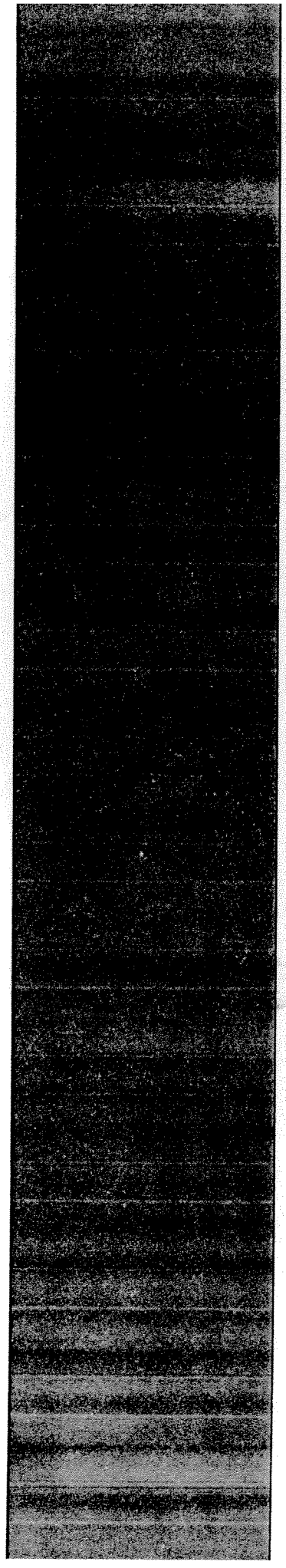


GS GRADUATE SCHOOL USDA

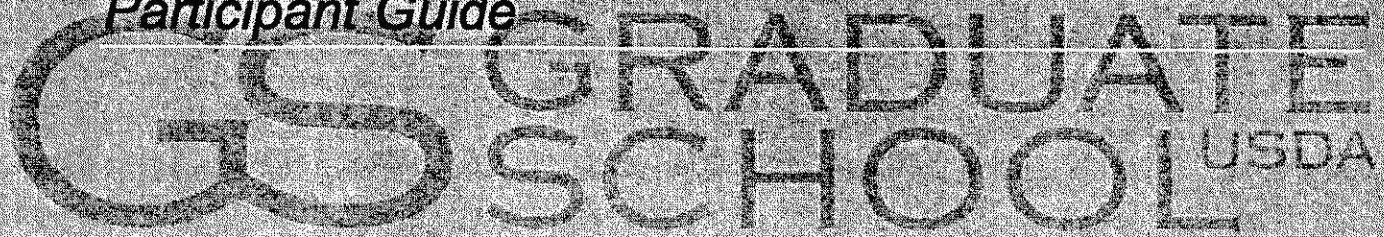
PERFORMANCE MEASUREMENT AND BUDGETING

Participant Guide

Pacific Islands Training Initiative
October 10 - 17, 2007
Guam

Performance Measurement and Budgeting

Participant Guide



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INTRODUCTION AND COURSE OBJECTIVES

This section will serve as an introduction to the entire course.

WHO SHOULD ATTEND

Public sector program or agency component managers and other professionals involved in the performance measurement, strategic planning, performance budgeting, or financial measurement processes will want to attend.

HOW YOU WILL BENEFIT

- You will acquire basic knowledge about performance measurement.
- You will learn to use accepted approaches for measuring performance of various government programs and activities.
- You will apply proven techniques to use performance measurement analysis to identify methods of looking for the reasons for good or poor performance.
- You will understand the applications of performance measurement to the budgeting process.

WHAT YOU WILL LEARN

- How performance measurement systems fit into management and budgeting systems
- The users and uses of performance measurement
- The aspects of performance to consider for measurement and when to use each one
- Steps to use in developing a system to systematically measure performance
- Budgeting from a performance perspective
- How to develop reports on performance for the various aspects of measurement
- Potential challenges and risks resulting from establishing inappropriate performance measurement and budgeting criteria

Performance measurement systems establish and demonstrate government accountability and are key to providing information for program and service improvements. They provide government leaders with critical information for making

informed decisions, and they provide citizens with information to assess the value of services they receive. From a systems perspective, a performance measurement system is a subsystem in the organization's reporting system.

Performance budgeting utilizes the concepts in performance measurement to understand desired outcomes and outputs related to costs, expected costs, and establishing budgets based upon the potential value of the investment to the stakeholders.

