# Business Case Basics and Beyond:
## A Primer on State Government IT Business Cases

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# NAS CIO
### National Association of State Chief Information Officers

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# Executive Summary

This primer provides tools, concepts and a framework for addressing a number of critical challenges facing state Governors, CIOs and enterprise information technology (IT) organizations. These include leadership transitions in the offices of many Governors and in state legislatures, increasing budget deficits, the departure and replacement of state CIOs and a number of other long term concerns. These challenges will likely impact state government's ability to maintain the momentum of e-government implementation and meet the policy and service goals of the Governors in areas such as education, economic and workforce development, public safety, healthcare and the environment. Most importantly, these challenges may impact states' ability to deliver services to citizens and customers.

Along with challenges to service delivery comes risk to a state's core infrastructure and application resource pool, its capability to redesign business processes, and its ability to make long-term investments toward efficiency. Certainly, state government's ability to make use of crucial new technologies is also challenged, even in areas such as cybersecurity and physical security.

**In an era of deep budget cutbacks, state IT organizations must make successful business cases not only for agency IT projects but for the value and role technology plays in delivering services to the state and its citizens.**

Business case concepts, tools and methodologies can assist states in addressing these crucial issues in a systematic fashion. It is important for us to remember that business case concepts, tools and methodologies apply not only to agency IT projects but also apply to the state as a whole. In an era of deep budget cutbacks, state IT organizations must make successful business cases not only for agency IT projects but for the value and role technology plays in delivering services to the state and its citizens.

To assist state governments in maintaining the vitality of their infrastructure and the technology it is based upon so that they can provide quality services to citizens, this primer offers states the basics on business cases, including advice on content and formats, and goes beyond the basics by applying good business case practices to the challenges of our current, changing times.

This primer describes the value of technology in supporting each state's goal to serve its citizenry and encourages states to use business cases to evaluate their options in a rapidly changing, budget-conscious environment. A good business case can bring focus and clarity to alternative avenues of action in a wide range of situations, including when states contract with vendors for hardware and software or consider the establishment of a capital fund for technology. A well-thought out, well-written business case can also clearly point out the importance of technology in supporting a new state leader's priorities. By carefully documenting how IT has provided improved services to citizens, state IT organizations can start to make a case for continuing momentum in improving the services that they provide. These steps, in turn, can serve as a foundation for maturing the way in which states manage the value of their investments in technology. A more mature value management process translates into the strategic use of technology to bring value to the state and its constituents.

The authors of state business cases must now consider how a business case contributes to the state IT organization's credibility with decision-makers as well as citizens and how the business case will provide political return for decision-makers. Business case authors should also point out in their business cases how the state's IT enterprise and its use of technology serves citizens and other state agencies on a daily basis.

This primer draws from the current literature on IT business cases to suggest a framework for an enterprise IT assessment and building blocks for the content and format of a business case. Importantly, this primer recognizes the emerging trend to broaden the scope of the business case. Increasingly, business cases can be used to demonstrate not only the benefits of one project, but also can be used to demonstrate the benefits of programs, such as data center consolidation and Y2K, and the benefits of the entire state IT organization.

In addition to taking experience from the existing business case literature, a state must draw upon the experience of other states and the federal government. This primer discusses how states and the federal government are using business case methodologies in state strategic planning as well as IT project assessment, quality assurance and audit activities to effectively demonstrate the real value of technology.

Finally, the primer pushes beyond the basics of business cases to recommend concrete ways for states to build business cases that strategically support gubernatorial priorities, demonstrate the integral nature of IT in providing services to the state and citizens and heighten awareness that states must maintain momentum in improving the quality and efficiency of state services. Those in state government will also gain from this primer strategies for constructing a statewide value assessment and value management infrastructure.

To assist business case authors within state government, the primer also provides:

- A listing of the key value indicators of a sound business case
- A checklist of the key elements and critical success factors of a business case
- A selection of suggested solutions for creating a sustainable enterprise IT business case and for addressing IT budget cutbacks
- A compilation of examples of state, federal and local business case practices
- A compilation of business case resources and references from many sources, including research and advisory services, associations, such as NASCIO, and the federal government.

Through using business case concepts and tools in an integrated and systematic fashion, states will increase their ability to successfully provide quality services to the state and its citizens today and in the days to come.

# A. Primer Purpose and Quick Highlights

## 1. Primer Purpose

IT business case methodologies are now being pushed beyond their traditional use for making decisions about project selection or initiation and continued or increased program funding. Business case methodologies will increasingly be used for broader purposes, such as prioritizing projects and programs, choosing among alternatives in the event of a realignment of IT funding and selecting projects or programs for a funding reduction or for elimination if budget cutbacks have diminished the pool of IT resources.

In today's complex and interdependent environment, it is imperative to broaden the focus of the business case from only IT project justification to enterprise value management. This involves expanding the set of business case criteria to include public policy values, management capabilities and credibility. Only through expanding the use of the state IT business case can states clearly show decision-makers and others the importance of technology to the functioning of an effective state government.

This primer's three simple but important goals are to:

- **Provide the Basics on State IT Business Cases:** The primer describes basic business case concepts, tools and practices at the state and federal levels, identifies available references and resources and provides contact information for individuals knowledgeable in business case formulation, particularly active practitioners in the field. The "Compilation of State and Other Public Sector Approaches" (Appendix 3) and "Notes on References and Resources" (Appendix 4) portions of this primer include examples of business case policies, guidelines, instructions, forms and templates. The state and federal business case approach descriptions include URLs, contact names and e-mail addresses.

- **Push Beyond the Basics to Use the Business Case to Address the Challenges of Fiscal Years 2004 and 2005:** This primer identifies a number of strategies and suggests solutions that may be helpful in addressing some of the IT-related challenges of Fiscal Years 2004 and 2005, such as maintaining momentum in offering improved services to state agencies and citizens. States can use business case methodologies to plan strategically by identifying the potential outcomes of their options and prioritizing among the available choices.

- **Embrace Enterprise IT Investment Value Management:** The primer encourages state government officials to embrace a statewide or enterprise investment management infrastructure to improve the value that technology can provide to meet both current and future challenges to the state and its statewide IT organization. The primer describes suggested first steps that individual states as well as NASCIO can take toward an enterprise value management infrastructure to better manage IT investments.

## 2. Quick Highlights

The primer contains four sections:

- Current Challenges and the Role of the IT Business Case
- Government IT Business Case Basics
- Summary of State and Other Public Sector Approaches
- Beyond Business Case Basics: Suggested Solutions for Current Challenges.

The primer's Appendices offer:

- A Listing of Business Case Value Indicators
- A Business Case Element and Critical Success Factor Checklist
- A Compilation of Descriptions of State and Federal Business Case Approaches
- Notes on References and Resources.

Of particular interest to the authors of business cases, "Government IT Business Case Basics" (Section C) of this primer includes a discussion of business case scoping techniques and formatting.  Business case authors can also use the primer's business case value indicators to analyze their business cases in the areas of credibility, customer services, efficiency and effectiveness, policy and political returns and value management for investments.

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### Helpful Hints on Using the Primer

The primer contains four distinct types of information, which are listed below along with a guide to finding the information within the primer.

**Business Case Basics:**
- Current Challenges and the Role of the IT Business Case (Section B)
- Government IT Business Case Basics (Section C)
- Summary of State and Other Public Sector Approaches (Section D)
- IT Business Case Value Indicators (Appendix 1)
- Business Case and Critical Success Factor Checklist (Appendix 2)
- Notes on References and Resources (Appendix 4)

**Public Sector Approaches and Examples:**
- Government IT Business Case Basics (Section C, Subsections 3, 4 and 6)
- Summary of State and Other Public Sector Approaches (Section D)
- Compilation of State and Other Public Sector Approaches (Appendix 3).

**Resources and Contacts:**
- Compilation of State and Other Public Sector Approaches (Appendix 3)
- Notes on References and Resources (Appendix 4)

**Suggested Solutions:**
- Current Challenges and the Role of the IT Business Case (Section B)
- Beyond Business Case Basics: Suggested Solutions for Current Challenges (Section E).

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# B. Current Challenges and the Role of the IT Business Case

Several vital issues challenge state government's momentum in deploying e-government and delivering support and customer services, as well as state government's ability to meet the policy and service goals of the Governors. These challenges include the transition of new Governors into office, projected budget deficits, human capital management, internal skills shortages and the departure and replacement of state CIOs.[1] Longer-term challenges to the states include:

- Finding the resources necessary to take advantage of intra-governmental, intergovernmental and cross-boundary opportunities
- Striking a balance between decentralized agency and centralized enterprise IT resources and value creation
- Aligning IT with business functions and needs
- Making sound IT acquisition policies and striking a balance among central agency and intermediary or sourced provision of services
- Developing an e-government architecture
- Creating an enterprise IT investment value management approach, including portfolio management.

The enterprise-wide challenges that state government is facing are likely to impact states' core IT infrastructure and application resource base, capability to redesign business processes and ability to make long-term investments and make use of crucial new technologies. Technology resources that support gubernatorial priorities, such as education, economic and workforce development, public safety, healthcare and the environment, may also be at risk. Moreover, state and intergovernmental priorities, such as cybersecurity, may remain underdeveloped and under-funded. Recently, Gartner, Inc., characterized this unprecedented, multiplier effect of the current challenges to technology's role in state government as "The Perfect Storm."[2]

In addition to these challenges, it increasingly is no longer a question of whether the cost of implementing a technology solution or improvement is justifiable in comparison with continuing to take care of business the "old way." As e-government enablers have been instituted in the public sector, other resources have been re-allocated or not maintained in reliance that technology is here to stay. There is no road back.

This portion of the primer points out the usefulness of business case concepts in addressing the following challenges: (1) the economic downturn and budget cuts (2) leadership transition (3) the maintenance of IT momentum and services in Fiscal Years 2004 and 2005 and (4) the creation of an effective statewide IT and organizational business case.

# 1. The Economic Downturn and Budget Cutbacks

States are facing a significant budget crisis for Fiscal Years 2003 and 2004. According to the National Governors Association (NGA), the fiscal situation of the states has not been this dire since World War II.[3] Many states have exhausted traditional budget cuts and drawn down rainy-day funds, and their most difficult decisions regarding the support of services lie ahead.

Business case methodologies can be used to prioritize among continuation, cutback and investment options. In addition, an enterprise level business case can be used to strengthen justification for the IT resource base and the need for selected investments. With the help of a good business case, states can bring into focus the available options and potential consequences when presented with situations such as the following:

- Possible use of intermediary service providers (sourcing) and the establishment of partnerships
- Assessment of any remaining consolidation options
- Cost recovery or revenue generation options
- Possible establishment of capital funding or a centralized fund
- Possible shifts from the state general-purpose fund to restricted funds
- Deferred acquisitions
- Contract renegotiations, reductions or cancellations
- Reductions in operational requirements or service levels.

> **"Beyond Business Case Basics: Suggested Solutions for Current Challenges"** **(Section E) of this primer discusses possible solutions for budget cutback issues for Fiscal Years 2004 and 2005. "Notes on References and Resources" (Appendix 4) also provides additional resources that may be of assistance.**

# 2. Gubernatorial, Leadership and Organizational Transitions

Twenty-four new Governors have taken office since November 2002, and approximately that many CIOs are anticipated to change as well. In addition, there has been significant turnover in legislatures and other elected state offices. In many states, these factors will prompt a significant, ongoing IT transition and may require a knowledge and experience base update. State IT leaders may need to make a broad-based case for the role of the CIO and enterprise planning, for the state IT organization or for the specific configuration of legacy initiatives or those that are under development.

NASCIO, the Center for Digital Government with the Council of State Governments, the E-Government Executive Education Project (John F. Kennedy School of Government, Harvard University), Gartner, and META Group, Inc. have addressed the transition requirements from an IT perspective, including recommendations for the incoming Governors and CIOs.[4] Several organizations have scheduled or planned presentations and seminars. Both META Group and the Center for Digital Government have proposed first 100-day agendas, while the E-Government Executive Education Project has proposed a six-month agenda. Moreover,

NASCIO's "Transition Handbook" contains tactical and strategic steps for identifying available services and resources from a wide range of IT-related entities. The publications of the above-listed organizations have a number of common elements, including:

- Discussions on addressing the Governor's priorities and agenda
- Identification of issues and trends
- Discussions of IT and CIO challenges
- Recommendations for balancing budget cutbacks with IT service maintenance, investments and momentum
- Identification of success factors, including the players who are critical for success
- A vision for the future, including the transformation of government.

While most of these materials address the IT business case to some degree, the IT enterprise business case has not been the central focus. However, several well-developed resources on the public sector, enterprise level IT business case include state IT strategic plans, the U.S. Office of Management and Budget's (OMB) budget presentations on the President's 24 e-Government initiatives, the President's budget for Fiscal Year 2004, and the General Accounting Office's (GAO) analysis of the E-Government Act of 2002 and OMB's business case for the 24 e-Government initiatives. States may find these resources to be helpful in addressing issues rooted in leadership and organizational transition.

> **For more detailed descriptions of these resources, please see the primer sections on "Making a Sustainable Enterprise IT and Organizational Business Case" (Section B, Subsection 4) and "Compilation of State and Other Public Sector Approaches" (Appendix 3).**

## 3. Maintaining IT Momentum and Services in Fiscal Years 2004 and 2005

Depending on the magnitude and targeting of reductions, in addition to a two-year slowdown or decline in IT investments and services, a recovery lag could last beyond the anticipated recovery period in Calendar Year 2004. States could miss the opportunity to implement IT initiatives that could significantly improve the efficiency and delivery of services to citizens and customers.

