Unit 6 Discussion Example - Initial Post

Decision Analysis
For the Unit 6 Discussion Board, you will compose a **reflective essay** to address the following questions:

Scenario: You are a business owner faced with an important decision that could potentially be very lucrative. Keep in mind the "Six Steps in Decision Making" (textbook reference) as you set up your decision analysis.

1. What is the problem and objective of this decision?
2. Identify at least 3 alternatives and 3 states of nature.
3. Create a decision table in Excel QM.
4. What are the potential payoff/losses for each alternative and state of nature?
5. Choose two of the five decision strategies, and solve it in Excel QM. State the best alternative for each strategy.
    - Optimistic
    - Pessimistic
    - Criterion of realism (Hurwicz)
    - Equally Likely (Laplace)
    - Minimax Regret
6. Why did you choose the two strategies? What are the results of the best alternative? What is your final decision?

After you have contemplated the questions above, draft your reflective essay. Every piece of writing should have an introduction, body, and conclusion. A good way to plan this particular reflective essay is to write an introduction to the essay. Next, write at least three body paragraphs and address each of the points listed above. End your essay with a conclusion paragraph tying all of your ideas together. The essay should be at least five paragraphs in length.

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1. I am the business owner for my personal juice/smoothie business, "The New Green!" I have smoothie carts in various locations around town. Business has been going very well and I am considering expanding my business to our neighboring town.

2. Three alternatives would be:

    1. Expand fully to neighboring town with 3 new smoothie carts
    2. Pilot the expansion with just 1 new smoothie cart
    3. Stay status quo – do not expand (Make the customers come to me!)

Three states of nature would be:

    1. Serious demand for good nutrition ☺
    2. Moderate demand for good nutrition 😐
    3. Nobody cares about good nutrition ☹

3 & 4. On a typical "awesome" day, I sell about $250 in smoothies per cart and it costs about $100 for electricity and staffing. So, a net income of about $150 per day.

On a typical "moderate" day, I sell about $150 in smoothies per cart and it still costs about $100 for electricity and staffing. So, a net income of about $50 per day.

On a typical "poor" day, I sell about $50 in smoothies per cart and it still costs about $100 for electricity and staffing. So, a net loss of about $50 per day.

I will set up my decision table based on the above profit/losses per smoothie cart.

Profit	Awesome Nutritional Demand	Moderate Nutritional Demand	Poor Nutritional Demand
Probability			
3 New Carts	450	150	-150
1 New Cart	150	50	-50
0 New Carts	0	0	0

5. For decision analysis with uncertainty, I will choose to use the Optimistic and Equally Likely strategies.

The Optimistic (Maximax) decision is to build 3 new carts with a possibly payoff of $450 per day.

	EMV	Minimum	Maximum
	0	-150	450
	0	-50	150
	0	0	0
Maximum	**0**	**0**	**450**

For the equally likely strategy, I take the average payoff for each alternative. I can do this, by setting the probability for each state of nature to be 1/3 ≈ 0.33. The Equally Likely decision is still to build 3 new carts with a possibly payoff of $148.50 per day.

Profit	Awesome Nutritional Demand	Moderate Nutritional Demand	Poor Nutritional Demand		EMV	Minimum	Maximum
Probability	0.33	0.33	0.33				
3 New Carts	450	150	-150		148.5	-150	450
1 New Cart	150	50	-50		49.5	-50	150
0 New Carts	0	0	0		0	0	0
				Maximum	**148.5**	**0**	**450**

Now, I will use the above computations as a basis for composing my reflective essay. Please remember that your reflective essay should include an introduction, body, and conclusion, and of course APA formatted references.