coldrinks

= ((13300*50%)+(14000*50%)) - ((17500*50%)+(7000*50%))

= 13650 - 12250 = P 1400

Please gives a thumbs up.

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