To protect the current quality and efficiency of citizen and customer services and maintain momentum toward improved services, states can broaden the support of constituents, partners and other stakeholders by:

- Documenting the enterprise support for all agencies, and supporting or enhancing a wide array of key customer services (i.e. documenting the cost of IT as a cost of doing business)
- Identifying support capabilities for priority issue areas, such as education, healthcare and workforce development
- Identifying policy and political gains, including a systematic assessment of potential contributions to the Governor's agenda

- Informing decision-makers of the importance of technology as a means to meet the challenges and future priorities of the Governor and others, which might include education, security, workforce and economic development, broadband and other aspects of IT and technology infrastructure.

A business case with broad support, that explains the tie-in between technology and improved citizen services, is more persuasive than one that is limited to only the documentation of IT's efficiency and effectiveness.

Because the impending budget reductions and challenges to the maintenance of IT momentum and service continuity are interrelated, "Beyond Business Case Basics: Suggested Solutions for Current Challenges" (Section E) of the primer discusses suggested solutions for addressing both of these challenges together.

## 4. Making a Sustainable Enterprise IT and Organizational Business Case

In addition to addressing the resource and service consequences of the current economic downturn, it is also necessary to prepare for future contingencies, including the next downturn, and to continue addressing both long-term as well as the known short-term challenges. This entails deliberately accelerating the evolution of the resource management maturation process that has already taken place in the states at different rates. Developing the maturity of management processes requires expanding the focus of IT management from the project and agency level to the enterprise level and acquiring a more full and mature array of management tools. This expansion requires a project management commitment that is at least commensurate to enterprise architecture in the expenditure of time and resources and the level of stakeholder involvement. To compare the level of commitment required in terms of time and resources, it would be less than states' past commitment to Y2K-related initiatives, but more than current desktop management approaches.

The use of an IT management maturity framework is useful in developing strategies for this deliberate shift upward in maturity levels. Maturity models include the GAO framework discussed below and others by Gartner,[5] Deloitte Research,[6] PricewaterhouseCoopers,[7] and Giga,[8] as well as the Capability Maturity Model for Software by the Software Engineering Institute, Carnegie Mellon.[9] Their common elements include graduated levels of increasingly enterprise-oriented management processes and capabilities, such as output and service characteristics, and internal requirements. These elements are used in a variety of ways for providing a framework for systematically and continuously improving development and management capabilities for software processes, e-business, e-government and IT investment management.

The GAO maturity process is called the IT Investment Management approach (ITIM).[10] In business case or IT justification terminology, the ITIM approach is parallel to the IT value management concept and has the following five maturity level stages:

- Stage One: Creating Investment Awareness
- Stage Two: Building the Investment Foundation
- Stage Three: Developing a Complete Investment Portfolio
- Stage Four: Improving the Investment Process
- Stage Five: Leveraging IT for Strategic Outcomes

Many states are at either Stage Two or Stage Three.  However, IT value management approaches require higher maturity levels, such as Stage Four or Stage Five.  In order to shift to a value management approach, it is necessary for states to adopt improved management practices both at the enterprise and agency levels.

GAO discusses some of the requirements of its management maturity process in the following publications:

- "Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity (Exposure Draft)"[11]
- "Executive Guide: Maximizing the Success of the Chief Information Officers: Learning from Leading Organizations"[12]
- "Electronic Government: Proposal Addresses Critical Challenges,"[13] which is an analysis of the E-Government Act of 2002 (S.803).[14]

> **Please see "Compilation of State and Other Public Sector Approaches" (Appendix 3) for additional GAO materials.**

# C. Government IT Business Case Basics

This section of the primer provides the basics on business cases and a high-level business case framework for IT projects and programs as well as for the IT enterprise. Since a "business case" can bring to mind different things for different people, this section begins with a discussion of the typical purpose of a business case and distinguishes among the many variants on a business case, such as Return on Investment (ROI) and Cost-Benefit analyses.

To begin constructing a business case framework for state government technology, states should take the following steps:

- **Starting Points:** Beginning with an initial examination of the maturity of the state's value management processes and the selection of the best performance measures for a particular technology initiative or project
- **E-Government Assessment:** Assessing the effectiveness of e-government and other technology initiatives from a full scope, multi-level perspective of government, as recommended by Gartner
- **Core Elements:** Focusing on the core elements of a business case as identified by the U.S. General Accounting Office (GAO)
- **Business Case Format:** Drafting a business case according to a sound format, such as that of the Solution Matrix model
- **Business Case Scope:** Scoping and defining the business case according to whether it is for a technology initiative at the project, issues or program, or statewide enterprise level
- **Audiences and Authors:** Targeting the business case to the intended audience and identifying the authors responsible for the business case
- **Value Indicator Framework:** Gauging the value the business case will provide in terms of credibility and benefits to citizens, the state and stakeholders.

## 1. Purpose of the Business Case, Definitions and Methodologies

An IT business case can be used for a wide range of purposes including justifying investments, measuring progress, securing resources, complying with legal and regulatory requirements, communicating benefits, gauging the strategic fit of proposed projects, convincing skeptics and making decisions about whether a project or program should be implemented. The business case can also serve as a basis for presentations to senior management and other decision-makers, such as Governors. However, those who formulate business cases for improved citizen services must keep in mind that they should review and update each business case throughout its life cycle.[15]

Many variants and special purpose methodologies are subsumed under the business case concept. Synonyms for a business case are IT financial justification and, in a broader context, Value on Investment (VOI). Some of the variations of the business case concept are listed and briefly described below:

- **Return on Investment (ROI):** ROI analysis evaluates investment potential by comparing the magnitude and timing of expected gains to the investment costs. As with other approaches,

in addition to cost-savings, greater efficiencies and increased revenues, a broader view of ROI includes considering improved customer service as a potential benefit. ROI is calculated by considering the annual benefit divided by the investment amount.

- **Total Economic Impact (TEI):** TEI is a holistic ROI approach that measures how a solution or initiative impacts not only the agency in which it is implemented but also other agencies and the IT enterprise.

- **Cost Benefit Analysis:** The Cost Benefit Analysis is a technique that compares the costs of an investment with its anticipated benefits. This analysis considers both tangible and intangible benefits. The common element among the many Cost Benefit Analysis variants is the comparison of both positive and negative implications of making an investment.

- **Cost of Ownership, Total Cost of Ownership (TCO), Life Cycle Cost:** These measure the overall estimated costs for a particular program alternative over the life of the program, including direct and indirect initial costs plus any periodic or continuing costs for operations and maintenance.

- **Financial Justification:** The only distinguishing feature of this approach from other business case approaches is its special emphasis on financial decision criteria.

- **Value on Investment (VOI):** The VOI approach blends traditional and emerging business case elements, both tangible and intangible, such as an improved reputation, the creation of assets and new revenue streams. The VOI approach factors in considerations, such as IT organizational credibility, improved efficiency and services and policy and political elements. Some of these factors have not traditionally been included as elements of an IT business case but provide valuable context and become even more essential as financial resources are challenged.

## 2. Starting Points to Remember

No matter what the purpose of the business case or the type of methodology used, state government officials must keep in mind that the type and quality of their business cases are contingent on the maturity level of the state's IT management processes. Note that IT maturity levels are also discussed in the primer's section on "Making a Sustainable Enterprise IT and Organizational Business Case" (Section B, Subsection 4).

Other factors impacting the quality of state business cases are the nature and standing of proposed IT initiatives within the state and the credibility of a state's IT organization. Remember that one size does not fit all, but there are general principles and practices that states can tailor to suit their unique needs. Accordingly, the practical nuts-and-bolts recommendations in this primer focus on the level of business case quality that most states can achieve. In realistically focusing on business case quality, states must keep in mind two simple rules:

- It is better to focus on maximizing the value of a few vital measures of IT performance, rather than to focus on many measures that fail to demonstrate value to the citizens and the state.

- Imperfect information on the performance of state IT is better than no information on IT performance.

# 3. What to Include in a Business Case—Framework, Process, Format and Content

## Framework for a State Strategic e-Government Assessment

Usually created within the context of decisions about state resource allocation, a business case analysis may appear in such state processes as project assessment, project selection, sourcing, planning, budgeting or auditing. In fact, business cases are often an integrated, mandated part of these processes. However, other parts of the policy and decision-making cycle may benefit from a business case analysis. States must make the IT business case a part of a strategic state IT framework. Gartner, for example, recently recommended developing an e-government assessment framework to better ensure that a state's technology efforts are providing value to the state and ultimately to its citizens.[16] In keeping with Gartner's framework, a state's e-government strategy assessment should serve the following purposes:

- Provide an independent assessment of the effectiveness and efficiency of one or more IT projects
- Be applicable at different levels, including the service, agency and enterprise levels as well as the jurisdictional level for intra- or intergovernmental projects
- Apply to governments, departments and agencies at different stages of e-government development or maturity
- Be a starting point for an enterprise level e-government strategy.

The benefit to states of an e-government strategy assessment stems from its ability to force a government agency or business unit to examine the effectiveness of its own strategy and to consider whether it delivers real value to its constituency or to the government itself.

Regardless of the methodology that a state uses, an e-government assessment should:

- Measure all dimensions of e-government, including organizational credibility, the quality of constituent services, the level of operational efficiency and the existence of political return
- Focus on all service channels, with an emphasis on IT-supported or enhanced channels
- Provide results in terms of improved service, and also be a meaningful synthesis of results across service sectors in order to demonstrate value for senior government officials and politicians
- Possess a balanced combination of quantitative and qualitative measures.

## The Business Case Process and Core Requirements

The literature on business case analysis and assessment encompasses many well-designed formats, guidelines and templates that list the core elements of an IT business case. While much of the literature on the core requirements for a business case is relatively detailed, including this

primer's business case element checklist in Appendix 2, most business cases do not need to have all of the elements listed below. However, the most frequently cited elements of a complete business case for an e-government project, as detailed by GAO in its assessment of the President's 24 e-Government initiatives, are as follows:[17]

- A statement of the existing problematic situation or condition
- A concept for an improved future situation or process
- The assumptions that predict, simplify or clarify information about the future situation or process
- The benefits of implementing the future situation or process
- A linking of benefits to strategic objectives
- The risks and risk mitigation strategies.

In addition to the elements listed above, GAO has also identified several core business case elements for selecting e-government initiatives, including:

- An indication of whether the initiative is driven by identified customer needs or whether there are plans to identify such customer needs
- A strategy for successfully collaborating with other governmental and non-governmental entities.

## Business Case Format and Content

Although business case authors should tailor each of their business cases for the specific situation and audience, business cases typically follow a systematic format and contain common structural and content-oriented building blocks. While there is no single best format for state business cases, some approaches are more well-suited for state government technology-related projects. For example, the following building blocks are based upon the Solution Matrix business case formulation, which consists of three well-articulated and documented briefs.[18] States may find these building blocks useful in formulating a complete and effective business case format.

**Introduction and Overview:** Remember that some readers may review only the executive summary of a business case document. Therefore, the Introduction and Overview section needs to represent the entire business case in terms that are direct, succinct, clear and accurate. In addition to the standard (and perhaps formally required) elements of a business case, the Introduction and Overview must, at a minimum, contain the following elements: the purpose of the business case, an executive summary and a formal introduction. This section of the business case also should explicitly identify both the authors and the intended audience. The reason for identifying the authors and audience is two-fold. First, it helps to focus the business case on the purpose at hand. Secondly, it helps make the business case more compelling and credible than an anonymous business case.

**Assumptions and Methodology:** Describing the assumptions and methodology which support a business case contributes to the credibility of the overall business case analysis. These elements also define the scope and boundaries of the investment and discuss the alternatives considered, as well as the consequences of not taking the recommended action. Many guidelines, instructions and templates tend to emphasize this aspect of the business case.

**Business Impacts and Benefits:** These elements represent the core of the business case. Public documents, for example, gubernatorial presentations, such as the State of the State addresses, state strategic plans, budget briefs and advocacy presentations tend to emphasize this aspect of the business case. In higher-level presentations, the explanation of business impacts and benefits may represent the largest part of the presentation materials. It is important not to overstate an initiative's benefits. Otherwise, the credibility of the authors and their organization may be undercut.

**Sensitivities, Risks and Contingencies:** Almost all business cases contain a degree of uncertainty, both because of the limits of business case methodologies and available information and data, and because of the estimation or projection of future outcomes. This aspect of many business cases tends to be underdeveloped and contributes to lowered credibility.

**Conclusions and Recommendations:** This section connects the findings of a business case analysis to strategies, goals, decisions and actions and provides explicit detail on implementation and operational aspects. The Conclusions and Recommendations section is also the place to restate the link to the priorities of the state CIO, the Governor and other decision-makers. Note that the conclusions and recommendations of a business case may be stated briefly in the Introduction and Overview section.

In addition to the Solution Matrix elements described above, public sector entities may include the following in their business cases:[19]

- Requirements for consistency with enterprise standards and architecture
- Acquisition or sourcing strategy requirements
- Security and privacy requirements
- Legal requirements or mandates
- Political benefits and service support
- Mandated or required methodologies, such as an ROI or a Life Cycle Cost formulation
- Project or portfolio management requirements.

> **The "Business Case Element and Critical Success Factor Checklist" (Appendix 2) contains these and other helpful elements.**

## 4. Scope of a Business Case

A business case can be made at three distinct levels: (1) the project level (2) the issues or program level or (3) the organizational or enterprise level. Most of the business case literature to date has focused on the project level. However, the enterprise level approach recently has emerged as a new priority. State governments now increasingly require a business case at the statewide IT enterprise or organization level. From a longer-term perspective, the enterprise level approach for many in the field is becoming one of the IT management imperatives. This portion of the primer discusses the scope of the business case at the project, issues or program, and enterprise levels, and provides useful references for each of the levels.

