

PROCUREMENT  
FOR  
PROJECTS

Cost-Benefit  
Analysis

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# COST BENEFIT ANALYSIS

*The cost-benefit analysis compares the costs and benefits of a project and then makes a decision on whether or not to proceed with the project.*

# How to do Cost Benefit Analysis?

## #1 - Net Present Value Model:

The NPV of a project refers to the difference between the present value of the benefits and the present value of the costs. If  $NPV > 0$ , then it follows that the project has economic justification for going ahead.

## #2 - Benefit-Cost Ratio:

The Benefit-Cost provides value by calculating the ratio of the sum of the present value of the benefits associated with a project against the sum of the present value of the costs associated with a project.

# NET PRESENT VALUE (NPV) FORMULA

**NPV =  $\Sigma$  Present Value of Total Future Benefits -  $\Sigma$  Present Value of Total Future Costs**

# BENEFIT-COST RATIO (BCR) FORMULA

$$\text{BCR} = \frac{\sum \text{Present Value of Total Future Benefits}}{\sum \text{Present Value of Total Future Costs}}$$

# EXAMPLE

Project Alternative 1	Project Alternative 2
<ul style="list-style-type: none"><li>• Present value of Costs = \$80 million</li><li>• Benefits = \$150 million</li><li>• NPV = \$150 million - \$80m = \$70m</li><li>• BCR = 100 Mn. /70 Mn. = 1.88</li></ul>	<ul style="list-style-type: none"><li>• Present value of Costs = \$9 million</li><li>• Present value of Benefits = \$20 million</li><li>• NPV = \$20 million - \$9 million = \$11 million</li><li>• BCR = 20 Mn /9 Mn = 2.22</li></ul>

- From this cost-benefit analysis, it can be seen that while both investment proposal provides a net positive outcome.
- However, the NPV and BCR methods of obtaining results provide slightly varied outcomes.
- Using NPV suggests investment option 1 provides a better outcome as the NPV of \$70 million is greater than the NPV of option 2 (\$ 5 million).
- On the other hand, applying the BCR method, option two would be preferred as a BCR of 2.22 is greater than the BCR of 1.88.



# STEPS FOR COST BENEFIT ANALYSIS

**1**

Define the framework  
for analysis

**2**

Identify Costs and  
Benefits

**3**

Drawing a Timeline for  
expected costs and  
revenues

**4**

Monetize Costs and  
Benefits

**5**

Discount Costs and  
Benefits to obtain  
Present Values

**6**

Calculate Net  
Present Values

# SUMMARY

## How to Make a Cost Benefit Analysis

Study shows that many businesses suffered financial failure because they invested on a project that sounded good but can't generate any returns.

### Define Your Goals & Objectives

The first step is to define your goals and objectives in making a cost and benefit analysis.



### Review Your Previous Cost Benefit Analysis

Before you begin your analysis, review your previous cost benefit analysis reports.



### Gather Your Data

The next thing to do is to gather data for your analysis. Ask yourself, what is my current problem?



### Identify Your Outcome Costs and Benefits

After conducting your data analysis and calculate your cost and benefits.

### Conclude Your Findings

Consider your opportunity cost and potential risk in your conclusion as well.



### Review Analysis

Finally, review and proofread your cost benefit analysis report for any errors.





# Did I help?

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