



## **COST BENEFIT ANALYSIS TEMPLATE**

*Adapted from U.S. Department of Veterans Affairs*

## **1. Introduction**

Cost Benefit Analysis is used to analyze and evaluate, from a cost and benefit perspective, potential solutions to meet an organization's needs. It also describes alternatives, tangible and intangible benefits, and the results of the analysis.

The Cost Benefit Analysis shows the organization and funders the total cost for the system across its project, program or service lifespan and compares the costs of each alternative and the tangible benefits of the same.

### **1.1. Purpose**

Identify the system / project to which this Cost Benefit Analysis applies and the strategic goals and missions it will support.

### **1.2. Background**

Provide background information that places this Cost Benefit Analysis in context, for example, previous decisions or projects that are relevant to understanding the current initiative.

### **1.3. Scope**

Outline the scope of the Cost Benefit Analysis. Make sure to highlight areas that were not included in this analysis and explain the reason for their omission, for example, budgetary constraints.

### **1.4. Methodology**

Describe the methodology used to conduct the Cost Benefit Analysis and how it aligns with work patterns that will be used by the project team. Summarize the procedures used for conducting the Cost Benefit Analysis and the techniques used for estimate costs. Remove any ambiguity or concerns the reader may have regarding the integrity and validity of these figures.

### **1.5. Evaluation Criteria**

Outline the criteria used to evaluate alternative systems, such as organizational objectives, increased efficiency, and reduced operating costs.

## **2. Assumptions, Constraints, and Conditions**

Identify assumptions and constraints regarding the current organization and system structure. The purpose of this chapter is to outline how the organization functions, so that consensus can be reached by the leadership team and board of directors when approving this project. Failure to identify constraints or highlight assumptions (i.e. that the organization may have) could undermine the project's success.

**NOTE:** Note that changes to assumptions, constraints, and conditions may trigger a change to the benefits and project costs.

### **2.1. Assumptions**

Assumptions describe the present and future environment on which an analysis is based. Examples may include:

- Data (i.e. costs, statistics, benefit values, etc.) used in this analysis are assumed to be accurate, reliable, and valid.
- Results of this analysis will be changed by inaccurate data.
- Expected life of the program or service is [X] years.

### **2.2. Constraints**

Constraints are external factors which can limit the project development or the availability of data from the current system. Examples may include:

- Technology which must be able to meet the minimum organizational requirements.
- Programs and services which may become cost ineffective if this is not the case.

### **2.3. Conditions**

Conditions are factors in the operating environment that may influence system processes. Example:

- Technologies used to support integration into the existing or proposed environments.

### **2.4. Recommendations**

Summarize the recommendations for the development of the program or service.

### **3. Description of Alternatives**

This chapter identifies the alternative approaches for the development of a program, system or service. Describe the alternative solutions that will meet the organization's needs and requirements.

#### **3.1. Current System**

Describe the technical and operational characteristics of the current program, system or service (if applicable) by summarizing its functions, effort and outcomes.

#### **3.2. Proposed System**

Describe the technical and operational characteristics of the proposed program, system, or service i.e. the first alternative. This section describes its main components and how it will work at a high-level.

Describe how this alternative meets the high-level requirements and explain how this alternative was chosen from a wide variety of alternatives.

This section identifies the alternative approaches for the development and operation of the system, as determined in the Feasibility Study, and provides a brief description of each. In addition, it provides a description of the current system if one exists.

#### **3.3. Alternative Program, Service or System Name**

Repeat section 3.2 for as many alternatives as exist and/or have been defined in the Feasibility Study.

#### 4. Cost Analysis

The chapter presents the costs for the design, development, implementation, staffing, materials and operation, maintenance, for the proposed. Analyze the costs for each year in the system's life-cycle, so those costs can be weighed against the benefits derived from using it.

This section will calculate all costs to develop and operate each alternative, including one-time and recurring costs. This may be done in an Excel matrix or by listing the specific category of costs for each alternative system.

- 4.1. Development Costs When determining the overall development cost, include costs for personnel, equipment, training, materials, supervision, software tools and any certification and/or license fees.

Ref #	Phase	Year #1	Year #2	Year #3	Amount
1.1	Planning Phase				\$
1.2	Requirements Phase				\$
1.3	Development Phase				\$
1.4	Testing Phase				\$
1.5	Implementation Phase				\$

Total					\$
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#### 4.2. Operational Costs

For each alternative system described in the Feasibility Study, estimate the installation, operation, and maintenance costs of the system. Include costs for personnel, equipment, and training.

State the estimated project lifecycle cost estimate by fiscal year broken down into cost categories. The major cost categories are: personnel, COTS, infrastructure, facilities, and supplies/materials.