## The Project Level

Project level business cases focus on the selection, implementation and management or assessment of single projects or vendors. Their formats typically are standardized to the point of being based upon policies, guidelines, procedures, standards, criteria, forms or templates.

**Examples:** Many of the state examples cited in the primer's "Compilation of State and Other Public Sector Approaches" (Appendix 3) involve project level business cases.


## Issues or Program Level

In addition to the elements found at the project level, business cases for the issues or program level may include shared goals or purposes, common applications or technologies, shared or interrelated services or customers and common outputs or desired outcomes. Frequently, business cases at this level involve similar or interrelated organizations and may cross jurisdictional boundaries.

Issues or program-level business cases form the building blocks for a transition to an enterprise level business case approach. Telecommunication and data center consolidations were among the first issues or program level business cases. Y2K followed, which also strengthened some of the enterprise approach tools, such as project management techniques and enterprise standards and architecture. The latter of these tools has subsequently matured to include data and business architecture and governance structures and has become a part of the business case assessment framework (for example, the U.S. Office of Management and Budget's architecture and business reference model).[20]

**Examples:** Other examples include criminal justice integration (such as that by the Center for Technology in Government), cybersecurity, desktop management, Geographic Information Systems (GIS) and portals. Some of these examples, such as state portals, in turn may provide exceptional enterprise level efficiencies and services and may support gubernatorial policy goals.


## The Enterprise or Organizational Level

The enterprise or organizational level business case includes the following elements and addresses the following concerns:

- The full range of public sector policy goals, predominantly pertaining to the executive branch
- The organization's centralized IT capabilities and services, as well as the support provided for all agencies
- A description of the business cases for major or priority technology projects and, at a minimum, a list of projects above a specified dollar threshold or priority level
- The organization's processes for coordinating with other government entities, for managing its resources and projects, and for governance or decision-making.

In enterprise or organizational level business cases, outputs and desired outcomes exist in a multi-year context and are based upon gubernatorial priorities. They typically focus upon the total benefit to the state and view customer services from a holistic perspective. Enterprise level business cases also typically involve considering the full range of business case value indicators, including public policy ramifications and political benefits.

**Examples of Enterprise Level Business Case Resources from Research and Advisory Services (R&A) and Study Centers:** Examples include briefs by NASCIO,[21] Gartner,[22] Giga[23] and META Group.[24] Other materials include those published by the E-Government Executive Education Project, John F. Kennedy School of Government[25] and the Center for Digital Government and the Council of State Governments.[26]

**Examples from the Management and Operations Perspective:** Examples include statewide IT plans contained in the primer's "Compilation of State and Other Public Sector Approaches" (Appendix 3) and federal materials from OMB,[27] GAO[28] and the Federal CIO Council.[29] The Performance Institute also has some helpful materials.[30] Finally, the E-Government Act of 2002 (S. 803) provides some helpful guidance.[31]

**Examples from the Policy and Advocacy Perspective:** The National Governors Association's compilation of State of the State presentations[32] and "The President's Management Agenda, FY 2002"[33] are helpful resources from the policy and advocacy perspectives. OMB's "Analytical Perspectives: Budget of the United States Fiscal Year 2004," and particularly Section 22 "Information Technology Investments (Program Performance Benefits from Major Information Technology Investments)" provides operational and policy information.[34]

# 5. Audiences and Authors

## Audiences

The composition and needs of the intended audience of a business case significantly shapes its focus. When a business case explicitly identifies its intended audience, readers of the business case will have a better understanding of the author's intent and purpose.[35] Types of targeted audiences may include:

- State IT management and the state CIO
- The Governor, his or her Chief Operating Officer or equivalent, state budget officers, the legislature and other decision-makers
- Potential partners (both public and private as well as vendors)
- Constituents and customers
- Opinion leaders, the media and the public.

## Authors

Business case authors must use a combination of sound techniques and methodologies as well as good judgment to bring together information from a variety of sources and formulate a meaningful conclusion as to why technology will provide better services to citizens or the

state. Business cases by their very nature are somewhat subjective given the uncertainty of projected outcomes. With the substantial amount of discretion that business case authors exercise, different authors can produce different end results based upon an analysis of the same information.

A business case should always explicitly state who is responsible for it. For well-constructed business cases, clearly specifying the author can bolster the author's credibility. Authors may include groups of individuals, such as committees, or independent entities, such as consulting companies or research and advisory services. In some instances, external consultants or research and advisory services may enhance the credibility of a business case.[36]

## 6. The Key Value Indicators of a Sound Business Case

State government business case authors need to infuse their business cases with convincing arguments that support technology's service-oriented benefits. To assist this effort, the primer's value indicator framework will help authors gauge the value and soundness of their business cases. The framework provides indicators of a business case's value in five interrelated areas:

- Ensuring the credibility of technology and the state IT organization
- Meeting constituent service needs
- Ensuring operational effectiveness and efficiency
- Supporting state policy and providing political returns and stakeholder benefits
- Ensuring the value that technology delivers across the state enterprise.

Many of the value indicators in the five areas referenced above address the intangible characteristics of a business case. However, demonstrating a business case's value, particularly for services and operational efficiency and effectiveness, also involves quantifying tangible indicators, such as ROI (Return on Investment), Cost Benefit Analysis and the calculation of unit cost measures and estimates, such as time, quantity and accuracy.

In reviewing the list of value indicators below, remember that business case authors may apply some of the indicators to show value in more than one area.

> See "IT Business Case Value Indicators" (Appendix 1) for a more comprehensive list of value indicators.

### Ensuring the Credibility of Technology and the State IT Organization

- Demonstrating and justifying technology as a relevant and credible solution to business problems and citizen service needs
- Giving credibility to the state IT organization's management and procedures
- Explaining or justifying past performance or lack of performance, and, when appropriate, explaining where corrective actions were taken.

**Meeting Constituent Service Needs**

- Meeting constituent and customer needs, requirements and desires
- Providing improved quality, quantity and range of services
- Ensuring an appropriate mix of service channels
- Providing convenience to customers
- Reducing the cost to customers of conducting business with the state.

**Ensuring Operational Effectiveness and Efficiency**

- Demonstrating improved inputs for providing resource and support services
- Developing improved internal procedures
- Providing improved service outputs and outcomes.

**Supporting State Policy and Providing Political Returns and Stakeholder Benefits**

- Effectively and visibly addressing, and providing solutions for, the full range of policy issues such as public safety, education, workforce and economic development, health care and the environment
- Making government and governance procedures more accessible and open and ensuring effective citizen participation
- Enhancing the ability of elected officials to lead or deliver on promises for an improved government and/or government services.

**Ensuring the Value that Technology Delivers Across the State Enterprise**

- Providing state procedural, governance and management capabilities that ensure the delivery of services in an efficient and effective manner and support gubernatorial and CIO policies
- Providing an investment management infrastructure for managing and delivering value and ensuring credibility in order to meet both current and future state government challenges.

## A Note Regarding the Business Case Literature on Value Indicators

Resources from Gartner,[37] Giga,[38] META Group[39] and the National Electronic Commerce Coordinating Council (NECCC)[40] describe business case methodologies and value indicators. "The Gartner Framework for E-Government Assessment"[41] is among the most comprehensive of these resources.

Much of the business case literature, including a substantial part of the literature relied upon by this primer, covers the improvement of services and governmental effectiveness. However, states cannot address the known challenges of the next few years, including budget cutbacks and the economic downturn, without a comprehensive and sustained enterprise management approach. States must expand their use of business cases beyond justifying individual projects to a full value management framework that points out technology's value to citizens and the state.

As states push beyond the traditional use of business cases, they must also visibly devote attention to the credibility of technology and the state IT organization, political returns and overall value management. Although some recent business case publications have addressed aspects of business cases, such as credibility, political returns and overall value management, most of the publications do not address these three elements at once. However, some of the more holistic frameworks addressing these issues in a comprehensive manner are GAO's literature on improving process maturity[42] and Garter's literature on an e-government assessment framework. META Group[43] and others have addressed these issues.

While broadening the use of business cases, state IT organizations' credibility will be vitally important to facilitate this expansion. Gartner's framework for an IT credibility curve provides some helpful guidance on the matter. According to Gartner, an IT organization's value and credibility accrues in stages ranging from uncertainty about an organization's credibility to skepticism, acceptance, trust and finally respect for an organization. Each stage depends on lessons and practices learned during previous stages. The value of technology and its contributions to the state and its citizens can potentially increase from stage to stage. Gartner's framework also describes practices and procedures IT organizations can acquire in order to increase their credibility.[44] META Group also has helpful materials that address the issue of credibility.[45]

# D. Summary of State and Other Public Sector Approaches

Increasingly states are incorporating business case assessments as part of a broad range of state IT management activities, including:

- IT strategic planning
- Project or portfolio management
- Project selection or procurement processes
- Quality assurance activities
- Budget processes (which may be mandated by the state budget office or state CIO's office, or jointly by the two offices)
- Legislative reviews or audits.

Since these state activities are stages of rolling out improved services for citizens and the state as a whole, business case authors may present their cases during different stages of the roll-out of services and to different audiences.

For their business case activities, some states have generated highly developed instructions, guidelines and templates. Some states, such as North Carolina, Colorado and Oregon have developed or identified training or other helpful resource materials. This primer's section on "Compilation of State and Other Public Sector Approaches" (Appendix 3) contains detailed examples of business case processes within the context of state IT strategic planning, executive branch IT project assessment and legislative quality review, audit and quality assurance programs. Additional sources for state practices are available in NASCIO's "States' Methods of Calculating ROI on IT Projects"[46] and North Carolina's 2001 survey of state business case practices.[47]

## 1. IT Strategic Planning

State IT planning processes, such as internal and external assessments and goal frameworks, have several characteristics that can help elevate business case tools and concepts from justifying individual projects to justifying the importance of technology at the enterprise level. While the internal and external assessments are at a relatively high level, the state goals framework is directly applicable to the enterprise technology business case.

A number of states have well-developed frameworks describing the relationships among their strategies, goals, initiatives and outcomes or metrics for statewide IT planning. The outcomes of statewide IT plans are comparable to the various types of benefits cited in business cases for projects, issues or programs, but are organized from a state-specific, enterprise IT perspective. A state's goal framework can be used for organizing the outcome aspects of business cases at project, program or issues levels in order to profile each state's particular goals for presentations to Governors, CIOs, budget officials, the legislature, the media and others.

A fully developed strategic plan goal structure effectively makes a business case for the IT enterprise. Such enterprise level business cases may have all of the following features as well as a consistent relationship with initiatives supporting more than one state goal:

- An articulated goal structure representing the Governor's and CIO's priorities
- Strategies for achieving the state's goals
- Activities or projects linked to the state's goals and strategies
- A detailing of responsibilities and a timeline for activity or project deliverables
- Anticipated outcomes or performance metrics.

## 2. Executive Branch IT Project Assessment and Business Case Practices

The "Compilation of State and Other Public Sector Approaches" (Appendix 3) of this primer provides resource materials on current public sector project and business case assessment practices for 20 states and the U.S. Office of Management and Budget (OMB). While there exists considerable variance among the states' business case practices, some common elements include:

- Implementing requirements and procedures that primarily apply at the project level and contain many of the elements described in the primer's "Business Case Element and Critical Success Factor Checklist" (Appendix 2)
- Utilizing an architectural compliance framework, such as the federal enterprise architecture and business reference model
- Requiring a minimum dollar threshold or policy criteria floor for conducting business case assessments, as well as implementing levels of assessment criteria
- Requiring a mandatory business case assessment for any funding decision that may be conducted in conjunction with the state budget office
- Integrating business case processes with other related state processes, such as planning, budgeting, project or portfolio management and resource acquisition or allocation
- Incorporating indicators and metrics, such as a balanced scorecard or a prescribed methodology (ROI, life cycle or cost-benefit analyses)
- Requiring ongoing as well as post-implementation project assessments.

## 3. Legislative Reviews, Audits and Quality Assurance

Legislatures conduct both financial and performance audits. Increasingly, legislative audit criteria require the development of a business case. The "Compilation of State and Other Public Sector Approaches" (Appendix 3) of the primer discusses four illustrative examples from Virginia, North Carolina and Texas, as well as the U.S. General Accounting Office (GAO). GAO's perspective is important to states not only because of the relevance and high quality of its work but also because state legislative bodies may use GAO recommendations as a yardstick.

Legislatures and auditors, like the executive branch, emphasize the legal compliance, funding and budgeting aspects of the state business case. However, business cases in the legislative and auditing context differ from those in the executive branch, since they may include specific boilerplate provisions or committee charges or, in the case of GAO, inquiries by individual Representatives or Senators. Business cases in the legislative setting may have one or more of the following characteristics:

- Embrace elements based on explicit national standards established by standard-setting bodies, such as the National Institute of Standards and Technology (NIST); research and advisory service benchmarks; the U.S. GAO; professional associations such as NASCIO, and organizations that promote best practices
- Occur post-charter after a performance record has been established
- Involve issues that receive relatively sustained media attention
- Impact the credibility of the state IT organization
- Have direct funding and financial consequences now and/or in the future.

Recently, legislatures and auditors have applied IT business case elements to such areas as security, privacy, major IT projects, infrastructure and e-government.

# E. Beyond Business Case Basics: Suggested Solutions for Current Challenges

This section of the primer moves beyond business case basics to suggest solutions for challenges created by the economic downturn and budget cutbacks and for elevating the business case to create a sustainable enterprise IT and organizational business case. Ultimately, these suggested solutions are intended to demonstrate the integral nature of technology's role in helping states serve their citizenry.

