

Division of the State  
Chief Information  
Officer

# **Business Case Methodology Template**

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## When to use this Template

State agencies in South Carolina must make numerous decisions each year concerning information technology projects -- which projects are best for the agency? which projects meet the agency's business objectives? which are the most costs effective? which projects should be funded? The Information Technology Research and IT Planning Office, within the Division of the State CIO, must address these same questions from a statewide perspective. To assist in these processes, the IT Planning Office requires that all Major, Enterprise and Multi-agency projects<sup>1</sup> must be justified and supported by a detailed business case analysis.

To effectively evaluate information technology projects, the IT Planning Office has established a standard format for the submission of project information and business case justification. The purpose of this document is to provide guidelines for use by agencies in developing a business case justification for Major, Enterprise and Multi-agency projects in this standard format. Agencies may also use this methodology to develop a business case for smaller, internal projects, as they determine appropriate.

This document provides a framework for agencies to use in assessing the costs, benefits and risks of proposed information technology projects. It can also be used as a tool for an agency's executive management to evaluate a proposed project and, once approved, to monitor and control costs/benefits during implementation. In addition, it provides executive management within State government the information needed to prioritize and recommend funding for Major, Enterprise and Multi-agency projects on a statewide basis. This is the responsibility of the State's Business Case Review Committee. This Committee must evaluate and confirm the accuracy of the cost benefit analysis as the responsible parties for ensuring that State's business objectives will be met by an information technology project. In order to conduct a comparison/assessment of projects proposed by various agencies, the business case analysis must be in a standard format as set forth herein.

The **required elements** to be included in the business case analysis are listed below. This document describes how to effectively prepare each section. Once completed, the business case analysis should contain all of the information required to assist decision-makers in evaluating and, if appropriate, approving the proposed project.

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<sup>1</sup> As defined in the State's Project Management Policy.

## Required Business Case Elements

- Cover Page
- Executive Summary
- Project Background
- Project Description
- Environmental Assessment
- Alternatives
- Business and Operational Impacts
- Technology Assessment
- Project Risk Assessment
- Cost/Benefit Analysis
- Project Schedule
- Verification
- Conclusions and Recommendations
- Implementation Strategy
- Review and Approval Process

The intent of business case development is to compile a single document that contains both the technical and management information required to assess the readiness of a Major, Enterprise or Multi-agency project to proceed.

## 1. Cover Page

Each business case analysis should include a Cover Page similar to the example below. At a minimum, it should include the project name, agency name, document issue date and version number.

Example:

<p>(Agency Name) <b>(Project Name)</b></p> <p><b>Business Case Study and Analysis</b></p> <p><b>Date (mm/dd/yyyy)Version: (n)</b></p>
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## 2. Executive Summary

### **Purpose of an Executive Summary:**

The reason for writing an Executive Summary is to provide a concise summary of the key highlights of the business case analysis. The reader should be able to understand what the project is about, the role of the project in the department's/agency's/enterprise's business plan/direction, and the business justification of the project. The reader should understand how the project improves the overall efficiency and effectiveness of the agency and government.

Often, the Executive Summary is critical to obtaining executive level approval for a proposed project, since it may be the only section that is read. As such, the Executive Summary should be written to capture an executive's attention and to obtain support for the project.

### **Description:**

While the Executive Summary appears at the beginning of a business case analysis, it should be written last.

The Executive Summary will describe the objective of the project, the current state of the problem and the resulting opportunity. It should include the following:

- Describe how the project will take advantage of an opportunity or meet a challenge that is directly related to the fundamental mission of the agency;
- Explain how the proposed solution will provide better service to the citizens of South Carolina or solve a standing problem that the agency is experiencing;
- Describe how a proposed solution is in harmony with other information technology initiatives of the State of South Carolina and is compliant with the State's Enterprise Architecture;
- Describe the competitive environment (i.e., what other government jurisdictions and/or corporations are doing);
- Provide a brief description of the business impact, and the risks of undertaking the project; and,
- Conclude with recommendations and the financial impact of the project.

The Executive Summary should stand alone as the single source of the overall project purpose, goals, proposed actions, cost/benefits, risks, and success criteria. It should allow an executive-level sponsor assess the value of the project that it is being pursued under a managed process such that it provides a reasonable expectation of a successful implementation.



The Executive Summary Section should be brief enough to give a full understanding of the business case supporting the proposed project, including all relevant facts and key issues, and should be clear, understandable, and precise.

If possible, the Executive Summary should be a maximum of two pages in length.

**Checklist for Executive Summary:**

1. Will the reader get a clear understanding of the reasons for the project and its outcome by outlining the “Why, What, When, Who, and How” of the project?
2. Does it contain any information that is not contained in the body of the business case?
3. Is the Executive Summary less than two pages?
4. Can the Executive Summary be treated as a stand-alone document?

## 3. Project Background

### **Purpose of the Background Section:**

The reason for writing the Project Background Section is to provide the reader with an introduction to the subject of the business case analysis. This section describes the history and current state of affairs giving rise to or relating to the general business problem or opportunity that is the subject of the business case analysis.

### **Description of Problem/Opportunity:**

This section should include a brief description of the business problem or opportunity that the project is trying to address.

Examples of general business problems are:

- Not meeting service level expectations
- Escalating service costs
- Change in business requirements
- Change in legislation or other mandates
- Inefficient business processes

### **Description of Current Situation:**

This section of the Project Background should describe how the function is performed using the current system or process (if one exists)—whether it is automated, manual, or a combination.

This section should also include a description of:

#### Inputs

- Identification of information that is inputs to the current process
- Identification of the information source (e.g., external systems, public, State employee data entry)
- A description of how the information is captured or entered (manual, automated, etc.)
- A description of the data formats (paper form, database, spreadsheet, etc.)
- Identification of other users of the source information

#### Outputs

- A description of information output products
- Identification of output product users
- A description of how the output products are used
- A description of the current output product format(s)

#### Processing

- A description of data validation, edits, movement, storage, error processing, summarization, etc.

