For the initial post, you will complete the NPV problem below.

Problem:

A large auto company has just completed the research and development (R&D) on a new product, the

Electrobicycle. The Electrobicycle is an electronic, climate-controlled bicycle with zero emissions. The R&D efforts

focused on developing the capability to utilize electricity to power bicycles. Ultimately, the auto company expects

Electrobicycles to be popular for most urban citizens due to convenience and low cost.

The R&D, which cost $3 million, is complete and paid for. The plant and equipment to mass produce the

Electrobicycles will cost $2 million. This plant and equipment will be depreciated over 5 years using the straight-line

method to zero book value ($400,000 per year). A working capital investment of $1 million will be needed at the

beginning of the project. A working capital investment of $200,000 per year will be needed thereafter.

At the end of 5 years, the auto company believes there will be no more sales opportunities for Electrobicycles and

will cease all production. Thus, at the end of the project, all working capital investments (the $1 million initial

investment and the $200,000 per year) will be recovered at full value. The plant and equipment will be scrapped for a

salvage value of $300,000 (after tax).

The company expects moderate sales in years 1 and 2, and then significant growth in each year thereafter as

consumers adopt the Electrobicycles. Revenues and earnings will cease at the end of Year 5. The revenues, aftertax earnings, and cash flow for the 5-year life of the project are shown in this table.

Calculate:

Determine the NPV for the Electrobicycle project. Use the annual project cash flow from the table above. For the

required rate of return, use the percent value from your birthday date. For example, if your birthday falls on the 16th

of the month, the required rate of return would be 16%.

For guidance, review Section 7.1 of the textbook, NPV Example: The Pizza Scooter Delivery Project Revisited.

Write:

In your post, include the following:

Calculate the NPV of the Electrobicycle project. Be sure to show your NPV calculations.

Explain, in your own words, why working capital investments are subtracted each year in the cash flows.

Explain, in your own words, the meaning of the required rate of return for the project.

Assume the auto company has a required rate of return of 15%. Based on the required rate of return you used for

the Electrobicycles (based on your birthday), is the Electrobicycle project more or less risky than the auto company?

Explain your answer.

Based on your concluded NPV, should the company invest in this project to build Electrobicycles? Justify your

answer.

\*\*\*\*My birthday to complete the table is 4/28/1984