While gubernatorial and leadership transition issues are important, they have been well covered by NASCIO, META Group, Gartner, the E-Government Executive Education Project (John F. Kennedy School of Government), the Center for Digital Government and the Council of State Governments. Thus, this primer does not detail suggested solutions for transition issues, although states can apply these suggested solutions to issues rooted in leadership transition. Additionally, because the challenge of maintaining the momentum of improved services is directly related to the type of budget strategies employed by a state, this primer addresses that issue through the recommended state-specific business case strategies discussed below.

The primer's suggested solutions are grounded in an assessment of state and federal practices, particularly those of OMB, GAO, the Federal CIO Council and the Performance Institute and its sponsors.[48]  Please see Appendices 3 and 4 for more details on these resources.

It is important to note that the federal government has a well-developed legal framework as well as procedures for assessment, design, implementation, operations and management activities that apply to both the executive and legislative branches.  The federal experience, in particular, can serve as a starting point for states in developing a sustainable business case.

## 1. Develop State-Specific Business Case Strategies and Presentation Materials for Fiscal Years 2004 and 2005

The following are strategies for developing a successful business case in Fiscal Years 2004 and 2005.  While the suggested strategies are integrated, they do not have to be implemented together. States can pick and choose which strategies would be helpful to implement.  These strategies are also appropriate for addressing other issues, such as general IT investments, gubernatorial transition and the maintenance of IT momentum and services.

- Develop a Fiscal Year 2004 and 2005 enterprise level IT business case that includes business cases for agency IT initiatives and the top ten to twenty major IT enterprise initiatives.
- Include in the enterprise IT business case, to the extent feasible, an assessment of Fiscal Year 2003 performance and a prognosis for Fiscal Years 2004 and 2005.
- Fully and openly address the needs of the Governor, other decision-makers and constituencies.
- Develop a business case framework that includes goals, strategies, initiatives and outcomes and addresses short and long-term gubernatorial priorities.

- Systematically integrate the enterprise business case with the business cases of key, publicly recognized and supported initiatives in such areas as security, education, workforce and economic development and intergovernmental partnerships.
- For ongoing and investment projects and programs, identify and describe their impact on state agencies, lines of services and public policy goals—in effect, document that IT is a cost of doing business and not just a program.
- For investment projects and programs (for example, cybersecurity, IT business process redesign and economic development), assess and document the long-term requirements and anticipated outcomes.
- Utilize business case criteria to group and prioritize projects or programs into those that can be reduced or eliminated, those that should be maintained and those that are required investments. Make the painful budget cuts now, but support the IT investments needed to protect future budgets in order to improve citizen services and state government productivity.[49]
- Develop parallel and phased approaches addressing today's and tomorrow's concerns simultaneously, such as the prioritization of cutbacks and maintenance of momentum and services.
- Obtain stakeholder support and sponsorship whenever feasible and incorporate it into business case presentations.
- Develop a reporting schedule and education program and, when appropriate, reach out to stakeholders, such as the Governor, the Governor's appointees and staff, legislators, employees, businesses and the media and public.
- Directly, immediately and continually address any credibility issues.

> **Tips for Creating an Enterprise IT Business Case**
>
> - Target the most appropriate range and number of IT value indicators.
> - Place the IT value indicators in the context of the full value indicator framework described in the "Business Case Element and Critical Success Factor Checklist" (Appendix 2) of this primer.
> - Remember that focusing on a few well-grounded indicators always is better than presenting a wide array of tentative claims.
> - Be timely. Present your business case to decision-makers well before resource and budget decisions are made.
> - Update your Fiscal Year 2004 and 2005 business case as new or more accurate information becomes available.

## 2. Develop a Full-Scope IT Assessment and Business Case Framework and Process

To develop a full-scope business case framework that describes technology's contribution to the improvement of state government and its services to citizens, states must develop an enterprise assessment framework, strengthen their enterprise architecture and establish an enterprise IT investment value management process. This involves an integrated approach of taking a combination of the following steps that is appropriate given a state's individual needs and environment.

### Develop an Enterprise Assessment Framework

- Develop a comprehensive, enterprise level technology assessment strategy and framework that is integrated with other existing assessment procedures.
- Make the enterprise assessment framework applicable at different levels, including the service, agency, enterprise and cross-jurisdictional or boundary levels.

- Ensure the framework measures all dimensions of e-government, such as credibility, constituent services, operational efficiency and political return.
- Base the framework on a balanced combination of quantitative and qualitative measures.
- Focus the framework on all service channels with an emphasis on IT-supported or enhanced channels.
- Make the framework dynamic in providing service delivery results across governmental service sectors.
- Use the framework to serve as a starting point for an enterprise level e-government strategy that will benefit the state government and its citizens.

### Strengthen the Enterprise Architecture

- Develop or strengthen the existing standards or enterprise architecture so that it can serve as a business reference model.
- Ensure that the enterprise architecture addresses governance, business, data, application and technology aspects.
- Use both NASCIO's[50] and OMB's[51] models as starting points.

### Establish an IT Investment Value Management Process

- Establish an enterprise IT investment management process commensurate with the existing degree of risk and potential gains and potential risk avoidance measures.
- Provide resources and management support commensurate with a priority enterprise level project, including timeframes and deliverables at least until the end of Fiscal Year 2005.
- Develop policies, guidelines and templates for an IT investment value management process to be used no later than for the Fiscal Year 2005 budget process.
- Align the business case framework, including goals, strategies, initiatives and outcome measures, with the business reference model as a standard assessment criteria, and identify other required assessment criteria.
- Use and integrate this framework with planning, budgeting and acquisition processes.
- Take proactive steps to bridge decision cycles, including budget processes and calendar and fiscal years.
- Develop reporting and educational goals, schedules and formats targeted to core decision-making processes and audiences, including the Governor, legislature, IT management, other agencies, customers and the media.
- Obtain gubernatorial support for a deliberate and accelerated shift to a higher maturity level in management tools, such as portfolio management, acquisition and sourcing, process redesign, multi-year resource allocation and human capital management.
- Make a state-specific determination about the most appropriate level of required legal authority. Options may include existing legal authority, an Executive Directive, an Executive Order or legislation.

## 3. Establish a NASCIO Repository of Business Case Practices

Establish a NASCIO (or other) clearinghouse of business case and IT value management methodologies, best practices and presentation materials. Such a clearinghouse should have a life cycle of at least two years and include the entire Fiscal Year 2005 budget cycle.

# Appendix 1: IT Business Case Value Indicators

Appendix 1 provides a listing of the value indicators of a sound business case for each of the five interrelated aspects of a business case:

- Ensuring the credibility of IT and the state IT organization
- Meeting constituent service needs
- Ensuring operational effectiveness and efficiency
- Supporting state policy and providing political returns and stakeholder benefits
- Ensuring enterprise value management.

The indicators are in alphabetical order within each area. Some of the indicators apply to more than one area. Unlike Appendix 2, it is not a checklist, but a directory of examples. No business case is expected to have all of the indicators.

This list of value indicators assimilates information from many sources, including Gartner,[52] META Group,[53] Giga[54] and NECCC,[55] which describe the practices, applications and methodologies associated with the indicators. "The Gartner Framework for E-Government Assessment" is among the most comprehensive overviews.[56]

## Ensuring the Credibility of IT and the State IT Organization

- **Audience:** Is the audience identified, and does the business case clearly address the needs and the value criteria of the targeted constituency?
- **Authors:** Are the authors clearly and accurately identified? Are their qualifications documented? Are any potential or vested conflicts of interest identified?
- **Business Plans and Decision-Making:** Is the initiative grounded in enterprise and agency business strategies and the priority-setting process?
- **Education and Outreach:** Does the business case build upon ongoing IT business case education and outreach efforts? Is the business case integrated with the IT business case education and outreach efforts?
- **Performance Track Record:** Have any adverse audit findings, poor performance reports (in the media, for example) or cost overruns been identified and explained? Have corrective actions been taken and, if so, have they been adequately described?
- **Pricing Levels:** Are the proposed costs and pricing levels competitive? Is the pricing for services justifiable? Is the procedure for determining this documented?
- **Quality of Analysis and Presentation:** Is the methodology appropriate and sound? Is the business case adequately documented? Is the presentation appropriate and of a professional quality?
- **Reality Check:** Has the business case been verified independently by customers, stakeholders, research and advisory services or other impartial observers?
- **Stakeholders and Customers:** Did customers and stakeholders participate in developing the business case? Are they formal underwriters? Will they provide public testimony, on the record, in the presentation?

## Meeting Constituent Service Needs

- **Accessibility:** Has there been an increase in access for persons with disabilities to agency websites and e-government applications?
- **Availability:** Does the initiative provide more services, more convenient times (for example, 24 hours a day, 7 days a week) or more locations?
- **Constituent-centricity:** Are services available or presented in terms of customer needs or perceptions of service needs?
- **Cost:** Are costs lower for citizens and customers? Have expenses and the difficulty of doing business with the government been reduced?
- **Information and Knowledge:** Has there been improvement in the qualitative, intangible value of access to and use of government-stored or government-related information and knowledge?
- **Multiple Channels:** Has access to high quality government information and services across multiple channels been improved?
- **Quality of Interactions:** Do citizens feel that they are receiving quality customer service when they conduct business with the government?
- **Single Point of Contact:** Has there been co-location of sites and/or services, either physically or electronically? Has there been co-location or integration of service channels? Can customers obtain services at a single site or in a single visit, interact with fewer people and/or take fewer procedural steps, including electronically?
- **Speed:** Is there faster turnaround and receipt of services?
- **Value:** Have new or improved services provided additional value to constituents and customers?

## Ensuring Operational Effectiveness and Efficiency

- **Accuracy:** Is there improved accuracy or reduced errors?
- **Best Practices:** Is there a transformation of agency operations by utilizing, where appropriate, best practices from public and private sector organizations?
- **Collaboration:** Is there a strong emphasis on promoting interagency collaboration, integration of related functions and internal electronic government processes, where collaboration would improve the efficiency and effectiveness of the processes?
- **Cost and Cost Avoidance:** Is there a reduction or avoidance of total costs or reduced unit costs?
- **Process:** Has there been improvement in internal processes, including greater integration with inputs and outputs? Has there been increased process efficiency and effectiveness?
- **Process Design or Transformation:** Has process transformation enabled a redesign or reengineering of procedures, reducing costs and improving performance?
- **Productivity:** Is there increased output per employee?
- **Real Time Enterprise (RTE) Services:** Is there a deliberate goal of providing real time services? Has progress been made? Has the progress been documented?
- **Risk:** Is there reduced uncertainty and risk and increased probability of success?
- **Staffing:** Has there been a reduction in headcount or FTEs (fulltime employee equivalents)?

## Supporting State Policy and Providing Political Returns and Stakeholder Benefits

- **Accountability:** Have government officials been enabled to obtain better measurement data about government operations and communicate that information to citizens?
- **Decision and Policy-Making:** Have government decision-makers been enabled to obtain better, real time data to produce better informed, improved policy decisions?
- **Digital Divide:** Is there greater access, capacity and coverage for broadband connectivity?
- **Economic Development:** Does the proposal support economic development initiatives?
- **Funding Mix:** Does the initiative enable a shift of costs from the state general fund to restricted funds or service fees?
- **Governmental Transparency:** Does the initiative increase citizen access to government information and processes (for example, e-democracy) and make government more transparent and accountable?
- **Inter and Intra-Governmental:** Does the initiative provide access to multiple levels of government?
- **Legal or Regulatory Compliance:** Does the initiative address state, federal or judicial mandates or requirements?
- **Participation:** Does the initiative increase the number of people who are eligible to participate in a particular program or receive services?
- **Partnerships and Sourcing:** Does the initiative realign workload and costs either between the public and private sectors or within the public sector in a more effective and efficient manner?
- **Policy Objectives:** Does the initiative support or help implement gubernatorial policies, including non-technology policy objectives, such as a cleaner environment, less poverty or lower crime rates?
- **Security and Privacy:** Is the initiative consistent with security and privacy provisions?
- **Total Government Costs:** Does the initiative cut overall government operating costs by streamlining government?

## Ensuring Enterprise Value Management

- **Budget Justification/Investment Planning:** Does the initiative clearly align to the enterprise's mission, IT capital plan and existing program performance measures?
- **Business Reference Model (BRM):** Is there a Business Reference Model or equivalent? Is the initiative in compliance with the BRM or equivalent?
- **Enterprise Architecture:** Is the initiative consistent and aligned with the overall enterprise architecture?
- **Goals and Strategic Framework:** What are the strategic objectives driving the proposal? Does the proposal support gubernatorial goals and priorities? Is it consistent with the overall IT business case framework? Is it consistent with the IT strategic plan?
- **Human Capital:** Does the initiative strengthen the knowledge, skills and capabilities of the agency and enterprise to manage information resources effectively?
- **Management Process Compliance:** Is the initiative in compliance or integrated with IT planning, budgeting, sourcing and other major resource allocation decision processes?
- **Partnership/Acquisition Strategy:** Are partner and vendor contributions clearly identified and managed for results?
- **Project and Program Management:** Are the initiatives supported by adequate internal systems of management (including project metrics) to ensure project success?

- **Stakeholder Input:** Does the initiative respond to and measure clearly identified expectations of stakeholders and customers?
- **Value Management:** Does the initiative have a project charter, and is it consistent with an enterprise level IT value management approach?
- **Vision:** How does the initiative make a contribution to the enterprise, long-term vision for transforming of government?