#### Interfaces

- A description of external information or processes that is required to support the process
- (e.g., in order to process an order, a credit card must be validated by an external process)
- Identification of the organization that controls the information or process (if applicable)

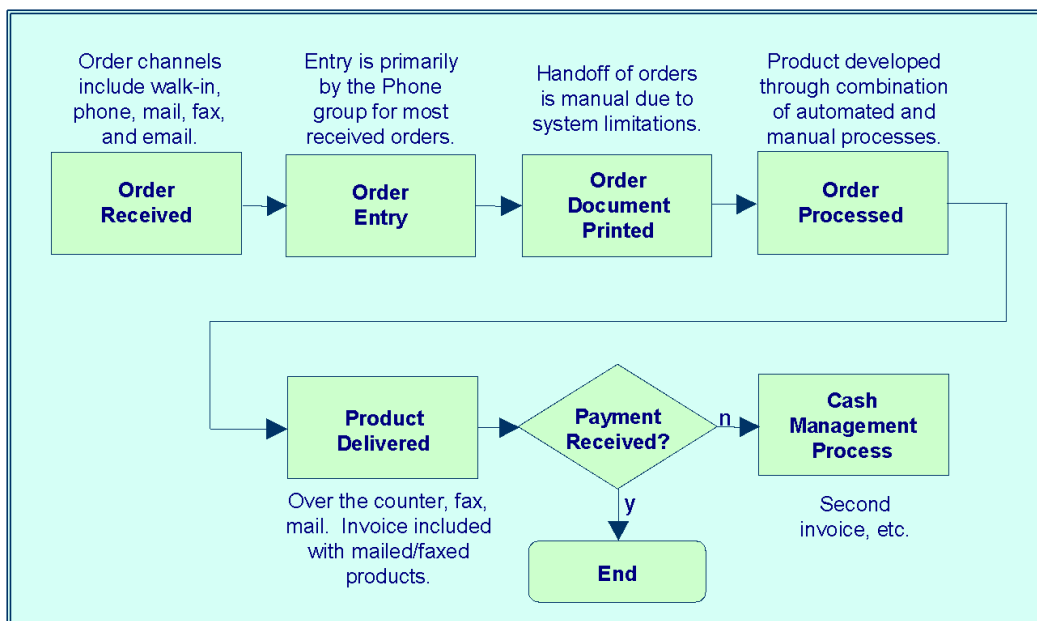
#### Participants

- Number of participants/users
- Types of participants (roles)

In describing current processes, particular emphasis should be given to any problems or challenges that have been experienced. If possible, improvement recommendations from staff currently executing the process should be solicited and included in this section.

The description of the current process may be enhanced by a process flowchart (see example below). The process flowchart for the business case analysis should be at a level that describes the overall process without getting bogged down in technical detail. The intent is to provide a management-level understanding of the process that the proposed project will be augmenting or replacing.

#### *Example Process Flowchart*



Another tool that may be helpful in establishing an understanding of the current business process is a table listing the current process participants and their respective roles in the process. In this listing make sure to include any system administrator role, as well as any public citizen or external agency role. The listing of participant roles and functions in the

business case does not have to be as rigorous as it would be in a system analysis or design document, but should indicate that consideration has been given to all participants in the current process and how they contribute to or interact with the process.

*Example User Role List*

<b>WebCert Project User Roles</b>	
<b>Group/Role</b>	<b>Role Description</b>
Phone Group	Answer customer inquiries. Take orders. Perform order entry. Check status.
Processing Group	Receive orders. Build products. Ship and invoice for products. Record results in order tracking system. Answer inquiries regarding orders.
Front Desk Clerk	Answer customer inquiries. Process simple requests. Enter orders.
Citizen	Place orders. Make inquiries. Receive products. Pay invoices.
Administrator	Maintain look-up tables (products, codes, etc.). Provide transaction volume reports. Establish user accounts. Reset passwords.

**Current Performance Measures:**

Is the current process support by defined performance measures or goals? If so, what are they and are they being met? List these measures and describe how the current process supports them. If there are no established measures, explain why there is a perceived need to improve performance. The goal may be to improve the timeliness, quality, or availability of products or transactions. If so, provide information on how the current process is performing (transactions per day, number of inquiries processed, error rates, etc.). This information provides a foundation for a description of how the future process will provide performance value.

**Checklist for Project Background Section:**

1. Is the business problem or opportunity clearly defined in general terms?
2. Are the relevant facts outlined so that the reader has a clear understanding of the relevant history and current situation and the resulting problems or opportunities?
3. Where necessary, does the current situation include available statistical information?

## 4. Project Description

### **Purpose of the Project Description Section:**

The reason for writing the Project Description Section is to provide the reader with a clear definition of the what the project will accomplish (objective), what the project will and will not include (scope), what are the expected results (outcomes) and who are the players (stakeholders). This section should also provide an explanation of how the project will address the business problems/opportunity identified in Section 3, above.