Category	Description	Start Date	End Date	Cost
	Personnel			\$
	Supervision			\$
	Volunteer			\$
	Infrastructure			\$
	Facilities			\$

Category	Description	Start Date	End Date	Cost
	Supplies			\$

Total				\$
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#### 4.3. Non-Recurring Costs

Discuss non-recurring costs associated with the design, development, & implementation, for the program, service or system. Use these figures to analyze the costs for each year in its life cycle and weigh those costs against the benefits derived from implementing the program, service or system.

##### 4.3.1. Capital Investments Costs

Identify capital investment costs for acquiring, development, such as:

- Air conditioning equipment
- Communication equipment
- Database
- Facilities
- Site
- Data collection software
- Supplies
- Training

##### 4.3.2. Other Non-Recurring Costs

Identify non-recurring costs such as:

- Research
- Database preparation
- Training
- Travel

#### 4.4. Recurring Costs

Present the monthly and/or quarterly recurring costs of operating and maintaining each alternative over the system life, including:

- Data Collection and evaluation
- Equipment lease, rental and maintenance
- Volunteer time
- Personnel salaries and fringe benefits
- Supplies and utilities
- Travel and training

#### 4.5. Project Cost Analysis

Identify the costs for programs, service or system design, development, implementation, supervision and operations. Provide a brief explanation of the cost calculations for each year.

<b>Year One</b>	<b>Alternative #1</b>	<b>Alternative #2</b>	<b>Alternative #3</b>
Nonrecurring costs	\$	\$	\$
Recurring costs	\$	\$	\$

<b>Year Two</b>	<b>Alternative #1</b>	<b>Alternative #2</b>	<b>Alternative #3</b>
Nonrecurring costs	\$	\$	\$
Recurring costs	\$	\$	\$

<b>Year Three</b>	<b>Alternative #1</b>	<b>Alternative #2</b>	<b>Alternative #3</b>
Nonrecurring costs	\$	\$	\$
Recurring costs	\$	\$	\$

<b>Total Costs</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
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Support this information with detailed cost breakdowns. Apply discount rates where appropriate. If necessary, present a line-by-line cost accounting to satisfy the reader's concern.

## 5. Benefit Analysis

This chapter describes benefits that can be assigned dollar values for each alternative proposed, as described in Section 3.

- Before describing the benefits that will be derived from the proposed, demonstrate that you fully understand the current. Remember that your proposal may have been submitted before and rejected for reasons unknown to you.
- Explain how each proposal will benefit the organization in the short term.
- Explain how each proposal will benefit the organization in the long run.
- Explain to the reader (funder) how each will benefit the participants in the short term.
- Explain how each proposal will benefit the participants in the long run.
- Explain to the reader (funder) how each will benefit the community in the short term.
- Explain to the reader (funder) how each will benefit the community in the long run.

### Examples

The organization will be able to provide a further reach of support to rural areas by implementing a telephonic coaching program without adding overhead of a new center.

The local hospital will not incur additional fines by having peer support in the emergency rooms.

### 5.1. Key Benefits

List and describe the two key benefit terms used in this analysis – tangible and intangible benefits.

Benefits	Value	Detail
Tangible Benefits	\$	Examples of tangible benefits may include increased revenue, streamlined services, more programs and trainings or saved time and money. Express tangible benefits in dollar values so that a valid comparison can be made with costs.
Intangible Benefits	\$ If possible	Examples of intangible benefits include improved performance, improved decision-making, or more reliable information. While these benefits may be quantifiable, it may be difficult to express in dollar values.

### 5.2. Tangible Benefits

Describe tangible benefits. Also identify the data source(s) used to quantify the benefit for each alternative. Illustrate the calculations for that benefit in a chart or table. Make sure you provide sufficient information, so readers can follow the logic of the quantification of benefits.

The following tables outline a method for calculating tangible benefits as functions of transactions and personnel savings. Perform these calculations for each tangible benefit.

**Measurement**

Current Value	Alternative #1	Alternative #2
\$	\$	\$

Savings	\$	\$
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**5.3. Summary of Tangible Benefits**

Summarize the quantifiable benefit value for each alternative.

Benefit Description	Alternative #1	Alternative #2
Describe Benefit # 1	\$	\$
Describe Benefit # 2	\$	\$
Describe Benefit # 3	\$	\$
Total Benefit	\$	\$

In the tables below, summarize the tangible benefits as described above.

The first table shows the expected return from tangible benefits for three years, allowing for an accurate comparison with the three-year costs calculated above. These tables also illustrate a comparison of the tangible benefits for each alternative as well as each solution as part of each alternative

Tangible Benefit 1 [label each benefit]	FY__	FY__	FY__	Total
Alternative 1				
Alternative n				

Tangible Benefit n [label each benefit]	FY__	FY__	FY__	FY__
Alternative 1				
Alternative n				

Total Benefits	FY__	FY__	FY__	FY__
Alternative 1				
Alternative n				

If an alternative does not provide one of the benefits, place a zero in the box.

#### 5.4. Intangible Benefits

Although no quantifiable dollar value may have been placed on these benefits, if data becomes available at a later, it may be possible to quantify some intangible benefits.