# Appendix 2: Business Case Element and Critical Success Factor Checklist

The checklist items are suitable for business case development and assessment as well as for presentation materials. This checklist is built upon a foundation for business cases that was established by Solution Matrix.[57] The checklist items are in two groupings, a business case format and content element checklist and a critical success factor checklist. The basic format and content element checklist highlights the key requirements of a business case. No single business case requires all of the checklist's elements, because a unique set of circumstances surrounds each individual business case. The critical success factor checklist is in the form of questions that describe the need, process or content for the recommended action or information.

## Business Case Element Checklist

### Introduction and Overview

- ☐ Describe issues and problem to be solved
- ☐ Specify the purpose and type of decision requested
- ☐ Specify recommended action(s) and prioritize if there are several actions
- ☐ Identify the author or source and date of issuance
- ☐ Include a free-standing Executive Summary
- ☐ Include an Introduction, which "positions" the business case and manages expectations

### Assumptions and Methodology

- ☐ Describe in detail the issue(s) and problem to be solved
- ☐ Describe the assumptions of the business case
- ☐ Identify the scope of the project, issues or program area or enterprise IT initiative
- ☐ Specify the time period covered by the analysis
- ☐ Identify the geography/location impacted
- ☐ Identify the organization, program, function or services impacted
- ☐ Specify the technology or technologies involved
- ☐ Identify data sources and describe the methodology

### Analytical Findings, Business Impacts and Benefits (Quantifiable and Non-Quantifiable)

- ☐ Describe the analysis and results
- ☐ Include a detailed description and documentation of the financial model and impacts
- ☐ State the bottom line costs or savings of the proposal, both annual and life cycle costs
- ☐ Identify non-financial impacts
- ☐ Describe service benefits
- ☐ Describe any resulting efficiencies and/or areas of effectiveness
- ☐ Detail policy and political benefits
- ☐ Identify the use of an IT Investment Value Management approach

### Sensitivity, Risks and Contingencies

☐ Describe the sensitivity analysis, identifying contingencies and dependencies upon which the assumptions are based

☐ Describe the risk assessment and findings, including business, management, technology and execution risks

☐ Detail risk mitigation provisions

☐ Identify scenarios, including those that are most likely, pessimistic and optimistic

☐ Describe the alternatives considered and why they were rejected

### Conclusions and Recommendations

☐ Reiterate findings and conclusions

☐ Include a detailed description of explicit recommendations

☐ Reiterate the impact on decision-makers' goals and priorities

## Critical Success Factor Checklist

☐ **Acquisition Strategy:** Is the initiative consistent with the state acquisition policies and strategies?

☐ **Alternatives and Best Practices:** Was an alternative solution assessment conducted and were best practices reviewed? Are the other, most viable alternatives, and the reasons for rejecting them, documented?

☐ **Architecture and Standards:** Is the initiative aligned and in compliance with the enterprise standards and architecture?

☐ **Audience:** To what audience is the business case targeted? Have the value indicators that are of particular concern to the targeted audience been identified and utilized?

☐ **Business Reference Model (BRM):** Is there a Business Reference Model or equivalent? Is the initiative in compliance with the BRM or equivalent?

☐ **Communications and Feedback:** Is the initiative part of a communications and education plan? Does it have feedback provisions?

☐ **Credibility:** Does the initiative increase the credibility of technology or the state IT organization, including the acceptance, trust and respect of others? What management, accountability and monitoring provisions are in place?

☐ **Failure to Act:** Have the consequences of failing to act been assessed and documented?

☐ **Goals and Strategic Framework:** What are the strategic objectives driving the proposal? Does the proposal support gubernatorial goals and priorities? Is it consistent with the overall IT business case framework? Is it consistent with the IT strategic plan?

- **Human Capital:** How does the initiative impact the number of FTEs? What is the impact on staff skills and competencies and skill and competency requirements?

- **Legal and Regulatory Compliance:** Does it help meet legal requirements (state or federal)? Is it a mandatory requirement?

- **Management and Program Management:** Is the initiative a part of the program and project management approach and does it include metrics? Is it, or will it be, managed according to project management or other performance-based standards or practices?

- **Partnership Strategy:** Are partner and vendor contributions and requirements clearly identified and managed for results?

- **Post-Project Reviews:** Is a process for ongoing performance assessment and post-project review in place?

- **Resource and Funding Mix Impact:** Have alternate funding approaches been identified or proposed? Does the initiative decrease or increase reliance on the state general fund? How does it protect or leverage short and long-term enterprise assets?

- **Security and Privacy:** Have security and privacy requirements been addressed?

- **Sensitivity and Risk Analysis:** Has a sensitivity or risk analysis been conducted? Has the degree of uncertainty or potential margin of error been documented?

- **Sourcing and Intermediaries:** Was an assessment of sourcing options conducted and documented? Is the proposal consistent with the state's sourcing strategy?

- **Stakeholder, Customer and Partner Involvement:** What people or stakeholders and how many constituents does this problem impact? Does the initiative respond to and measure clearly identified expectations of stakeholders and customers? Is there stakeholder support or sponsorship in making the business case?

- **Timing:** Is this the best time to make the business case? If there is no alternative, how are timing issues addressed?

- **Tradeoffs and Opportunity Loss:** If the actions are taken, what other problems will remain unsolved?

# Appendix 3: Compilation of State and Other Public Sector Approaches

Appendix 3 highlights state government's use of business case processes in the context of:

- IT strategic planning
- Project assessment, management and budgeting activities
- Legislative, audit and quality review processes.

Where applicable, this appendix cites federal examples as well.

## Use of the Business Case in IT Strategic Planning

### Colorado

**State of Colorado Statewide Information Technology Plan, Fiscal Years 2003-2006 (March 2002):** Colorado's plan has five sections: an introduction, a discussion of the state's vision, a statement of goals and objectives, a discussion of the plan's implementation and a conclusion. The IT plan has a strong, direct policy and process link with a goal of integrating planning and budgeting procedures, including a well-articulated goal, objective and project/activity structure. The integration of the plan's goal, objective and project/activity structure with business case success indicators is described in the plan's appendix (see pp. 17-26 of the plan). For more information, please contact Leroy Williams, CIO, Governor's Office of Innovation and Technology, at leroy.williams@state.co.us.

View the State of Colorado's Statewide Information Technology Plan, Fiscal Years 2003-2006 (March 2002) at:
http://www.oit.state.co.us/resources/docs/statewide_it_fouryearplan_fy03-06-02.pdf.

### Kansas

**The Kansas Strategic Information Management Plan (January 2002):** Kansas' plan has a succinctly packaged and well-structured goals and objectives section. The goal structure (see pp. 22-30 of the plan) is integrated with the Balanced Scorecard (BSC) approach. The plan details each goal area by objective(s), responsibilities, target date(s), measurement goal(s) and initiatives. The goal structure goes beyond IT services, with a strong resource management and economic development emphasis. The 2002 plan was preceded by a substantially more detailed plan in 1997, which was updated in 1999. For more information, please contact Rick Miller, Director, Kansas Information Technology Office, at Rick.Miller@da.state.ks.us.

View the Kansas Strategic Information Management Plan (January 2002) at:
http://da.state.ks.us/itec/simplan.htm.

## Missouri

**Information Technology Strategic Plan (August 2002):**  The plan is part of a cycle that also includes an annual IT report.  The strategic plan has very well-articulated objectives, measures and strategies identified under four key outcome areas with corresponding measures.  The key outcome areas are: (1) increased accessibility of government services (2) increased security/privacy (3) increased alternative funding sources, and (4) increased architectural compliance.  The annual State of the State Information Technology Report contains detailed profiles of major current, as well as future, initiatives and accumulated demand.  For more information on Missouri's Strategic Plan, please contact Tom Stokes, Technology Specialist, Office of Information Technology, at stoket@mail.oit.state.mo.us.  For more information on Missouri's State of the State IT Report, please contact Jan Grecian, Technology Specialist, Office of Information Technology, at grecij@mail.oit.state.mo.us.

View the Missouri Information Technology Strategic Plan (August 2002) and State of the State Information Technology Report at: http://www.oit.state.mo.us.

## North Carolina

**North Carolina State Government Statewide Initiatives and Strategies, 2003-2005 Biennium-State CIO's Recommended Approach for Managing Information Technology for a Better North Carolina (December 19, 2002):**  This document prescribes six initiatives and associated implementation strategies for expanding the statewide approach in the management of IT to assist state government in enhancing services, becoming more efficient and effective in operations and providing cost-justified security for assets and sensitive information.  Moreover, it is responsive to the current fiscal crisis and governmental realities.  For more information, please contact Tom Runkle, Chief Technical Architect, Division of Enterprise Technology Services, Office of Information Technology Services at tom.runkle@ncmail.net.

View North Carolina's CIO's Recommended Approach for Managing Information Technology for a Better North Carolina-Statewide Initiatives and Strategies (December 2002) at: http://www.its.state.nc.us.

## Texas

**Transforming Government Through Information Resource Management—Great Expectations (November 2001):** Every two years, the Department of Information Resources (DIR) produces a statewide strategic plan for managing information resources.   The 2001 State Strategic Plan's goal structure (see pp. 12-16 of the plan) includes goals, objectives and outcome measures.  Furthermore, DIR's Agency Strategic Plan for FY's 2003-2007 (June 2002) contains a current, contemporary formulation of policy issues, a highly readable format and flexible, umbrella goal concepts.  For more information, please contact Carolyn Purcell, Executive Director and CIO, Department of Information Resources, at
carolyn.purcell@dir.state.tx.us.

View Texas' Transforming Government Through Information Resource Management—Great Expectations (November 2001) at: http://www.dir.state.tx.us/pubs/ssp2001/index.htm.

View the Texas Department of Information Resources' Agency Strategic Plan for FY's 2003-2007 (June 2002) at: http://www.dir.state.tx.us/TIC/dir_info/dirpubs.htm.

<u>**Washington**</u>

**Washington State's Department of Information Services 2003-2005 IT Strategic Plan and Operating Budget:** The State of Washington's strategic plan and planning process are considered best practices. Washington received a 2001 NASCIO recognition award for its planning process. The 2003-2005 strategic plan is an exceptionally well-structured document that can be displayed and read at several levels of detail, which is an attractive feature for web applications. The plan's well-articulated goal structure (see pp. 13-34 of the plan) includes goals and strategies that are linked to the Governor's policy priorities as well as to the Department's goals. For more information, please contact Stan Ditterline, Senior Technology Management Consultant, Department of Information Services, at StanD@DIS.WA.GOV.

View Washington State's Department of Information Services 2003-2005 IT Strategic Plan and Operating Budget at: http://www.wa.gov/dis/role/strategicplan/.

# Use of the Business Case in IT Project Assessment, Management and Budget Processes

<u>**Arizona**</u>

The Government Information Technology Authority (GITA) has the statutory authority pursuant to A.R.S. 41-3504(A)(1)(g) to evaluate and monitor state agency IT investments. The Project Investment Justification (PIJ) program was created to fulfill stipulations in the GITA law requiring life cycle analysis and requiring agencies to demonstrate competence to carry out IT projects successfully. The GITA law also requires Executive Branch agencies to report the status of their PIJ to the Legislative Budget Office.

GITA must approve or disapprove of all projects above $25,000 and below $1 million. The state's Information Technology Authorization Committee approves projects of $1 million dollars or more. State Administrative Rule R2-18-101 specifies the topics for GITA's Policies, Standards and Procedures, which include the formulation of project justification and monitoring criteria and templates. For more information, please contact Frank Somers, Oversight Manager, Government Information Technology Agency, at fsomers@gita.state.az.us.

View Arizona's Project Investment Justification website at:
http://gita.state.az.us/ project_investment_justification/.

**Colorado**

The State of Colorado requires that agencies produce a Feasibility Study Report (FSR) for proposed IT projects costing $500,000 or more. The assessment includes cost and benefit calculations as well as an evaluation of alternatives. In recognition of the importance of accurately determining the cost of IT projects, the Governor's Office of Innovation and Technology (OIT) has prepared for the state's General Assembly a tutorial entitled "An Introduction to Information Technology Total Cost of Ownership."

The Office of State Planning and Budgeting also has IT-specific instructions (see Sections 8 and 9 and Attachment N of Colorado's overall budget instructions).

Finally, OIT, jointly with the Colorado Office of State Planning and Budgeting and Cisco, conducted a workshop in July 2001 on the IT business case. For more information, please contact Leroy Williams, CIO, Governor's Office of Innovation and Technology, at leroy.williams@state.co.us or Kristin Corash, Budget Analyst, Office of State Planning and Budgeting, at kristin.corash@state.co.us.

View Colorado's Feasibility Study Report Guidelines (FSRG) website at:
http://www.oit.state.co.us/resources/docs/feasibility_guide.pdf.

View the Colorado Office of State Planning and Budgeting's Instructions at:
http://www.state.co.us/gov_dir/govnr_dir/ospb/budgetinstructions.html.

View materials from Colorado's July 2001 Business Case Workshop at:
http://www.oit.state.co.us/resources/docs/CO_Bizcase_wkshp_rpt_frmwrkshp_v1.pdf.


**Iowa**

The State of Iowa's nationally recognized Return on Investment (ROI) Program identifies the requirements and merits of state IT projects by evaluating projects on ROI as well as other factors. A number of other states have based their ROI and other business case methodologies on the Iowa model. The Information Technology Department (ITD) works closely with the state budget office on ROI Program projects. For IT projects and new IT expenses, the ROI Program is now the standard business case evaluation model in Iowa. Agencies with projects that are funded by Iowa's Pooled Technology Fund or Reengineering Fund or agencies with any IT expenditures in excess of $100,000 must complete a ROI Program Application. For more information, please contact Paul Carlson, Chief Financial Officer, Information Technology Department, at paul.carlson@iowa.gov.