### **Objectives:**

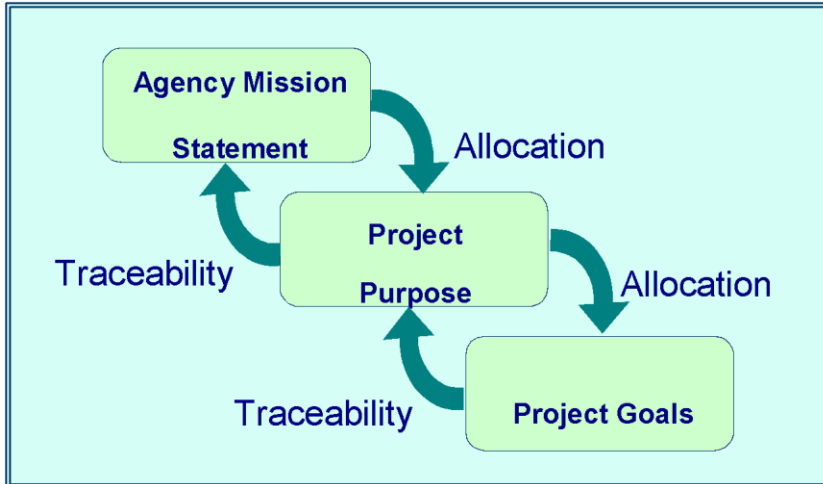
Outlines what the project will accomplish, in clear and measurable terms within a specified timeframe. These objectives can be used in a post-implementation review to review and assess the success of the project. The objectives should be formulated broadly enough so that meaningful alternatives are not ruled out, and narrowly enough so that only relevant alternatives are considered and that costs and benefits can be formulated. **Objectives should be focused on goals, not operations, and on outputs, not production.**

Examples of objectives include:

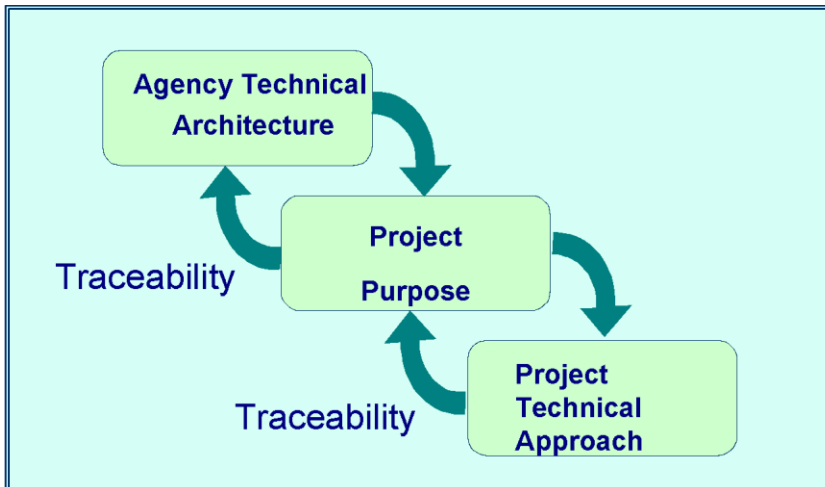
- Reduce processing time from 1 hour to 30 minutes, by March 2003
- Reduce administration costs from \$1.2 to \$1.1 million for the 2003 fiscal year

### *Traceability of Project Objectives and Goals*

It is important to ensure that the descriptions for all objectives and goals are easily related to the stated project purpose statement. For example, it may be helpful to explicitly relate the objective of reduction of expenditures for office supplies with the stated agency goal of providing services to the citizens of South Carolina at the lowest possible cost to taxpayers.



Similarly it is important that each project be traceable back to the Agency's and State Technical Architecture. Explain this connection in your business case analysis.



*Ensuring that Objectives are Verifiable*

While defining project objectives, ensure that they are verifiable through some type of formal measurement. As will be seen in a later section, the ability to describe how attainment of these objectives will be verified (through demonstration, test, or other verification method) is a key element in establishing the credibility of the project plans.

Typical areas of project objectives or expected results include:

- Citizen satisfaction,
- New services or service levels,
- Convenience to the public,
- Accuracy, timeliness, and completeness of information offered or transactions completed,

- Confidence of constituents in the integrity of transactions, security of information, and privacy of records, and
- Processing tasks and flows leading to reduction or containment of costs.

**Scope:**

This section defines parameters of the project. Specifically, it describes the timeframes, department/organization, function and technology that are included in the project.

**Timeframe:** Explains specific details about when the project will start and end.

**Department/Organization:** Details the specific locations/sites, if applicable and departments or group of departments/agencies that will be involved in the project.

**Function:** Describes what functions of the department/organization the project involves.

**Technology:** Defines the boundaries within which the project must work, i.e. use of existing systems, compliance with established standards.

**Out of Scope:**

This section includes items or functions that are specifically excluded from the project.

**Anticipated Outcomes:**

This section itemizes specific and measurable deliverables of the project. Each outcome includes an estimated time frame of when the outcome/deliverable will be completed (in terms of elapse time from project start). Sample project outcomes are provided below:

<b>Outcome/Deliverable</b>	<b>Estimated Completion</b>
Detailed Business Requirements Document	3 Weeks
Project Design Document	6 Weeks

**Stakeholders:**

List all interested parties that may be impacted (positively or negatively) by the project. Categorize the parties between internal (a party within government)/external (party outside of government) and primary (directly impacted and involved in the project)/secondary (impacted but is not directly involved in the project). For each party include an overview of their business requirements of the project.

<b>Stakeholders:</b>	<b>Overview of Business Requirements</b>
<b>Primary – Internal</b>	

Stakeholder 1	Requirement 1 Requirement 2
Stakeholder 2	Requirement 1 Requirement 2
<b>Primary – External</b>	
Stakeholder 1	Requirement 1 Requirement 2
<b>Secondary – Internal</b>	
Stakeholder 1	Requirement 1 Requirement 2
Stakeholder 2	Requirement 1 Requirement 2
<b>Secondary – External</b>	
Stakeholder 1	Requirement 1 Requirement 2
Stakeholder 2	Requirement 1 Requirement 2

**Checklist for Project Description Section:**

1. Is it clear what the project will accomplish?
2. Are the project objectives clear, measurable, and verifiable?
3. Is it clear what is not included in the project and what it will not accomplish?
4. Will the reader know all parties that will be impacted by the project?
5. Are the general requirements of each stakeholder clearly laid out?
6. Are the timelines of the project clearly outlined?
7. Does the business case analysis mention consultation that has taken place with stakeholders?



## 5. Environmental Analysis

### **Purpose of the Environment Analysis Section:**

The reason for writing the Environment Analysis Section is to provide the reader with an understanding of what other organizations (internal and external) have done or are doing to address similar types of problems or opportunities. The reader can use this section to compare the proposed business case direction to that of other organizations, agencies and industry trends.

