The Lazy Mower: Is It Really Worth It?

If there was one thing the folks at Innovative Products Inc. (IPI) knew well, it was how to come up with useful and unique products in the midst of economic adversity. With current year revenues considerably lower and profit margins shrinking due to severe price competition, the firm's engineers had been pushed really hard to develop a prototype of a useful, and hopefully, highly profitable "unique" product. Then, last month, the design team unveiled a fully-tested prototype of their latest innovation, the "remote-controlled" lawn mower, nick-named the "The Lazy Mower."

Surveys of retailers and customers, conducted by the marketing department, indicated that demand would be excellent, provided the price was lower than a riding lawn mower. The testing and development phases took almost 3 years and the final product passed all safety hazard tests with flying colors. After the unveiling, the product was exhibited at various home shows nationwide and received raving reviews. Full production had not yet started; however, because there had been a change in CEOs and the new CEO was highly conservative.

Before being given the "go ahead" to go into full-scale production of the Lazy Mower, the design team had to present a detailed feasibility study to the Capital Investment Committee (CIC), which was chaired by the Vice President of Finance, Pete Fieldstone. As was typical in a major undertaking of this type, the proposal had to include detailed cost and revenue estimates with sufficient documentation to substantiate the numbers.

Having been involved with more than a few of these kinds of proposals before, the head of the Design team, Dan Conklin, knew that he had better take every possible factor into consideration and be prepared for a tough and demanding question and answer session at the next committee meeting. Luckily for Dan, his assistant, Ron Howard, who had recently earned his Chartered Financial Analyst (CFA) designation, was an experienced and dependable employee. Prior to being hired by CPC three years ago, Ron had worked for another large engineering company for over 10 years. "Ron, we have to dot all the "i's" and cross all the "t's" on this one!" said Dan. "Or else, the big guys are going to tear us apart, coz we're talking major dollars here. Their main question is going to be, IS IT REALLY WORTH IT?"

So Dan and Ron began collecting the necessary information. They knew that to have a comprehensive feasibility study they would have to include the following:

1. Pro Forma statements showing expected annual revenues, variable costs, fixed costs, and net cash flows over the economic life of the project with appropriate supporting documentation;
2. Break-Even Analysis;
3. Sensitivity of the cash flows to alternative scenarios of sales growth and profit margins;

Based on the data provided by the Marketing department, they prepared Table 1, showing the expected unit sales of the Lazy Mower over its 10-year economic life and the expected selling price per unit. Note that the price of $1,000 per unit was estimated to gradually drop to $900 per unit over the 10-year period reflecting competitive pressures. Depreciation for this project was based on the 7-year MACRS rate as shown in Table 2. The cost of equipment, including shipping, handling, and installation, was estimated at $20 million. It was estimated that after 10 years, the equipment and tools could be sold for $4 million.

Table 1 Projected Unit Sales and Price for Lazy Mower

Year	Unit Sales	Unit Price
1	30,000	$1,000
2	34,000	1,000
3	38,800	1,000
4	38,000	950
5	36,000	950
6	36,000	950
7	35,500	950
8	35,000	900
9	34,500	900
10	34,000	900

Table 2 Modified ACRS Depreciation Allowances

Year	3-Year	5-Year	7-Year
1	33.33%	20.00%	14.29%
2	44.44	32.00	24.49
3	14.82	19.20	17.49
4	7.41	11.52	12.49
5		11.52	8.93
6		5.76	8.93
7			8.93
8			4.45

The manufacturing would be done in an unused plant of the firm. Similar plan locations could be leased for $10,000 per month. Fixed costs were estimated to be $1,500,000 per year while variable production costs per unit were expected to be $400. To get the project under way, additional inventory of $500,000 would be required. The company would increase its accounts payable by $600,000 and its accounts receivable by $1,000,000. Dan and Ron estimated that each year thereafter, the net working capital of the firm would amount to 5% of sales. The discount rate is 14%. Interest expenses on debt raised to fund the project were estimated to be $400,000 per year. The company's tax rate was expected to remain constant at 34%.

Questions:

1. Prepare a Pro Forma Statement showing the annual cash flows resulting from the Lazy Mower project.

2. Use a scenario analysis to show how the cash flows would change if the sales forecasts were 15% worse (Pessimistic) and 15% better (Optimistic) than the stated forecast (base).

3. Realizing that the CIC will demand some kind of sensitivity analyses, how should Dan and Ron prepare their report? Which variables or inputs are obvious ones that need to be analyzed using multiple values? Explain by performing suitable calculations.

4. How should the annual interest expenses of $400,000 be treated? Explain.

5. Using the base case estimates calculate the cash, accounting, and financial breakeven of the Lazy Mower project. Interpret each one.

6. Let's say that the company had spent $500,000 in developing the prototype of the Lazy Mower. How should Dan and Ron treat this item in their report? Please explain.

7. Calculate the IRR of the project. Based on your calculations what would you recommend? Why?

8. How sensitive is the Net Present Value of the project to the cost of capital?

9. Calculate the operating leverage entailed by this project. What does it indicate?

10. What other types of contingency planning should Dan and Ron include to make the report comprehensive? Please explain the relevance of each suggestion.