View Iowa's Return on Investment (ROI) website at: http://www2.info.state.ia.us/roi/index.html.

View Iowa's Pooled Technology Project Request Summary for Fiscal Year 2002 at:
http://www2.info.state.ia.us/roi/fy2002/2002_summary.html.

## Kansas

There are two primary approaches to IT business case assessments in Kansas. In agency budgets, a narrative justification for an IT expenditure is used, linking benefits to the programs benefited. Traditionally, such an approach is less a "business case" and more of a budget justification approach. The second approach is more formal and applies to agency submissions of IT project plans to the Chief Information Technology Officer for the agency's branch of government. Agencies must submit a narrative explanation, a disclosure of project funding by fiscal year and a list of benefits by fiscal year. Currently, a break-even analytical model is used to assess project business worthiness. Agencies cite intangible and tangible benefits, including cost avoidance and cash savings. For more information, please contact Rick Miller, Director, Kansas Information Technology Office, at Rick.Miller@da.state.ks.us.

View Kansas' IT Proposed Project Planning website at:
http://da.state.ks.us/kito/itprojectplanning.htm.

## Maine

The State of Maine's Strategic IT Plan incorporates specific project data relative to individual department or agency IT initiatives. Additionally, the CIO included detailed instructions for the submission of IT projects in connection with the official budget submission for the departments or agencies for the Fiscal Year 2004-2005 biennium. Expanding on the data collected for the Strategic IT Plan, these instructions included an assessment of IT projects based on a ROI model. The model is designed to determine how the IT projects fit into the overall Strategic IT Plan, the funding necessary to complete the projects and the ROI for each IT project.

The guidelines and worksheets require:

- A project outline and strategic links
- Project details, including a project plan, relevance to agencies and technical capabilities
- Funding requirements
- ROI assessment
- Other costs and benefits.

The intent of the ROI model is to help determine which projects are the most cost effective to state government. It is clear that due to intangible benefits, state and federal mandates and other factors, some projects will yield a low or even negative ROI. Despite this, some of these projects still need to be completed. The purpose of the model is not to stop projects with negative ROIs. However, these projects will likely come under a higher level of scrutiny as they go through the budget process. For more information, please contact Don Hildebrand, Information Technology Management Analyst, Office of the CIO, at don.hildebrand@Maine.gov.

View Maine's Strategic IT Plan at: http://www.Maine.gov/CIO.

**Massachusetts**

The Commonwealth of Massachusetts utilizes a centralized capital IT bond for major IT initiatives. The state legislature approved a $300 million capital IT bond bill in June 2002. This funding is anticipated to be expended over a three-to-four year period and is administered by the Commonwealth's Information Technology Division (ITD). All three branches of state government, as well as constitutional offices, may apply to ITD to receive funding for their IT initiatives. These applications are in the form of an "Investment Brief," which presents the business case for the project. Its elements include a complete project description, risk assessment, business improvement and discussion of integration with the state's IT strategy. Additionally, the Investment Brief requires both Total Cost of Ownership (development cost + operating cost) and Return on Investment (ROI) as well as contributions for development from other types of funds an agency may have available, including operating, grant or federal funds. This program is maturing and considered a work in progress. Analysts from ITD work with the agencies in the development stage of the Investment Briefs as well as throughout the approval process. For more information, please contact Walter K. Brownell Jr., Manager, Investment Planning and Oversight at walter.k.brownell@state.ma.us.

View the Commonwealth of Massachusetts' ITD Investment Planning website at:
http://www.state.ma.us/itd/spg/services/itplanning/itplanning.htm.

**Michigan**

The Michigan Department of Information Technology (MDIT) assists agencies in achieving excellence in project performance by providing and promoting project management knowledge and expertise. The objective is to ensure repeatable and predictable success of all information technology projects. A successful project is anticipated to be completed within the agreed upon timeframe, within budget and with the anticipated quality. The project management services include: Project Management Methodology (PMM) development and improvement; Project Management Training coordination; Project Management Tool coordination and mentoring and other project-based job aids, such as Project Health Checks and Project Manager Mentoring.

Michigan's Project Management Methodology was adopted as a state standard in May 2000 and was revised in May 2001 to reflect the experiences and lessons learned in using the prior release. Michigan's PMM has been incorporated in business case assessment requirements and procedures in a number of other states. PMM consists of three components: the full PMM, the summarized PMM Desk Reference (for day-to-day use) and the Project Management templates, including templates for Charters, Change Requests, Communication Plans and Risk Management Plans. The PMM is revised, at a minimum, every 24 months to reflect new processes in use within Michigan's government.

The project screening process phase of the methodology includes a prioritization process that uses cost-benefit and risk analysis. The cost-benefit analysis is a comparison of benefits from completing the project versus the outcomes of not instituting the project. The risk analysis attempts to quantify concerns that could possibly impede project progress and deter outcome. The Cost Benefit Analysis Template includes an assessment of alternatives and a life cycle cost and benefits analysis that also addresses risk sensitivity analysis. For more information, please contact Dawn Brennan at brennand1@michigan.gov or Dan Buonodono at buonodonod@michigan.gov.

View Michigan's Project Management Methodology, as well as other project management information at: http://www.mi.gov/dit/0,1607,7-139-18391_22016---,00.html.


**Minnesota**

Minnesota's Office of Technology reviews proposed state agency IT projects from an enterprise perspective, provides the legislature with information on those projects and recommends projects for the Governor's budget. Minnesota has a Strategic Information Resource Management Plan (SIRMP) process. Agencies with projects to be included in the Governor's budget must complete a SIRMP. Other uses of the SIRMP include:

- Comparing the agency SIRMP and proposed projects with IT budgets (note any project initiated needs to be in the SIRMP)
- Identifying projects early to the state Project Management Office, which tracks the progress of projects
- Verifying consulting and purchases against the SIRMP
- Ensuring architectural adherence
- Demonstrating benefits (ROI)
- Re-engineering.

Each project identified within a SIRMP is expected to contain a business case document. The business case is structured to include the following:

- A Project Definition, including business objectives; agencies' intentions, values and services; and project values, focus and context
- A Proposed Solution and the Project's Desirability, Feasibility, Sustainability and Alternate Solutions Considered, as well as the Project's Benefits, including service improvements and cost savings/ROI (such as cost avoidance, hard dollar savings, increased volume and time savings)
- A Description of the Architectural Fit
- A Description of the Project Funding
- A Description of the Project Characteristics

For more information, please contact Greg Peterson, Planning Director, Office of Technology, at Greg.Peterson@state.mn.us.

View Minnesota's Fiscal Year 2004-2005 IT Budget Instructions at:
http://www.budget.state.mn.us/budget/operating/200405/instructions/it_changeitem.pdf.

View Minnesota's Business Case Template at:
http://www.state.mn.us/mn/externalDocs/Business%20Case_031202_Business_Case_Template_v.%202.1_072502.doc.

## Missouri

A program to determine the costs and benefits associated with Missouri's business projects is underway. The Missouri Value Assessment Program (MoVAP) framework will be utilized across all state agencies for IT projects associated with appropriation requests. This will provide a common, repeatable format that is important to the appropriation process by contributing to fully informed decisions. With its common budget and benefit methodology, MoVAP creates an objective and measurable view of proposed business projects. An important component of this program is its integration into the entire project management discipline practiced by Missouri's IT community. An initial draft has been developed, and a pilot program is currently underway. For more information, please contact Jan Grecian, Office of Information Technology, at grecij@mail.oit.state.mo.us.

View Missouri's Office of Information Technology web page under the category of "Business Solutions" at: http://www.oit.state.mo.us.

## New Mexico

Agencies submitting special IT budget requests to New Mexico's Information Technology Management Office (ITMO) are required to submit a cost-benefit analysis. Special IT budget requests include expansions, replacements or upgrades to agency hardware, software, operating systems or networks as well as inter-agency IT initiatives. For these projects, agencies must prepare a detailed project description and business case. New Mexico's cost-benefit analysis examines a project's Total Cost of Ownership (TCO) over its entire life cycle. For more information, please contact Moira Gerety, CIO, State of New Mexico, at moira.gerety@state.nm.us.

View New Mexico's Fiscal Year 2003 IT Plan Instructions at: http://cio.state.nm.us/fy03PlanInstr.pdf.

## New York

The New York State CIO, through the Office for Technology (OFT), applies business case analysis at three levels for technology investments: Enterprise Review of Internal Agency Projects; Enterprise Initiatives; and Internal, Agency-Specific, Project Modeling.

For the Enterprise Review of Internal Agency Projects, OFT evaluates State agency IT project investments that meet certain threshold criteria. OFT employs several mechanisms, two of which are embodied in State IT policies. First, Technology Policy P02-001 requires state agencies to internally develop written business case documentation in support of standards selection. The mechanism for reporting a request for exemption is a "Notice of Intent to Purchase," described below. Second, Technology Policy 96.2 and 96.2A require that all agency-specific IT projects (non-enterprise-wide), which exceed certain defined monetary thresholds, file a Notice of Intent to Purchase (ITP). The ITP requires a project description; a description of alternatives sought; cost/benefit information; a return on investment (ROI) calculation and a business justification.

Finally, where central funding is available to support projects that have statewide importance, a business case analysis is required to justify central funding. A detailed Request for Funding, a Project Proposal and a Business Case are required of all submissions. The business case is reviewed by an executive body that evaluates the merits on an enterprise basis.

For Enterprise or Statewide Initiatives that the State CIO or OFT determines are appropriate, a central team of policy analysts and technology experts is deployed. The team, in concert with identified stakeholders, follows a prescribed methodology designed to quantify the current embedded base, research and evaluate marketplace leaders and alternatives, gather stakeholder data and input, facilitate an enterprise analysis of those alternatives (including the cost of migration and retraining to new technologies, current NPS expenditures and other quantified analysis of current vs. proposed direction) and prepare recommendations for the State CIO. Of assistance in this process is OFT's "Technical and Business Case Template and Policy Checklist."

Regarding Internal, Agency-Specific Project Modeling, OFT encourages State agencies to utilize business case analysis for major IT investments. Several models are in use among the agencies that provide a consistent framework for management decision-making and internal triage of IT spending. These include: OFT's Project Management Guidebook, which contains a business case template, and the Center for Technology in Government's model for Integrated Justice Systems, which several State agencies are using. For more information, please contact, Susan Zeronda, Deputy Director of Strategic Policies, Acquisitions and E-Commerce, Office for Technology, at staat@oft.state.ny.us.

View Technology Policy P02-001 at:
http://www.oft.state.ny.us/policy/NYSTechPolicyP02-001.htm.

View Technology Policy 96.2 at: http://www.oft.state.ny.us/policy/tp_962a.htm.

View New York's website on Project Management at:
http://www.oft.state.ny.us/pmmp/pmo.htm#methodology.

View the Business Case Template at:
http://www.oft.state.ny.us/pmmp/templates/ProjectOrigination/BusinessCase.doc.

View OFT's Project Management Guidebook at:
http://www.oft.state.ny.us/pmmp/guidebook/Origination.pdf.

View the Center for Technology in Government's Integrated Justice Systems model at:
http://www.ctg.albany.edu/resources/abstract/abdoj_justice.html.


**North Carolina**

Agencies are required to submit biennial IT plans, and the State CIO must review and certify information technology expansion budget requests over $100,000. The State CIO's assessment is performed from a technology perspective, and fiscal and political reviews occur later in the process for preparing the Governor's biennial budget package for submission to the General Assembly.

Major IT projects are required by legislation to be certified by the Information Resource Management Commission (IRMC). In September 2002, the commission approved a comprehensive document to itemize and describe the key factors contributing to the success of statewide IT projects, which are large-scale, significant-cost and high-risk endeavors. The document is titled "Implementation Framework for Statewide Information Technology Projects—Best Practices and Standards." Chapter 3 covers the use of business cases in the three phases of the life cycle of IT investments (planning, budgeting and funding; project certification and implementation; and operation maintenance and retirement). Chapter 4 provides the 10 best practices and 35 standards for project certification and implementation. The first best practice (develop a sound business case) covers the concepts of business cases and their use for justifying and managing major IT projects.

Submission requirements for project certification by the IRMC include a business case. North Carolina has a Format-Business Case Methodology template to assist agencies. The state also has a business guidance document geared to e-government applications called "Guidance, Best Practices and Approaches for Developing E-Government Applications." For more information, please contact Tom Runkle, Chief Technical Architect, Division of Enterprise Technology Services, Office of Information Technology Services, at tom.runkle@ncmail.net.

Also of interest is a 2001 study conducted under the auspices of the IRMC to assess the use of business cases in the certification of major state IT projects. The study found that the use and quality of business cases submitted by agencies was uneven, and it recommended that the state undertake a project to provide additional education, direction and tools for preparing and submitting business cases. The report contains information on business cases and their uses. For more information, please contact Woody Yates, IRMC, at woody.yates@ncmail.net.

View the Instructions for Agency IT Plans and IT Expansion Budget Requests (found at the right margin of the Web page under Expansion Budget Instructions) at: http://www.its.state.nc.us.

View the Implementation Framework for Statewide Information Technology Projects (found under Policies and Standards) at: http://irmc.state.nc.us.

View "Format-Business Case Methodology Template" (found under Policies and Standards, Project Reporting) at: http://irmc.state.nc.us.

View "Guidance, Best Practices and Approaches for Developing E-Government Applications" (found under Policies and Standards, Project Reporting, E-Government Policies) at: http://irmc.state.nc.us.

