**Proposal to Build a Pipeline**

**Competencies**

* Understand economic terminology and economic definitions pertaining to decisions made by managers.
* Explain and demonstrate knowledge of concepts including the supply/demand relationship, price ceilings and floors, and market surpluses and shortages.
* Elasticity, consumer choice, utility, productivity, and nature of costs.
* Demonstrate how economic theory contributes to strategic managerial decision-making.
* Understand various market structures and impacts upon firms, consumers, and government policies.
* Calculate profits and profit maximization in order to determine the optimal price and output at which firms should produce.

**Course Scenario**

Oil Company X is a large oil refinery which has been expanding and taking on new investment projects. Recently, they have considered building a pipeline that stretches across the United States, from Canada to New Orleans.

As a cost analyst at Oil Company X, submit a proposal to the board of the company critiquing the costs and benefits of building a new oil pipeline that stands to generate copious amounts of revenue. Include in your report the following: expected changes to supply and demand, a cost analysis of the project, the cross-price elasticity of an alternative energy source, cost curves, the new expected profit-maximizing quantity and price of oil after completion, a risk assessment evaluating liabilities from potential environmental damage, and a final recommendation.

**Instructions**

Use the Excel document below to complete the assignment, and submit it when finished.  Student Excel Spreadsheet

As an economic analyst at your firm, you are being asked to evaluate this investment opportunity and submit a 4-5page proposal as a Word document.

You must include an explanation of expected changes to supply and/or demand from economic shocks such as natural disasters and recessions, as well as the anticipated effect of substitute goods (alternative energy sources) flooding the oil market. Be sure to include the expected impact on equilibrium quantity and price in your regional market from these potential changes.

Another team member in the Cost Analysis Department has compiled the necessary data in the attached spreadsheet below. The total upfront cost of this project is $10 million, with $1.72 million in fixed costs. Be sure to include in your proposal any relevant curves graphed from the data in the spreadsheet. Your Excel spreadsheet needs to include the following columns in addition to what has been given to you:

1. TFC
2. TVC
3. ATC
4. AVC
5. MC

Assume that your firm will hold market power as a supplier of oil in your region, due to extensive trade restrictions the government has agreed to put in place after completion of the pipeline. Define the new market structure, and give new pricing strategies the firm can use to maximize profits for this particular market structure.

You will also include graphs to show new expected profit-maximizing quantity and price of oil after completion. After determining the profit-maximizing price and quantity, as well as the corresponding average variable cost, determine the expected total profit for the 15-year duration the pipeline will be in operation.

Be sure to also include a calculation of the cross-price elasticity of the alternative energy source and oil. Assume the current price of oil is $50/gallon of crude oil. If the price increases to the profit-maximizing price, the quantity demanded of the alternative energy source increases by 20%. Explain if these goods are complementary goods, substitute goods, or non-related goods. If there is a relationship, indicate whether the relationship is weak or strong. Justify your answer with an explanation based on the elasticity figure.

Assume there is a 10% probability of the pipeline leaking, with an expected liability of $3.2 billion which will be deducted from total profit. There is a 90% probability the pipeline will not leak. Determine the expected return on this investment, as well as the variance.

The firm also has an alternative investment which will yield $1.6 billion over the course of the same 15-year period, with a probability of 80%, or $1.15 billion with a probability of 20%. Calculate the expected return, as well as the variance. The risk should be expressed as the standard deviation.

Perform a marginal analysis to determine if the firm should build the pipeline, considering currently available investments and opportunity costs.

Format your proposal to include a title page, introduction, conclusion, and references. Include all relevant graphs, equations, and calculations. Show your work on calculations to ensure you receive partial credit for incorrect answers. No credit will be given if your work is not shown. Remember to cite your sources using correct APA format, and also use correct grammar, spelling, and formatting.