### **Description:**

The Environmental Analysis should include what is happening in other government agencies, other government jurisdictions and private industry that directly relates to the scope of the project. Research may include such information as:

- The length of their project,
- Specific project outcomes,
- Critical success factors,
- Project cost,
- Benefits achieved,
- What the organizations would have done differently, and
- Lessons learned.

This section should include any findings from research studies that identify industry trends and best practices.

### **Checklist for Environmental Analysis:**

1. Are the organizations chosen for the Environmental Analysis representative of the present situation, specifically in terms of size and complexity?
2. Are the sources of the research reliable and has the data been verified?
3. Is the time period of the research study applicable to the current situation?
4. Have conclusions been made from the research?
5. How is the research incorporated or considered in the business case analysis?

## 6. Alternatives

### **Purpose of the Alternatives Section:**

The reason for writing the Alternatives Section is to provide the reader with an outline of the realm of possibilities that are available to address the problem or opportunity. It provides the reader with rationale to why some have been eliminated as viable alternatives. Finally, it provides a detailed description of viable options that will address the business problem or opportunity. **A viable option usually includes a ‘do nothing’ option (status quo).**

### **Description:**

List all possible solutions that may meet the business problem or opportunity. Based on a practical and common sense analysis, narrow the list to include only viable alternatives, stating the reason for excluding an alternative. Valid alternatives should not be simply excluded due to funding constraints. Only the viable alternatives will be further detailed and carried forward into following sections of the business case.

For each viable alternative, explain the key features including people, processes and systems. Discuss how each viable option addresses the business problems and meets the objectives of the project within the outlined scope as stated in Section 4 – Project Description.

Each alternative must be defined in sufficient detail to enable identification of specific impacts (Section 7 – Business & Operational Impacts), project risks (Section 9 – Project Risk Assessment), and benefit and costs (Section 10 – Cost Benefit Analysis). Include partnership and shared service opportunities that may enhance the business outcome of an alternative.

Include any detailed requirements analysis in an appendix.

### **Checklist for Alternatives:**

1. Have all possible solutions been identified?
2. Have all viable alternatives been determined? Is there sufficient reason for the exclusion of possible solutions?
3. Are the alternatives truly distinguishable?
4. Are the viable alternatives defined at a sufficient level of detail to define costs and benefits?
5. Where possible, do alternatives take advantage of partnerships and shared service opportunities?
6. Have any critical success factors been highlighted for each alternative?
7. Have all constraints for each alternative been identified?



## 7. Business and Operational Impacts

### **Purpose of the Business & Operational Impacts Section:**

The reason for writing the Business & Operational Impacts Section is to provide the reader with a list of all business and operational impacts for each stakeholder. Each impact is described and analyzed for each viable alternative.

### **Description:**

In preparation for the development of an estimate of the cost of the project, this section of the business case analysis describes changes that are anticipated to result from implementation of the future process. At this point, cost is **not** addressed.

Changes to considered include:

- ❑ Required hardware
- ❑ Required software (off-the-shelf or developed)
- ❑ Personnel changes
  - Hiring
  - Re-training
  - Realignment
- ❑ Other required technology
  - Infrastructure
  - Databases
  - Communications capabilities
- ❑ Recurring operations and support requirements
- ❑ Total cost of ownership (TCO)
- ❑ Total value of ownership (TVO)

For each stakeholder (outlined in Section 4) identify all business (strategic, longer term focused) and operational (procedural, detailed focused) impacts that may arise from the project.

Examples of business impacts are:

- Change in service and/or products being provided
- Change in focus or direction of the department/agency/enterprise

Examples of operational impacts are:

- Staff training required
- Reduction of staff resources

For each impact identify the magnitude of impact (high, medium, low, or none) for each alternative using the following guidelines:

**High** - indicates that the magnitude of impact is significant and stakeholder support and preparation is critical to the alternative’s success

**Medium** - indicates that there is a manageable impact to the stakeholder

**Low** - indicates the alternative will have a minor impact to the stakeholder

**None** - indicates that the stakeholder will not be impacted by the alternative

If necessary, document the rationale for the evaluation.

<b>Impact &amp; Description</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>Stakeholder 1:</b>			
Impact 1 – a description of impact 1	High	Medium	High
Impact 2 – a description of impact 2	Medium	Medium	Medium
<b>Stakeholder 2:</b>			
Impact 1 – a description of impact 1	High	Medium	High
Impact 2 – a description of impact 2	Medium	Medium	Medium

**Checklist for Business & Operational Impacts:**

1. For each stakeholder, have all business & operational impacts been identified?
2. Has the magnitude of impact been accurately evaluated for each alternative?
3. Have all stakeholders been considered?
4. Have risks that specifically relate to each alternative been included?

## 8. Technology Assessment

### **Purpose of the Technology Assessment Section:**

The purpose of the Technology Assessment Section is to provide the reader with a clear understanding of the relationship between the technology being proposed and the Statewide Technical Architecture.

### **Description:**

If application architecture has been developed it should be summarized in this section. Use of elements of the state's physical and applications development infrastructure (including the Statewide Technical Architecture) should be described. Discuss any common business services being provided by the state's technical infrastructure or new services being developed for this project that will be added to the state's technical infrastructure.

If the proposed application architecture has been reviewed and approved by the Division of the State CIO, then provide the approval date or indicate the date of anticipated submission or approval.

### **Appropriate Technology:**

In a conscious effort to recognize and eliminate the application of "technology for technology's sake" describe how the technologies proposed on the project were selected with consideration for the way users like to work. Vendors and IT specialists have an interest in developing product markets and utilizing the latest technologies, and may advocate technology solutions without the needed regard for appropriateness. The appropriate use of technology on your project should be characterized by the focused employment of tools for a selected user community to achieve defined advantages directly supporting your agency's operational goals. Do not hesitate to describe portions of the process that are worthy of preserving in their current (or modified) "low-tech" form in order to preserve quality, flexibility, individualized service, human decision making, user comfort, or other important benefits.