View North Carolina's October 2001 study, "IT Investments—Metrics for Business Decisions" (found under "This Just In…", IRMC Initiatives) at: http://irmc.state.nc.us.

**North Dakota**

North Dakota's Information Technology Department (ITD), under ITD Standard STD009-98, requires that agencies submit a business case for large projects to ITD following management approval and prior to project start up. Agencies with large projects ($250,000 or greater in one biennium or $500,000 or greater total project cost) are required to use the Business Case Guidelines. Agencies with smaller projects are encouraged to use them.

The business case is required to address business requirements, include a cost benefit analysis, perform a risk assessment and demonstrate agency commitment. The guidelines have been developed to help agencies document the business case for large projects. ITD reviews each agency's business case and provides feedback to the agency. North Dakota recently has started performing post-project management reviews to measure the success of its projects. A key component includes a review of the cost-benefit analysis portion of the business case to see if the anticipated benefits have been realized. For more information, please contact Dirk Huggett, IT Business Analyst, Policy & Planning Division, Information Technology Department, at dhuggett@state.nd.us.

View North Dakota's Large Project Oversight website at:
http://www.state.nd.us/itd/planning/lar-pro-rep.html.

View North Dakota's Business Case Standard at:
http://www.state.nd.us/ea/standards/standards/approved/std009-98.rtf.


**Pennsylvania**

Pennsylvania's Office of Information Technology (OIT) has an Investment Review Program (IRP), which allows OIT to evaluate the merits of proposed IT projects costing $100,000 or more. This assessment is carried out jointly with the State Budget Office. Criteria include assessing project value (e.g., service delivery, public safety, cost savings, etc.), whether a project is mandated or optional and/or complies with statewide IT standards and whether it promotes the use of IT within state agencies and across the Commonwealth to enhance service, public safety and economic development. While OIT does not require a formal ROI calculation, it does recommend it.

For more information, please contact Sandra Mateer, Director, Governor's Office of Administration, Office for Information Technology, at smateer@state.pa.us.


**Tennessee**

Tennessee's Cost Benefit Analysis Methodology examines the costs, benefits and risks of large IT projects generally costing $100,000 or more. This process assesses business needs, benefits, risks, technical details, costs, payback and funding. Tennessee's planning process builds on the Business Strategic Planning Process, feeds into the formal budget cycle and provides the detail for financial and project planning. A priority is placed on meeting business needs and identifying solutions for such needs. Other factors that are considered include: enhanced services,

meeting citizen and customer needs, supporting the agency's strategic business plan, supporting the administration's priorities, the availability of funds and a project's financial return in comparison with other projects competing for funding. For more information, please contact Richard Rognehaugh, Deputy Commissioner and CIO, Office of Information Resources, at richard.rognehaugh@state.tn.us.

View Tennessee's Cost Benefit Analysis Methodology at:
http://www.state.tn.us/finance/oir/prd/cbaguide.pdf.

View Tennessee's Information Systems Planning Process at:
http://www.state.tn.us/finance/oir/prd/ispprocess.pdf.


### Texas

A cost benefit analysis is required on any project over a threshold that is tied to an agency's IT budget (e.g. an agency with a small IT budget may have a $10,000 threshold, the largest agency, $1,000,000). Qualitative benefits may contribute to the robustness of the business case but must be tied to performance measures that are a part of the biennial budget process. Every budget submission contains performance measures that are categorized by strategy. A project should tie performance measures to one of the strategies and improve on one or more of those performance measures. Other criteria may include a discussion of alternatives, whether it impacts other agencies, the total cost and duration of the project and how it fits into the state strategic plan for information resources.

Although projects that span multiple budget cycles will appear, the legislature increasingly asks for phased deliverables that demonstrate value and are productive between budget cycles before agreeing to fund the next phase. If an agency successfully navigates the appropriations process and secures the necessary funding and authority, the agency may be subject to a quality assurance process before, during and after the project. The State Auditor and legislative budget office are the QATeam (Quality Assurance Team). Once a project is complete, the QATeam will ask for a Post Implementation Evaluation Report detailing an agency's accomplishments. For more information, please contact Carolyn Purcell, Executive Director and CIO, Texas Department of Information Resources, at Carolyn.purcell@dir.state.tx.us.

View details of the Texas Quality Assurance Program at:
http://www.dir.state.tx.us/oversight/quality.htm.

### Utah

Utah's online planning tool, PlanIT, assists agencies in calculating the ROI for state IT projects. PlanIT allows for the tracking of state IT investment portfolios at both the agency and state enterprise levels. The assessment process involves estimation of state government and citizen benefits as well as opportunity value and risk and loss avoidance. Other assessment factors include the project's rationale, project administration and management and the proposed technology to be used. PlanIT is a secure application that requires a login and is password-protected.

Utah has also established a new process for initiating enterprise projects through the Governor's Cabinet as the designated governing body for IT and e-Government in the executive branch.

The process has 3 stages: Vision, Scope and Charter. In the Scope stage, the business case is developed and presented to the Governor's Cabinet for review and approval. When an enterprise project is approved, a charter is signed; the charter represents a memorandum of understanding among participating agencies and obligates them to provide specific resources that may include financing, personnel, space and capital. Utah currently is reviewing and more closely integrating its PlanIT provisions (including ROI) with other planning and assessment procedures to ensure that there is an enterprise approach that covers the full range of projects and requirements.

For more information, please contact Jeannie Watanabe, State Data Administrator, Office of the CIO, at jwatanabe@utah.gov.

## Virginia

Virginia is introducing a new Project Management Guideline as a follow-on to the recently published Commonwealth of Virginia Policy on Technology Management. The Virginia Technology Management Policy is based on Information Technology Investment Management (ITIM) principles and best practices. The new Project Management Guideline expands upon the investment decision process contained in the policy and provides a framework for improving project management processes, including project initiation, planning, execution, control and closure.

To support investment management and project initiation processes, Virginia has developed a series of templates for project initiation focusing on the business case for the planned investment. These templates, part of the Project Management Guideline, were published for stakeholder review and comment on Virginia's Commonwealth Project Management Website at the end of January 2003. For more information, please contact Mike Sandridge, Technology Management Specialist, Department of Technology Planning, at msandridge@dtp.state.va.us.

View Virginia's Policy on Technology Management at:
http://www.dtp.state.va.us/pubs/dtp-pubs.htm#policies.

View Virginia's Commonwealth Project Management Website at:
http://www.dtp.state.va.us/CPM/index.shtml.

## Washington

Washington uses a portfolio management approach in a collaborative effort with the Office of Financial Management and Budget. The portfolio management approach facilitates the alignment of technology investments with agency business needs and the analysis and proper mitigation of IT investment risks. Instructions for information technology budget requests are contained in Section 11 of the Office of Financial Management and Budget Instructions entitled "Information Technology Portfolios." Section 11 references Information Services Board (ISB) policies on portfolio management. The specific standard is the "IT Portfolio Management Standard" that describes three levels of investments, based on the severity and risk of a proposed investment. Levels 1, 2 and 3 are based on the severity and risk of a proposed investment. Level 3 investments have a high severity and high-risk rating and require a feasibility

study and approval of the ISB. Level 2 investments require approval of the Director of the Department of Information Services, but a feasibility study is not required. Level 1 investments are delegated to individual agencies for approval and management. For more information, please contact Stan Ditterline, Senior Technology Management Consultant, Department of Information Services, at StanD@DIS.WA.GOV.

View Information about Washington's IT Portfolio Management at: http://www.ofm.wa.gov/budinst03-05/part2/section11.pdf.

View Information about Washington's IT Portfolio Policy, Standards and Guidelines at: http://www.wa.gov/dis/portfolio/.

## Wisconsin

In 1996, the Wisconsin Department of Administration, Division of Technology Management, developed a Standard IT Costing Method for evaluating and measuring the cost of information technology projects and the cost savings to be realized by the state as a result of implementing IT projects. The process was used for funding applications for IT projects in a variety of budget processes, coordinating the strategic IT planning process with budget processes and assigning appropriate roles to staff from business, IT and budget areas in those processes. Costing methodology items included: project costs, tangible offsets or savings, revenue impacts, productivity improvements, avoided costs, life-cycle considerations, intangible benefits and measures for savings and benefits. The methodology had a well articulated cost and benefit element framework. For more information, please contact Susan Puntillo, Administrator, Division of Technology Management, at susan.puntillo@deg.state.wi.us.

## Fairfax County, Virginia

Fairfax County, Virginia, has highly developed IT management controls and processes, including integrated approaches to strategic planning, architectural planning and execution, application life cycle standards and IT project management.

The Senior IT Steering Committee establishes the funding priorities for technology projects. According to the Committee's priorities, projects must provide one or more of the following benefits:

- Convenient access to information and services
- A high level of responsiveness to customer requirements
- Management of county information assets
- Management of county technology assets
- Management of county human resource assets

Early in the process, agencies submit both a business and a technical viability analysis for each proposed project. The business analysis, reviewed by staff from the Department of Management and Budget (DMB), includes factors such as business objectives, return on investment (cost savings, cost avoidance, enhanced revenue, non-quantifiable service benefits, staff savings and staffing efficiencies), indicators that measure success, estimated costs, business

related risks and alternatives to the proposed project.

The technical analysis, reviewed by staff from the Department of Information Technology (DIT), includes a proposed system architecture and an assessment of its compatibility with the County's Technical Architecture Standards, a statement of impact on existing systems, data conversion and electronic interface requirements and staffing requirements. After review by DMB and DIT, recommendations and suggestions for improvements are made to the project sponsors. After the final project proposals are submitted, interviews are conducted and DIT and DMB senior management conduct their final reviews. Funding consideration is guided by the five information technology priorities established by the IT Senior Steering Committee.

From this interview process, a recommendation for project funding is created. The Senior IT Steering Committee and the Information Technology Policy Advisory Committee (ITPAC, which is a private sector team appointed by the County Board of Supervisors to work with DIT) then review the recommendation and discuss possible revisions with staff. After review and any mutually agreed to revisions, the ITPAC writes a letter endorsing the proposed project and funding to the Board of Supervisors. The Board makes the final decision on funding based on this endorsement. For more information please contact David Bartee, IT Project Portfolio Manager, Fairfax County, at david.bartee@fairfaxcounty.gov.

View information about Fairfax Virginia's Business Case Approach at:
http://www.fairfaxcounty.gov/gov/dit/itplan.htm.


## U.S. Office of Management and Budget (OMB)

Several recent management reforms, including revisions to the Paperwork Reduction Act (PRA),[58] the Clinger-Cohen Act (formerly the Information Technology Management Reform Act),[59] the Government Performance and Results Act (GPRA)[60] and the Chief Financial Officers (CFO) Act,[61] have introduced requirements emphasizing the need for federal agencies to significantly improve their management processes, including how they select and manage IT resources. For instance, a key goal of the Clinger-Cohen Act is that agencies should have processes and information in place to help ensure that IT projects are implemented at an acceptable cost, within reasonable and anticipated timeframes and are contributing to tangible, observable improvements in mission performance.[62] In addition, the recently enacted "E-Government Act of 2002" further strengthens the management framework.[63]

Many of the operational requirements for the laws are specified in OMB Circular A-11 Exhibits 53 and 300[64] and OMB Circular A-130.[65] Exhibit 300 of Circular A-11 requires information on plans and justifications for major IT acquisitions, and Exhibit 53 of Circular A-11 calls for an annual report in IT Investment Portfolios. The FY 2004 budget process gives priority to multi-agency IT investments and joint business cases.

**Exhibit 300:** Exhibit 300 is designed for several purposes. First, Exhibit 300 coordinates OMB's collection of agency information for the reports that it submits to Congress as required by the Federal Acquisition Streamlining Act of 1994 (FASA)[66] and the Clinger-Cohen Act of 1996. A second purpose of Exhibit 300 is to ensure that the agencies create business cases for their investments and that their business cases are tied to their mission statements, long term goals and objectives and annual performance plans, which are developed pursuant to the

Government Performance and Results Act.  Finally, Exhibit 300 attempts to ensure that agencies fully implement security, privacy, records management and electronic transactions policies.

Exhibit 300 also includes business case scoring criteria.  Some of the criteria that the business case scoring includes are as follows:

- Compliance with the President's Management Agenda
- Compliance with federal acquisition strategy
- Strong and resourced program management
- Compliance with federal enterprise architecture
- Analysis of alternatives
- Risk assessment and management provisions
- Performance goals and measures linked to the annual performance plan
- Addressing security and privacy requirements
- Performance-based management system
- A life-cycle cost formulation.

**The Federal Enterprise Architecture:** The use of the Federal Enterprise Architecture is a pivotal step in building federal agencies' business cases.[67] The Federal Enterprise Architecture is a business-based framework for cross-agency, government-wide improvement.  It provides OMB and other the federal agencies with a way of describing, analyzing and improving services to citizens.  The foundation of the Federal Enterprise Architecture is the Business Reference Model,[68] which describes the government's lines of business and its services to the citizens in a way that is independent of the federal agencies and entities involved in providing services. This business-based foundation provides a common framework for improvement in a variety of key areas including:

- Budget Allocation
- Horizontal and Vertical Information Sharing
- Performance Measurements
- Budget/Performance Integration
- Cross-Agency Collaboration
- E-Government
- Component-Based Architectures.

<u>**Selected Federal Business Case References and Resources**</u>

The following resources may be of help to those readers who want to learn more about the federal government's approach to building better business cases:

- OMB Circular A-11, Exhibits 53 and 300 Revised Reporting Instructions for FY 2004, Office of the Chief Information Officer, U.S. Department of Energy, <http://cio.doe.gov/ITReform/Planning/Exhibits/2004.htm>.  A number of other federal agencies have comparable materials.

