

# MEASURING ROI IN E- GOVERNMENT

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# What we will cover

The need to measure ROI of government automation initiatives

Proven methodologies

Real-world examples

# How ROI initiatives differ in the public sector

Agencies must serve all constituents.

Agencies must abide by specific rules, regulations and legislative mandates.

Government initiatives deliver on both tangible and intangible policy goals.

# Specific value of e-government ROI studies

Integrate IT efforts with business and policy objectives

Quantify value of nonfinancial benefits from e-government

Demonstrate both cost savings and cost avoidance

Becoming an accepted “best practice” among agencies and jurisdictions

# Specific value of e-government ROI studies (cont'd.)

High cost of failure in e-government program initiatives

Proposed initiatives must compete for funds with dueling priorities (intra-agency/inter-agency).

ROI helps manage potential risk (cost overruns, missed deadlines).

# ROI models

Net present value

Benefit-cost analysis

Cost-effectiveness analysis

# Net present value

Most basic method of measuring dollar return for a project —simple and straightforward

Net present value equals present value of cash flow minus net investment.

Most appropriate for internal systems designed to result in specific, tangible and internal productivity improvement

Basic decision rule: independent projects with net present value greater than \$0 should be accepted

# Net present value example

State Medicaid data  
warehouse

Saves time and money

# State infrastructure project

Challenge: deliver critical health services for more than 300 million Medicaid claims per year at the most efficient cost possible

Solution: developed a statewide Medicaid data warehouse to access and analyze data rapidly statewide

Results: ROI achieved in one full year of operation

Redirected eligible recipient claims to managed care plans instead of Medicaid, where appropriate: cost savings of \$16 million per year

Reduced duplicate payments: cost savings of \$5 million per year

Reduced inappropriate ancillary billings: cost savings of \$1 million per year

With more efficient and effective audit samples, audit projects now take hours instead of weeks.

Policy decisions are made more quickly.

# Benefit-cost analysis

Fundamental analysis that calculates project costs relative to benefits (tangible and intangible)

Net social benefit equals net total benefit divided by net total cost.

More flexible than net present value because it allows additional intangible benefits to be included

Most appropriate when there is a need to analyze costs and benefits where market prices do not exist or are inadequate

Basic decision rule: if ratio is greater than 1, then for each dollar spent, more than \$1 is returned and project should be executed

# Benefit-cost analysis (cont'd.)

Example: Consumer surplus is the value people get.

Renew online and pay \$3-5 per transaction. Time is worth \$19 per hour.

Surplus is generated.

This method helps place a monetary value on amorphous concepts like the value of “time,” “life” and “natural resources”.

One very important aspect of e-government involves the savings in time to citizens and businesses in conducting business with the government.

Such savings are difficult to calculate, but are nevertheless an important potential benefit from government automation initiatives.

# Benefit-cost analysis example

Web-based access to services

Improved communication  
with constituents

# State services improved for business access

Challenge: utilize small staff and limited budget to deliver high-quality service and information to small business owners (while requests for assistance were growing exponentially)

Solution: develop “one-stop shopping” for small business owners accessing government resources for planning, building and maintaining a successful business

Results:

Increased and improved communication with constituents (at their convenience); Web-based, as opposed to driving hours for a meeting

Decreased employee training time by more than 60%

Reduced mailing costs from \$1.75 per package to \$0.00

Staff broadened their capabilities and prioritized use of their time

# Cost-effectiveness analysis

Project analysis quantifies tangible and intangible benefits for a specific group

Cost-effectiveness analysis equals total benefit divided by net total cost

Most appropriate when there is a specific goal or measurement of effectiveness affecting a group

Useful for analyzing incremental benefits

Basic decision rule: if ratio is greater than 1, then for every dollar spent, more than \$1 is returned and project should be accepted

# Cost-effectiveness analysis (cont'd.)

Policy-makers can clearly see how much they have to spend for a desired result.

They can choose the trade-off point.

Useful for comparing the effectiveness (in terms of outputs) of alternative levels of capital expenditures

# Cost-effective analysis example

Information solution for  
processing traffic crash data

Shared information, cost  
savings and safety  
improvements

# State government program initiative

Challenge: create consolidated processing system to collect traffic crash data from all applicable law enforcement agencies for use by local, state and federal planning, transportation and law enforcement agencies, as well as authorized private entities

Solution: utilized common information repository to streamline processing, coordination and sharing of information among all stakeholders

Results: savings of more than \$4 million over three years

Able to process significantly greater case volume with the same amount of resources

Significantly improved ability to recover costs in cases where state property was damaged in a crash: estimated cost savings of \$1 million per year

Data keying and exception processing: estimated savings of \$700,000 per year

Improvement in data accessibility from months to just weeks

Traffic safety improvements: saving lives, preventing injuries, minimizing traffic delays and decreasing medical and insurance expenses for the public

# Governing rationales for selecting a specific method

Are benefits and costs predominantly private and social?

Are the benefits and costs tangible or intangible?

Can intangible benefits be reasonably and agreeably quantified?

# A word about measuring cost categories

Scenario and sensitivity analysis

Think about which policies the project(s) impact.

# META Group's four approaches to investment justification

No single approach will serve as an all-  
purpose solution

Operational efficiency

Service delivery

Financial returns

Business value enablement

# Evaluation

Two factors need to be considered:

Constituency being served (elected officials, staff, program managers, constituents, partners)

Each has differing concerns

Type of investment being considered

Ongoing operations

Development

A set of approaches should be applied with the intention of shaping perception and, ultimately, improving credibility by setting realistic expectations.

# Approaches to investment justification

## Operational efficiency

Assess the cost to implement or support a given technology domain

Unit cost (MIPS, desktop, staffing ratio)

Cost analysis or benchmarking exercises to prove increases in efficiency

Use to justify or support critical investment's impact

## Service delivery

Assess price and service levels in delivery of productized IT services (e.g., desktop services, subset of applications)

Assess service level agreements (e.g., technical performance and customer satisfaction)

Use to justify ongoing operations

## Business value enablement

Assess the value of productivity, risk, knowledge capital, agility, etc.

Forces IT to understand, and perhaps lead, the transformation initiatives

“Business dialect” emotional bond (credibility)

# Summary

Confirming ROI is a critical factor in driving e-government growth.

Agencies can better compete for funding of present and future projects within shifting political climates, policies and agendas.

Agencies will correlate intangible returns with tangible effects for lawmakers and constituents.

Agencies will minimize risks when undertaking e-government initiatives.

Agencies can ensure their policy goals are met by the project plan.

# Reference and source materials

National Association of State Chief Information Officers (NASCIO) —  
[www.nascio.org/hotissues/business\\_case](http://www.nascio.org/hotissues/business_case)

General Accounting Office (GAO), “IT Investment Management: a Framework for Assessing and Improving Process Maturity”  
— [www.gao.gov/new.items/d0449.pdf](http://www.gao.gov/new.items/d0449.pdf)

Anexsys primer: Measuring ROI in E-Government

# Questions

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