### **Technology Introduction:**

A brief description of the technologies introduced by this project should be provided in this section. Examples include Web-based order entry, telephony applications, on-line credit card transactions, data encryption, digital signatures, specialized data acquisition methods such as bar code readers, point of sale instruments, customized interfaces to external systems, and the use of specialized electronic commerce file formats or protocols.

### **Checklist for the Technology Assessment:**

1. Is this technology in compliance with the agency's and/or State's Technical Architecture?
2. Is this technology already in use at your agency? If so, summarize your agency's understanding of and experience with the technology.
3. If the technology is new to your agency, are there other agencies that have applied the technology successfully? If so, document the results of your investigations related to that agency's experiences in implementing the new technology.
4. Does the new technology require state, regulatory or legislative approval? Document your efforts to obtain the necessary approvals and document approvals that have already been obtained or estimate the date that approval is anticipated.
5. If the technology is new to the state, and your project is breaking new ground, then this section should describe your assessment of the technology options that were considered and the factors leading to your selection of the proposed new technology. It should further reference your efforts to mitigate project risks associated with new technology introduction in Section 9, Project Risk Assessment.
6. Where application development is proposed, discuss your assessment of commercial off-the-shelf (COTS), state transfers, or other options that were explored prior to making the decision to develop the new business solution.

## 9. Project Risk Assessment

### **Purpose of the Project Risk Assessment Section:**

The reason for writing the Project Risk Assessment Section is to provide the reader with an understanding of the risks that are related to the project and how these risks may vary by viable alternative. This section includes a risk mitigation strategy for each risk.

All project risks should be documented in this section of the business case analysis. The Risk Management Checklists (Checklists) should be used to identify risk areas, develop mitigation strategies, and provide an ongoing process for the assessment, mitigation, and reporting of project risks.

### **Risk Management Process**

The objectives of the risk management process are to:

- ❑ Focus attention on minimizing threats in order to achieve project objectives, and
- ❑ Provide a systematic approach for detail risk analysis and appraisal by identifying and assessing risks, determining effective risk reduction actions, and monitoring and reporting progress in reducing risk.

These objectives are achieved through five steps in the risk management process:

- ❑ Identify the risks,
- ❑ Assess the risks,
- ❑ Plan the risk response,
- ❑ Monitor the risks, and
- ❑ Document lessons learned.

### **Risk of Project and each Viable Alternative (Not including Status Quo):**

Identify all risks that may relate to the project. A risk is a factor or event that may jeopardize the project from achieving the anticipated benefits or increase the cost of the project.

Examples of project risks are:

- Lack of Senior Management Support
- Legislative changes
- Insufficient training
- Inadequate communication
- Conflicting priorities



- Inability to free-up critical business resources

For each project risk, identify the probability of the risk occurring and the impact it may have on each alternative, using the following guidelines:

Probability of Risk:

**High** indicates that the event is high likely to occur.

**Medium** indicates that the event is likely to occur.

**Low** indicates that the event is not likely to occur.

Impact of Risk:

**High** indicates that the event has a significant impact to the project.

**Medium** indicates that the event will impact the project.

**Low** indicates that the impact is relatively minor to the project.

**None** indicates that the risk will not impact the project.

If necessary, document the rationale for the evaluation.

Project Risk Assessment	Alternative 1	Alternative 2	Alternative 3			
	Probability	Impact	Probability	Impact	Probability	Impact
Risk 1 – a description of risk 1	High	Medium	Low	Low	Medium	Low
<i>Risk 1 General Mitigation Strategy</i>	<i>Specific Strategy</i>	<i>Specific Strategy</i>	<i>Specific Strategy</i>			
Risk 2 – a description of risk 2	Low	Medium	Medium	Low	Medium	Medium
<i>Risk 2 General Mitigation Strategy</i>	<i>Specific Strategy</i>	<i>Specific Strategy</i>	<i>Specific Strategy</i>			

**Risk of Not Proceeding with Project (Status Quo):**

Project Risk Assessment	Status Quo	
	Probability	Impact

Risk 1 – a description of risk 1	High	Medium
<i>Risk 1 General Mitigation Strategy</i>	<i>Specific Strategy</i>	
Risk 2 – a description of risk 2	Low	Medium
<i>Risk 2 General Mitigation Strategy</i>	<i>Specific Strategy</i>	

**Checklist for Project Risk Assessment:**

1. Have all general project risks been identified?
2. Have all risks specific to each alternative been identified?
3. For each risk has the specifics of each alternative been taken into consideration when evaluating the probability and impact?
4. Has a risk mitigation strategy been identified for unacceptable levels of risk?
5. Have the risks related to Status Quo been identified?

## 10. Cost/Benefit Analysis

### Purpose of the Cost/Benefit Analysis Section:

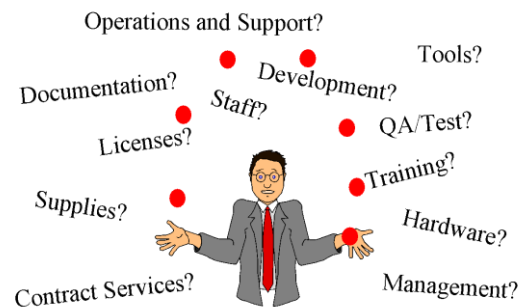
The reason for writing the Cost/Benefit Analysis Section is to provide the reader with an evaluation of the costs and benefits associated with each viable alternative. The reader can easily understand and compare the initial and on-going expenditures to the expected financial and non-financial benefits, for each viable alternative.