Intangible Benefits	Description
Intangible Benefit 1	
Intangible Benefit n	

Intangible Benefits Alternative n

Intangible Benefits	Description
Intangible Benefit 1	
Intangible Benefit n	

#### 5.5. Summary of Intangible Benefits

Summarize the values of intangible benefits.

Intangible Benefits	Alternative 1	Alternative n
Intangible Benefit 1		
Intangible Benefit n		

Use this table to indicate if an alternative solution provides an intangible benefit for comparison purposes. Place a checkmark ✓ in each box that provides the particular benefit.

**NOTE:** If a tangible benefit can be valued in unit terms, but not in dollar terms, present the unit valuation in some manner and rank the alternatives for that intangible alternative.

## 6. Cost and Benefit Comparison

Once you have determined the discounted values of costs and benefits, you need to compare each alternative.

This section compares the costs and benefits for the project. The first part of the comparison examines the tangible benefits and the second part examines intangible benefits. The purpose of this comparison is to identify if tangible and intangible benefits outweigh the total cost.

Compare the costs of maintaining the status quo (i.e. existing programs, services and systems) with the costs of implementing and maintaining the proposed. Support with calculations and results.

### 6.1. Results of Tangible Benefits Comparison

Compare the costs of maintaining the status quo with the costs of implementing and maintaining the proposed. Support with calculations and results.

<b>Benefit and Cost Comparison</b>	<b>Alternative 1</b>	<b>Alternative n</b>
Total Tangible Benefits	\$	\$
Total Costs	\$	\$
Difference between Costs and Benefits	\$	\$

### 6.2. Results of Intangible Benefits Comparison

The following table compares the intangible benefits of the Project.

<b>Description</b>	<b>Alternative 1</b>	<b>Alternative n</b>
Intangible Benefits		

### 6.3. Return on Investment

Demonstrate how the quantitative and non-quantitative measures used will provide a justifiable return relative to the investment level required. Describe the quantitative and non-quantitative measures of valuation used to determine the Return-On-Investment to the organization.

<b>Cost items</b>	<b>Cost</b>
Data Collection/Evaluation	\$
Training	\$

<b>Cost items</b>	<b>Cost</b>
Support	\$
Total cost	\$

<b>Expenses</b>	<b>Cost</b>
Expense #1	\$
Expense #2	\$
Expense #3	\$
Total	\$

<b>Cost savings</b>	<b>Cost</b>
	\$
	\$
	\$
	\$

Total savings	\$
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#### **6.4. Conclusion**

When concluding, highlight that changes in assumptions, conditions, or constraints may require the analysis to be reevaluated to reflect these changes.

## 7. Sensitivity Analysis

Discuss the potential effect on inputs (costs) and outcomes (benefits) relative to changes in certain factors or assumptions. For example, a change in any factor may require the cost-benefit projections to be revised or may influence system performance outcomes.

Examine key sources of uncertainty in the project's operational environment. Consider ranking the alternatives and assess their sensitivity to assumptions or external factors such as political, social, and environmental issues. After determining costs and benefits for each alternative, rank and analyze their level of sensitivity.

### 7.1. Sources of Uncertainty

Identify the key factors that may impact the Project. Projected costs and benefits could change depending on the extent of change in these factors.

Key Sources of Uncertainty	Extent of Impact	Nature of Impact	Implications

### 7.2. Results

Results are based on the assessment of the project's costs and benefits, both tangible and intangible, and what it will achieve.

List and describe what the system will provide the organization. Discuss how each alternative will achieve the system's goals relative to the cost of that alternative. Cost benefits analysis should be used by decision-makers in conjunction with other factors to determine the most appropriate investment choice for the organization to achieve its mission.

**8. The results of the Cost Benefits Analysis are based on the material supplied in the previous chapters. This work assesses the costs and benefits, both tangible and intangible, of the project and what it will do.**

In this section, identify what the system will provide the organization and how each alternative will achieve the system's goals in context to the relative cost of that alternative.

Decision makers can refer to the Cost Benefits Analysis in conjunction with other studies and factors to determine the most appropriate investment choice for the organization to achieve its mission.

When closing the analysis:

- Conclude your argument with a summary of the major benefits in comparison to the costs.
- Provide references and/or links to any additional sources of information.

## **Results of the Analysis**

The results of the Cost Benefits Analysis are based on the material supplied in the previous chapters. This work assesses the costs and benefits, both tangible and intangible, of the project and what it will do.

In this section, identify what the system will provide the organization and how each alternative will achieve the system's goals in context to the relative cost of that alternative.

Decision makers can refer to the Cost Benefits Analysis in conjunction with other studies and factors to determine the most appropriate investment choice for the organization to achieve its mission.

When closing the analysis:

- Conclude your argument with a summary of the major benefits in comparison to the costs.
- Provide references and/or links to any additional sources of information.