- "Performance and Management Assessment: Budget of the United States Government for Fiscal Year 2004," U.S. Office of Management and Budget, <http://www.whitehouse.gov/omb/budget/fy2004/pma.html>.  This utilizes the Executive Branch Management

Scorecard to track how well the departments and major agencies are executing the five government-wide management initiatives, including the Expanding the Electronic Government initiative. The scorecards for these initiatives are available at: <http://www.results.gov/agenda/scorecard.html>. Note that, while the "Performance and Management Assessment" document does not contain an enterprise level IT section, the Expanding Electronic Government initiative is one of the management goals and each department has an "expanding electronic government goal." See page 6 of the "Performance and Management Assessment" for a description of the scorecard criteria.

- "Enterprise Integration Toolkit," Deskbook Transition Information Center, Defense Acquisition University, <http://deskbooktransition.dau.mil/DoDToolkitHTML/gen/Tools/INITIATION/04_General%20Purpose%20Business%20Case%20Guide%20and%20Outline.htm>, which includes an excellent compendium of high level business case overview materials, as well as detailed instructions and guidelines such as the "Technology and Application Development Business Case."

- "Creating A Performance Based Electronic Government: Fiscal Year 2002 Progress," the Performance Institute and its sponsors Fujitsu Consulting, the Council for Excellence in Government, the National Academy of Public Administration, the Progressive Policy Institute, the American Society for Public Administration and the Reason Public Policy Institute, October 30, 2002, <http://www.performanceweb.org/research/egovernmentreport.pdf>.

- "A Summary of First Practices and Lessons Learned in Information Technology Portfolio Management," Best Practices Committee, Federal CIO Council, March 2002, <http://www.cio.gov/documents/BPC_portfolio_final.pdf>.

## Use of the Business Case in Legislative Reviews, Audits and Quality Assurance

### North Carolina

State statutes mandate that the Information Resource Management Commission (IRMC) certify and monitor major IT projects. Under its process for project certification, progress reporting and quality assurance, IRMC has adopted an extensive array of policies, principles, best practices and standards for performing this function. For more information, please contact Tom Runkle, Chief Technical Architect, Division of Enterprise Technology Services, Office of Information Technology Services, at tom.runkle@ncmail.net.

View North Carolina's Information on Project Certification, Estimation and Project Reporting (under Policies and Standards) at: http://irmc.state.nc.us.

### Virginia

The Virginia General Assembly's Joint Legislative Audit and Review Commission conducts periodic IT audits. A recent audit of major information system projects involved a survey of state agencies, review of other states' practices, as well as a literature and document review.

The process and findings illustrate a legislative perspective on IT performance and credibility and the role of the business case. The findings and recommendations are not unique to Virginia.

The auditors identified three steps to creating cost-effective projects: developing a business case, securing support from executive leadership and managing system development properly. The development of the business case was identified as a critical first step in the development of IT systems.

View information on the Virginia General Assembly audit at:
http://jlarc.state.va.us/Meetings/December02/SystemsPrint.pdf.


## Texas

The Quality Assurance Team (QATeam) is mandated by the Texas Legislature to oversee major information resource projects within Texas state agencies and universities. The QATeam consists of staff from the State Auditor's Office and the Legislative Budget Board.

QATeam has produced Internal Quality Assurance Guidelines that are intended to serve as models for agencies to adopt and modify in their creation of internal quality assurance programs. Major sections include descriptions of processes for analyzing and managing risk, project planning, determining the benefits and costs of projects, project monitoring and control, post-project review and evaluating the effectiveness and efficiency of projects.

View the Quality Assurance Team's policies and guidelines at:
http://www.dir.state.tx.us/oversight/quality.htm.


## U. S. General Accounting Office (GAO)

Immediately after the passage of the Clinger-Cohen Act, GAO and OMB developed guidance that brought structure to agencies' development of business cases and provided a unified basis for the communication and evaluation of an agency's IT investment practices. In addition, GAO has also addressed maximizing the success of the CIOs.[69]

GAO has developed a number of guides and evaluation criteria that are useful in designing and implementing IT investment management practices. For example, "Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making"[70] provides a way to evaluate how well federal agencies select and manage their IT resources. This GAO guide also assists agencies in identifying areas in which improvement is needed. The guide assesses agencies in three areas:

- The processes that an organization uses to select, manage and evaluate its IT investments
- The data that agencies use to make IT decisions
- The IT decisions that are made using the defined processes and data.

GAO's "Executive Guide: Measuring Performance and Demonstrating Results of Information Technology Investments"[71] also provides advice on using the balanced scorecard approach in the IT domain. Although other resources have been published since GAO's 1998 publication

of the above-referenced guide, it remains a useful introduction to IT performance measures.

GAO's IT Investment Management (ITIM) Framework[72] describes a five stage maturity approach to IT investment management. The framework is designed to address the select-control-evaluation model described in a previous GAO publication[73] as well as the Clinger-Cohen Act.[74] The ITIM Framework expanded GAO's previous model significantly, but remained technology-neutral to preserve its relevance for agencies of any size. Although the ITIM Framework has remained in an exposure draft form, a revision currently is under development. More than a dozen federal agencies have used the ITIM Framework in designing their IT investment management processes. Moreover, since 2000, GAO has used the ITIM Framework as its evaluation criteria for investment management evaluations for several federal agencies, including the Immigration and Naturalization Service and the United States Postal Service.[75]

More recently, GAO has discussed federal business cases at a higher level in its report on the selection and implementation of OMB's 24 e-government initiatives.[76] The primer discusses the GAO report in more detail in "Government IT Business Case Basics" (Section C). Also of interest to states are the GAO accountability reports, which are issued every two years. They identify areas at high risk due to either a greater vulnerability to waste, fraud, abuse and mismanagement or major challenges associated with economy, efficiency or effectiveness. The findings and recommendations in many instances are applicable to state government, including IT management.[77]

For more information, please contact Elizabeth Roach, Senior Information Systems Analyst, Information Technology Issues, GAO at RoachE@GAO.GOV.

# Appendix 4: Notes on References and Resources

The references and resources are listed in inverse chronological order. Groupings of references and resources are identified for selected areas such as business case basics, gubernatorial and organizational transition, economic downturn and budget cutbacks, IT investment value management and enterprise level analyses and assessments.

**Business Case Basics:** 5, 16, 20, 30, 36, 42, 46, 50, 51, 63, 64
**Gubernatorial and Organizational Transition:** 1, 2, 6, 7, 13, 14, 25, 32
**Financial Downturn and Budgeting:** 4, 7,8, 11, 13, 18, 22, 31, 45, 47, 58, 60, 65, 66
**Value Indicators and Metrics:** 5, 9, 23, 28, 42, 48, 50, 51, 62
**IT Investment Value Management:** 10, 15, 20, 21, 26, 27, 29, 30, 33, 41, 42, 43, 52, 55, 57, 59, 61, 64
**Enterprise Level IT Management Analyses, Assessments and Guidelines:** 3, 12, 13, 15, 24, 33, 35, 37, 38, 43, 55, 57, 61, 64, 67

## References and Resources

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3. "U.S. State Technology Management Assessment," John Kost, Gartner, SPA-19036, January 7, 2003. The methodology for this brief is explained in the associated commentary "State Management Assessment Criteria."

4. "Government Insights: Possible IT Budget Cuts," John Kost, Gartner, TG-19-0331, January 6, 2003.

5. "Creating a Business Case for a Government IT Project," John Kost and Andrea Di Maio, Gartner, DF-19-0249, January 6, 2003.

6. "The Public Sector CIO's First 100 Days," John Goggin and Amy Santenello, META Group, Government Strategies, File No. 0009, January 1, 2003.

7. "State and Local Government: The Perfect Storm," Rishi Sood, Gartner, December 20, 2002.

8. "Financial Management is Key to IS Organizations' Success," Barbara Gomolski and Robert Mack, Gartner, K -18-9798, December 17, 2002.

9. "Measuring IT Operational Effectiveness," John Goggin, META Group, Gov 113, December 16, 2002.

10. "Enabling Business Value via IT: Integrating Strategic Planning and IT Value Management," Mark Cecere and Dan Merriman, Giga, RPA-112002-00012, November 19, 2002.

11. "Justifying the IT Budget for 2003," Andrew Bartels, Giga, Research Digest, Volume 5, Issue 9, November 13, 2002.

12. "Electronic Government: Selection and Implementation of the Office of Management and Budget's 24 Initiatives," Report to the Committee on Governmental Affairs, U.S. General Accounting Office, November 2002, GAO-03-229, <http://www.gao.gov/cgi-bin/ getrpt?GAO-03-229>.

13. "Making Good on the Promise: Why This Administration's Success Depends on How We Manage Information Technology," Jerry Mechling, John F. Kennedy School of Government, Harvard University, November 2002.

14. "Transition Handbook: Governor's Transition Team IT Assessment Template and Chief Information Officer Transition Handbook," the National Association of State Chief Information Officers (NASCIO), November 2002, <https://www.nascio.org/publications/ index.cfm>.

15. "Creating A Performance Based Electronic Government: Fiscal Year 2002 Progress," the Performance Institute and its sponsors Fujitsu Consulting, the Council for Excellence in Government, the National Academy of Public Administration, the Progressive Policy Institute, the American Society for Public Administration and the Reason Public Policy Institute, October 30, 2002, <http://www.performanceweb.org/research/egovernmentreport.pdf>.

16. "States' Methods of Calculating ROI on IT Projects," the National Association of State Chief Information Officers (NASCIO), October 24, 2002, available for viewing by NASCIO members at <http://www.nascio.org>.

17. "The Public Sector Credibility/Dependency Window," John Goggin, META Group, October 11, 2002.

18. "Justifying the 2003 Budget: Tactical Measures," Mark Cecere, Giga, October 10, 2002.

19. "Tools and Techniques for Building the IS Organization's Business Credibility," Jeremy Grigg, Gartner Symposium Presentation, October 6-12, 2002. There are a number of other briefs and presentations in the Gartner series on IT and IT organizational credibility.

20. "Lead Presentation: The Business Value of IT," Audrey Apfel, Gartner Symposium Presentation, October 6-12, 2002. The Symposium also had a number of other related presentations, such as "Value on Investment" and "Setting Priorities for IT Investments."

21. "IT Trends 2003: IT Value Management," Norman Forbush, Giga, October 9, 2002.

22. "Establishing Financial Credibility," Barbara Gomolski, Gartner, COM-18-0758, September 26, 2002.

23. "CIO's Are in the Cabinet: The Next Step is Measuring IT Value," John Goggin, META Group, GOV 103, September 25, 2002.

24. "Electronic Government: Proposal Addresses Critical Challenges," Testimony before the Subcommittee on Technology and Procurement Policy, Committee on Government Reform, House of Representatives, Linda D. Koontz, Director, Information Management Issues, U.S. General Accounting Office, GAO -02-1083T, September 18, 2002, <http://www.gao.gov>. This is an analysis of the E-Government Act of 2002.

25. "Transition Planning is Not an Option," John Goggin and Amy Santenello, META Group, Government Strategies, September 10, 2002.

26. "From Measurement to Value Management: Creating the Evolutionary Performance Strategy," Carol Kelly, META Group, Gov 7, September 2002.

27. "Enabling Business Value Via IT—Expanding from Justification to Full Value Management," Dan Merriman, Giga, August 20, 2002.

28. "Key Metrics for IT Value," Dan Merriman and Robert Klehm, Giga, REB-082002-00082, August 13, 2002.

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35. "Enterprise Architecture Development Tool-Kit, version 2.0," the National Association of State Chief Information Officers (NASCIO), July10, 2002, <https://www.nascio.org/hotIssues/EA/AEADTool-Kitv2.pdf>.

36. "Business Case Essentials: A Guide to Structure and Content," Marty J. Schmidt, Solution Matrix, Ltd., Revised July 2002, <http://www.solutionmatrix.com/business-case-white-papers.html>. Two additional white papers in the Solution Matrix series include "What is a Business Case? And Other Frequently Asked Questions" and "The Business Case: Keys to Accuracy and Credibility."

37. "E-Government Act of 2002," P.L. 107-347, <http://thomas.loc.gov/>.

38. "Preparing, Submitting, and Executing the (FY 2004) Budget," Office of Management and Budget, Circular No. A-11, Revised Transmittal Memorandum No. 75, June 27, 2002, <http://www.whitehouse.gov/omb/circulars/a11/2002/02letter.pdf>.

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42. "The Gartner Framework for E-Government Assessment," Andrea Di Maio, Massimo Pretali, Christopher Baum, Gregg Kreizman, Bill Keller and David Seabrook, Gartner, R-15-7573, March 8, 2002.

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49. "Making a Case for IT Investment," Center for Technology in Government, <http://www.ctg.albany.edu/case_for_IT_investment.html>.  The Center's Website is <http://www.ctg.albany.edu/ >, and it contains resources on IT investment justification, including, "And Justice for All: Building Your Business Case for Integrating Justice Information," <http://www.ctg.albany.edu/resources/abstract/abdoj_justice.html> and "Making Smart IT Choices," <http://www.ctg.albany.edu/resources/smartin.html>.

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9  The Capability Maturity Model for Software (CMM or SW-CMM) was developed by the software community under the stewardship of the Software Engineering Institute, Carnegie Mellon, <http://www.sei.cmu.edu/cmm/cmm.html>.  The model judges the maturity of the software process of an organization and identifies key practices that are required to increase the maturity of these processes.  It has become the de facto standard for assessing and improving software processes.  Its five stages are: initial, repeatable, defined, managed, and optimizing.

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