### Quantitative Analysis – Financial Cost & Benefit:

#### Full Cost Analysis:

Where possible all costs and expected benefits resulting from this problem or opportunity should be analyzed for each viable alternative (including the costs and benefits of status quo). This methodology provides the reader with a total cost picture and is much more informative than an incremental approach. Any detailed worksheets should be attached as an appendix.

Based upon the anticipated changes to the existing process documented in Section 7, a preliminary cost estimate for the implementation (or next phase) of the project should be developed and documented in this section of the business case.



As with the change assessment, partitioning of cost information by project component can be a useful tool in determining the major cost drivers. If costs estimates are broken down by project area, the same breakdown should be used in the cost/benefit analysis.

It is necessary to associate the cost estimate resources with a specific set of predicted outcomes. This means that the anticipated results of the proposed project should be defined in sufficient detail to provide a basis for project accountability. Project deliverables should be described at a high level to facilitate a common understanding of the basis of the project's estimate.

Total cost of ownership (cradle to grave) must be identified in the cost estimates. In addition, the benefits should be extrapolated based on the life of the project.

### **Incremental Cost Analysis:**

If it is not possible or practical to fully analyze the entire cost or where the incremental project costs are relatively small to the entire cost, an incremental approach may be used. This methodology involves identifying the changes or differences between each alternative, using the projected benefits/costs of the status quo alternative as a basis.

### **Timeframe:**

Identify an appropriate project timeframe over which both the cost and benefits will be analyzed. Timeframe should be appropriate to the expected lifecycle of the project, from incurring costs to achieving the anticipated benefits.

### **Costs:**

Identify all relevant costs incurred by all stakeholders over the chosen project timeframe:

- Direct costs
- Indirect costs
- Initial costs
- On-going costs
- Capital costs

Included in this section should be:

- Estimated size and composition of the project team
- Required hardware, software, and services
- Required test data development or acquisition, if needed
- Anticipated training requirements (users and support personnel)
- Technical documentation requirements
- Recurring operations and support requirements
- Management effort
- Total cost of ownership analysis (development, enhancement, maintenance, and operations over the life of the project)
- Total value of ownership - focuses on investment yield in terms of finance, customer benefits, process benefits, and organizational benefits. It is not a single number, but may include estimates of cost reductions, revenue increases, value of risk reduction, or increased business opportunities.

Consideration should be given to:

- When the costs will be incurred
- Who will incur the costs
- Certainty of costs

### **Benefits:**

Identify all quantifiable benefits related to all stakeholders, over the chosen project timeframe.

Consideration should be given to:

- When the benefits will be achieved
- Who will be the recipient of the benefits
- Certainty of benefits

Examples of various types of project benefits are listed below.

<b>FUNCTIO NAL AREA</b>	<b>DIRECT AND INTUITIVE BENEFITS</b>	<b>INDIRECT AND STRATEGIC BENEFITS</b>
Agency	<input type="checkbox"/> Faster business transactions <input type="checkbox"/> Increased access to information <input type="checkbox"/> Increased data integration across applications <input type="checkbox"/> Fewer errors	<input type="checkbox"/> Stronger relationship with customer/citizens <input type="checkbox"/> Enhanced responsiveness <input type="checkbox"/> Better service <input type="checkbox"/> Enhanced agency reputation
Information Services	<input type="checkbox"/> More effectively integrated systems <input type="checkbox"/> Ease of support	<input type="checkbox"/> Increased system availability <input type="checkbox"/> More satisfied end-users <input type="checkbox"/> Availability of more accurate information to support data analysis activities
Acquisition	<input type="checkbox"/> Reduction of paper <input type="checkbox"/> Reduction of manual effort <input type="checkbox"/> Better information to make critical buying decisions <input type="checkbox"/> Error reductions <input type="checkbox"/> Reduced Inventory	<input type="checkbox"/> Fewer reorders due to discontinued items <input type="checkbox"/> Stronger vendor relationships <input type="checkbox"/> Cost reduction
Customer Service	<input type="checkbox"/> Reduce manual effort <input type="checkbox"/> Reduce data entry <input type="checkbox"/> Reduce paper process <input type="checkbox"/> Reduce staff or avoid hiring more staff <input type="checkbox"/> Move staff to more value-added jobs	<input type="checkbox"/> Faster, more effective customer support <input type="checkbox"/> Lower burden on mailroom <input type="checkbox"/> Reduced process steps facilitate faster processing of information
Finance	<input type="checkbox"/> Reduce discrepancies <input type="checkbox"/> Reduce claims and adjustments <input type="checkbox"/> Reduced data entry	<input type="checkbox"/> Process improvements in reconciliation of invoice, purchase order and remittance Reduced phone time/ improved efficiency
Administrative	<input type="checkbox"/> Reduce manual effort <input type="checkbox"/> Reduce data entry errors	<input type="checkbox"/> Reduce redundancy

<ul style="list-style-type: none"> <li><input type="checkbox"/> Reduce paper process</li> <li><input type="checkbox"/> Reduce staff or avoid hiring more staff</li> <li><input type="checkbox"/> Move staff to more value added jobs</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Streamlined time to process information</li> <li><input type="checkbox"/> Accomplish more without additional hires</li> </ul>
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In addition to the benefits themselves, the impact of benefits should be considered. For example, it may be possible to cut data entry errors in half. This benefit sounds good. However, if the error rate is currently less than 8% and the cost of the improvement effort is significant, then the projected benefit may not justify the effort.

Ultimately, it is likely that the decision to proceed with a project will be based on demonstrable evidence that the benefits of the project will outweigh the costs.

Cost/benefit analysis considers whether net marginal benefits are greater than net marginal costs.

