**For this assignment, you are required to complete Individual Problems 17-2 and 17-6. In addition, you are required to complete Group Problem G17-1: Uncertainty. As you are evaluating your current company, address the following decisions in your response (500-750 words):**

**1.What environmental factors and risks must be considered in the company's decision-making process?**

**2.Evaluate cost factors influencing the company's decision.**

**3.Determine strategies that would provide value to the outcome your company is seeking relating to this decision.**

**G17-1 Uncertainty**

Describe a decision your company has made when facing uncertainty. Compute the expected costs and benefits of the decision. Offer advice on how to proceed. Compute the profit consequences of the advice.

**17-2 Game Show Uncertainty**

In the final round of a TV game show, contestants have a chance to increase their current winnings of $1 million to $2 million. If they are wrong, their price is decreased to $500,000. A contestant thinks his guess will be right 50% of the time. Should he play? What is the lowest probability of a correct guess that would make playing profitable?

**Answer**

To play the game show one would want to make sure that the payoff would be profitable. In order to find out if the payoff is profitable one must calculate the expected payoff. The formula for this is E{X}= p \* x1 + (1-p) \* x2. Therefore, in order to find the expected payoff, we take the 50% chance of winning and multiply it by the current $1 million dollars winning leaving us with $500,000. Then take the 50% chance of losing and multiply it by the losing amount of $500,000, giving us $250,000. Then take the $500,000 subtract the $250,000 and we get $250,000. Since the amount is greater than zero we should take the chance and play the game for the chance of $2 million.

In order to find our lowest probability of getting a correct guess we need solve a multi-step equation. We need to take the $2 million and subtract the amount that we win no matter what of $500,000. That leaves us with $1,500,000. We take the guaranteed amount of $500,000 and divide it by our winning amount of $1,500,000 if we are right. Leaving us with one-third or 33%. This means that our lowest probability of guessing correctly needs to be equal to or greater than 33%.

**17-6 Hiring**

The HR department is trying to fill a vacant position for a job with a small talent pool. Valid applications arrive every week or so, and the applicants all seem to bring different levels of expertise. For each applicant, the HR manager gathers information by trying to verify various claims on resumes, but some doubt about fit always lingers when a decision to hire or not is to be made.

**17-6a** What are the Type I and II decisions error costs?

**Answer**

There are two types of errors. Type I error is when we have a false positive. When it comes to hiring an employee the Type I error would be to hire what was thought to be a good employee, but they turn out to be a bad employee. The Type II error is a false negative. When it comes to Type II error and hiring it would be not hiring a good worker. This would be if a person tanked an interview therefore they are not hired even though they might be the best person for the job.

**17-6b** Which decision error is more likely to be discovered by the CEO? payoff?

**Answer**

The CEO would most likely discover the Type I error. This is because the CEO will be able to see the performance errors from the Type I error. The employee that was hired will be evaluated from the company and the Type I error will be made when the performance evaluation comes back. With the Type II error, the CEO might hear of someone they had the opportunity to hire but it is a random variable that cannot be for certain.

**17-6c** How does this affect the HR manager’s hiring decisions?

**Answer**

The HR might try to avoid Type I error therefore causing more Type II errors. The HR would try to avoid the Type I error because they would not want to look bad in front of the CEO for hiring a bad employee, thus causing a rise in Type II errors.