**Decision Trees**

**Scenario:** You are a consultant who works for the Excellent Consulting Group. You have learned about three different investment opportunities and need to decide which one is most lucrative. Following are the three investment options and their probabilities:

**Option A:** Real Estate development. This is a risky opportunity with the possibility of a high payoff, but also with no payoff at all. You have reviewed all of the possible data for the outcomes in the next 10 years and these are your estimates of the cash payoff and probabilities:

Required initial investment: $0.75 million

High NPV: $5 million, Pr = 0.5

Medium NPV: $2 million, Pr = 0.3

Low NPV: $0, Pr = 0.2

**Option B:** Retail franchise for Just Hats, a boutique-type store selling fashion hats for men and women. This also is a risky opportunity but less so than Option A. It has the potential for less risk of failure, but also a lower payoff. You have reviewed all of the possible data for the outcomes in the next 10 years and these are your estimates of the payoffs and probabilities:

Required initial investment: $0.55 million

High NPV: $3 million, Pr = 0.75

Medium NPV: $2 million, Pr = 0.15

Low NPV: $1 million, Pr = 0.1

**Option C:** High Yield Municipal Bonds. This option has low risk and is assumed to be a Certainty. So there is only one outcome with probability of 1.0:

Required initial investment: $0.75 million

NPV: $1.5 million, Pr = 1.0

**Assignment**

Develop an analysis of these three investments, and determine which of them you should choose. *Be sure to account for cash paid for each of the three alternatives*. If you do not recall how to do this, review the practice exercises in the Background page. Do your analysis in Excel using the Decision Tree add-in.

Write a report to your private investment company and explain your analysis and your recommendations. Provide a rationale for your decision.

**SLP Assignment Expectations**

**Analysis**

* Accurate and complete Excel analysis.

**Written Report**

* Provide a brief introduction to/background of the problem.
* Written analysis that supports Excel analysis and provides thorough discussion of assumptions, rationale, and logic used.
* Complete, meaningful, and accurate recommendation(s).