**Sample of a Summary Cost Benefit Template:**

Summary of Quantitative Cost/Benefit	Alternative 1	Alternative 2	Alternative 3
<b>Present Value of Total Benefits:</b>	\$	\$	\$
<b>Present Value of Total Costs:</b>	\$	\$	\$
<b>Net Present Value of Project</b>	\$	\$	\$

**Sample Costing Template for each Viable Alternative:**

Quantitative Analysis – Viable Alternative 1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Benefits:</b>						

Revenue	\$	\$	\$	\$	\$	\$
<b>Costs:</b>						
Analysis	\$	\$	\$	\$	\$	\$
Design	\$	\$	\$	\$	\$	\$
Implementation	\$	\$	\$	\$	\$	\$
<b>Ongoing Operational Costs:</b>						
Human Resources	\$	\$	\$	\$	\$	\$
Administration	\$	\$	\$	\$	\$	\$
<b>Net Benefit or Cost of Viable Alternative 1</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
Net Present Value (xx% Discount Rate)	\$					

**Analysis:**

A “Net Present Value” calculation is used to account for the fact that \$1 today is not worth the same as \$1 five years from now, due to inflation and interest rates. The use of a “Net Present Value” calculation should be used to take into account the time value of money, regardless of whether the full or incremental cost approach is used.

If there are some assumptions that have a significant impact on the cost or benefit, a sensitivity analysis should be presented. Contingency allowances or interest rate premiums should be used to account for differences in certainty/risk. The cost/benefit analysis should be reviewed for reasonableness through the use of benchmarks, other organization’s experience, industry data etc. This would include the use of a public sector comparator for public-private partnership projects.

**Qualitative Analysis – Non-Financial Benefits & Costs:**

Some of the costs and benefits may not be quantifiable (difficult to attach a dollar value). For example non-quantifiable benefits may be increased customer satisfaction or increased staff morale. Non-quantifiable costs may be reduced corporate image or adverse public

perception. Where reasonable, these should be translated into quantifiable benefits (i.e., increased staff morale, may lead to high productivity, which may lead to less over-time). However, the non-quantifiable cost/benefits that cannot be translated into quantifiable cost/benefits should be summarized in the following manner:

<b>Qualitative Summary</b>	<b>Description</b>	<b>Stakeholder(s) Impacted</b>
<b>Benefits:</b>		
Benefit 1	Description of benefit 1	
Benefit 2	Description of benefit 2	
<b>Costs:</b>		
Cost 1	Description of Cost 1	
Cost 2	Description of Cost 2	

**Assumptions:**

All assumptions used to determine, both quantitative and qualitative, costs and benefits should be clearly documented. This would include general assumptions as well as assumptions specific to each alternative.

**Summary of Cost/Benefit Analysis:**

A cost /benefit analysis involves the following steps:

- Define all of the costs (or inputs) that will be associated with the project. This includes staff time as well as hardware costs, development costs, etc.
- Define all of the anticipated benefits that will be associated with this project. The future process flows should assist in identifying these benefits.
- Assign a dollar value to these benefits.
- Compare the difference between the costs and the benefits for each year for which either costs or benefits were identified. This provides the net marginal benefit for each year.
- Determine the net present value of each year’s net marginal benefit using a discount rate.
- Identify intangible or non-quantifiable benefits that may contribute to the Total Value of Ownership.
- Look at whether it can be anticipated that the benefits of the project will outweigh the costs.
- Identify areas of uncertainty in the analysis.



- Summarize results. (The total value of ownership may outweigh the fact that the net present value of quantifiable benefits is less than the costs and may justify the project.)

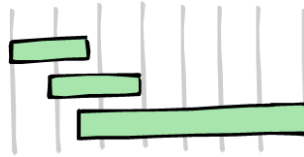
**Checklist for Cost/Benefit Analysis Section:**

1. Have all quantitative costs and benefits been identified?
2. Have all qualitative costs and benefits been identified?
3. Is the timeframe appropriate considering the expected life span of the project?
4. Can any of the non-financial items be converted to financial items?
5. Are all the assumptions clearly identified?
6. Have all common/general assumptions been applied consistently to each alternative?
7. Have assumptions been reviewed to identify the sensitivity of their estimate on the impact of the results?
8. Have benchmarks, other organization's experience, industry data been used to validate costs and benefits?

## 11. Project Schedule

### **Purpose of the Project Schedule Section:**

This section of the business case analysis provides schedule information that demonstrates effective application of project management controls for the proposed project. Schedule data should be provided that is consistent with the scope and complexity of the project, as well as its status within the development life cycle.



### **Description:**

The project schedule should consider the following elements:

- Any remaining analysis effort, including delivery of analysis products
- Acquisition of required project tools, platforms, licenses
- Detailed system design, including delivery of design products
- A proof-of-concept demonstration (if applicable)
- System development, including a breakdown of system components or modules as appropriate
- Testing of components and integrated system testing
- Loading and/or manipulation of an initial data set (if required)
- Development of technical documentation
- Training for users and support personnel
- Transition to production operations
- Reviews and audits

Define dependencies between schedule elements. Include procurement lead time. Document schedule assumptions. In addition to the schedule itself, describe the plans to maintain the schedule and manage schedule changes.

### **Checklist for the Project Schedule Section:**

1. Has a realistic project schedule been developed through a careful assessment of the necessary project components?
2. Have analysis, design, testing, implementation, acquisition, documentation, training, transition, and review/audit requirements been considered in the schedule?

## 12. Verification

### **Purpose of the Verification Section:**

As part of the business case analysis, it is important to show that there is a plan to measure the attainment of project goals and objectives. Verification provides an indicator that all project requirements have been addressed. Validation provides an indicator of the “correctness” of the project requirements. There are several formal verification methods that are used at a high level to show compliance with requirements on information systems projects.

### **Description:**

Verification methods include:

- Analysis
- Demonstration
- Test
- Inspection
- Simulation

In most cases, formal testing can be used and is the preferred verification method. In this section of the business case analysis, outline your plan for establishing formal acceptance criteria, verification methods, and test cases that trace directly to the project requirements.

Outline your verification program to include a high-level description of anticipated test documentation, test participants, test platforms or other resources. Show that you have appropriately scaled the verification program to the project size and complexity.

If complex interfaces, new development tools, or other new technologies are introduced by the project, it may be prudent to show the plan for early, end-to-end proof of concept testing or demonstrations that will verify fundamental project capabilities as soon as practical.

Please note that verification and validation in the business case analysis will, of necessity, be high-level.

### **Checklist for the Verification Section:**

1. Have verification methods been identified and assigned to project deliverables/product?
2. Have stakeholders accepted verification methods and measures identified?
3. Have you described proposed test documentation, test participants, test platforms or other resources?
4. Has a procedure for formal acceptance been established?

## 13. Conclusions and Recommendations

### **Purpose of the Conclusion & Recommendation Section:**

The reason for writing the Conclusion & Recommendation Section is to provide the reader with a selected alternative based on an overall evaluation of the alternatives in terms of impact, risk, and cost/benefit. Specific recommendations for moving the project forward are also presented.

### **Conclusions - Description:**

This section will recap each of the alternatives based on their Business & Operational Impact, Project Risk Assessment, and Cost/Benefit Analysis. Based on these results, a conclusion on which alternative should be chosen would be made.

<b>Alternative</b>	<b>Business &amp; Operational Impact</b>	<b>Project Risk Assessment</b>	<b>Cost/Benefit Analysis</b>
Alternative 1	Describe overall assessment	Describe overall assessment	Describe overall assessment
Alternative 2	Describe overall assessment	Describe overall assessment	Describe overall assessment
Alternative 3	Describe overall assessment	Describe overall assessment	Describe overall assessment

Choose the recommended alternative based on the above recap, selecting the alternative that maximizes the effectiveness and efficiency while minimizing risk and cost.

### **Recommendations - Description:**

This section will make specific recommendations on proceeding with the project.

The extent of the recommendation may range from recommending approval for full project implementation to recommending a more detailed requirements analysis be done to validate some key business case components.

### **Project Responsibility - Description:**

Recommend who should be the Project Manager and as such have responsibility for managing the implementation. This section would include any additional governance aspects related to Enterprise or Multi-agency projects.

**Project Accountability - Description:**

Recommend who should be the Project Sponsor and as such have overall accountability to ensure the project is completed. This section would include any additional governance aspects related to Enterprise or Multi-agency projects.

## 14. Implementation Strategy

### **Purpose of the Implementation Strategy Section:**

The reason for writing the Implementation Strategy Conclusion & Recommendation Section is to ensure that those approving the business case analysis understand the resources they must allocate (people, dollars, time) to complete the recommended next steps of the project.

### **Description:**

Outline the proposed implementation plan for the recommended next steps at a high level. Enough detail should be provided so that those approving the business case analysis understand the resources they must allocate (people, dollars, time) to complete the recommended next steps of the project.

This section should include:

- Major project phases
- High-level work plan, deliverables and target dates for completion
- Costs (\$) required to carry out the implementation plan
- Personnel (departments, roles) required
- Proposed project structure
- Assign responsibility for implementing and monitoring the risk mitigation strategies (Section 9)

## 15. Review and Approval Process

### **Purpose of the Review & Approval Process Section:**

The reason for writing the Review & Approval Section is to clearly present the reader with who and how the business case analysis has been reviewed and approved. This section will also contain the final outcome of the business case analysis. If the business case analysis is approved the evidence of the approval should be included. If the business case is not approved, the business decision behind either rejecting the project or deferring the project should be documented.

### **Review Process**

#### **Description:**

Who will review the business case analysis

### **Approval Process**

#### **Description:**

What is the approval process and who is involved

### **Business Case Signoff**

#### **Description:**

The business case analysis should be signed and dated by the approving person(s), indicating whether or not the business case is approved. If applicable, any special conditions should be identified. If the business case analysis is not approved, reasons for the decision should be documented.

## STATEWIDE REVIEW AND SIGNOFF

The Business Case Review Committee and the Division of the State CIO will also review the business case analysis and will report their findings using the following template:

**PROJECT NAME:**  
**AGENCY NAME:**  
**PROPOSED COST / BUDGET:**

*Business Case Review Committee Recommendations:*

<input type="checkbox"/> <b>Approved, as submitted</b>	<b>Initials</b>	<b>Date</b>
<input type="checkbox"/> Compliant with Statewide Technical Architecture	_____	_____
<input type="checkbox"/> Compliant with Agency Architecture	_____	_____
<input type="checkbox"/> Project Management Approach Approved	_____	_____
<input type="checkbox"/> Proposed Project Cost/Budget Verified (including TCO)	_____	_____

**Approved, with the following changes (see attached):**

**Not Recommended for following reasons (see attached):**

*IT Planning Office Approval:*

\_\_\_\_\_  
**CIO Authorized Signature**

\_\_\_\_\_  
**Date**



## **POINTS OF CONTACT FOR ASSISTANCE**

### **Architecture Support Group**

As a project moves toward selection for implementation, planning should begin to ensure that the proposed project will be compliant with and leverage the statewide technical infrastructure and adopt statewide standards. The Architecture Support Group assists organizations in understanding and interpreting standards, and in identifying common architecture elements and uniform business processes across state information systems.

The Architecture Support Group has the unique ability to look across all state information systems to identify synergies and common requirements and to direct organizations to helpful resources, including naming conventions, style guides, and architecture standards. In addition, this staff establishes and provides support for the use of shared infrastructure elements, such as a credit card payment technical and business infrastructure.

Contact the Architecture Support Group (803) 896-0300 or by e-mail at [dougd@cio.sc.gov](mailto:dougd@cio.sc.gov).

### **Project Management Services Group**

In addition to the services of the Architecture Support Group, the Project Management Services Group is available to assist agencies in the development of a business case analysis for Major, Enterprise and Multi-agency projects. The Project Management Services Group can be contacted at (803) 896-0300 or by e-mail at [fallaw@cio.sc.gov](mailto:fallaw@cio.sc.gov).