This course presents the basic knowledge about performance measurement and performance-based budgeting. You will learn the uses and users of performance measurement, what performance to consider for measurement, and some essentials about how to measure. You will learn how to apply these measures to establishing budget requests. Also, you will learn steps applicable for management use in developing a measurement system, and you will apply those steps in small group exercises.

This course provides you with a foundation of knowledge about performance measurement and performance budgeting that will allow you to learn the maximum in the more specialized measurement courses provided by the Graduate School, USDA.

Performance Measurement: Efficiency, Quality, Timeliness

In this course, you learn how to prepare measures for these three aspects of performance.

Auditing Performance Measures and Results

In this course, you learn how to help your agency to develop, or how to review your agency's efforts to develop, a measurement system, and to audit established measurement systems and results.

Program Results Evaluation Methods

In this course, you learn to measure the results achieved by your organization's programs and services.

Budget Formulation

This course teaches the practice of budget formulation for federal managers.

Budget Justification and Presentation

This course assists you in learning the practical aspects of developing detailed budget justification and presentation packages and presenting them to senior echelons of the federal government.

Class Agenda

Day 1

8:30–9:00	Introduction: Objectives, Overview
9:00–9:45	Lesson 1: Introduction
9:45–10:00	Break
10:00–11:00	Lesson 2: Why, for Whom, and When to Measure Performance
11:00–12:00	Lesson 3: What Performance to Measure
12:00–1:00	Lunch
1:00–1:30	Lesson 3 (continued): Discuss five performance measurement models
1:30–2:30	Group exercises
2:30–2:45	Break
2:45–4:30	Lesson 4: How to Measure Performance

Day 2

8:30–9:30	Lesson 4 (continued): Develop measures for case exercise, Road Maintenance
9:30–10:15	Lesson 5: Steps in Developing a Measurement System
10:15–10:30	Break
10:30–11:00	Group exercises in developing a set of measures
11:00–12:00	Lesson 5 (continued)
12:00–1:00	Lunch
1:00–2:30	Lesson 5 (continued)
2:30–2:45	Break
2:45–4:30	Lesson 6: Introduction to Performance-Based Budgeting

Day 3

8:30–10:15	Lesson 6 (continued): Review budgeting concepts, roles, and responsibilities
10:15–10:30	Break
10:30–12:00	Lesson 6: continued
12:00–1:00	Lunch
1:00–2:30	Lesson 6 (continued): Exercises on performance budgeting
2:30–2:45	Break
2:45–4:00	Lesson 7: Why Goals are Sometimes Not Achieved
4:00–4:30	Conclusion and Course Evaluation

Lesson 1

Introduction to Performance Measurement and Budgeting

This lesson will serve as a complete overview of the entire course and include vocabulary necessary for the complete and comprehensive understanding of the material.

OBJECTIVES

On completion of this lesson you will be able to do the following:

- Define performance measures, performance measurement, and performance measurement systems
- Distinguish the manager's possible roles in performance measurement

TERMS AND DEFINITIONS

What is performance measurement?

What is a performance measure?

What is a performance measurement system?

What is performance budgeting, and how does it relate to performance measurement?

KEY QUESTIONS IN MEASURING PERFORMANCE

Why measure users?

Who are the users?

When do you measure?

What performance do you measure?

How do you measure?

How do you interpret, report, and use measurement information?

Are the measured results reliable and useful?

How can I use performance measurement to influence the results of my budget requests?

Why are these questions important?

Who really cares?

MANAGER'S ROLES

It is important for any manager to do the following:

1. Assist and train others in establishing performance measures and measurement systems.
2. Train and assist top executive management and legislators in interpreting and using performance information.
3. Evaluate existing performance measurement systems.
4. Verify and validate performance measures and performance information and reports.
5. Review organization and program performance by using measures the organization prepared and by preparing measures yourselves.
6. Incorporate performance measurement into the budget formulation and execution processes.

KEY TERMINOLOGY

accomplishments

Term used to encompass both outcome and output performance.

crosswalk

Translation of performance measurement data into other formats (e.g., plans or appropriation structures) to determine their interrelationships.

customer satisfaction

Perception of consumers and residents about how well a program or service (e.g., output and its delivery) fulfills their needs, desires, and expectations. This perception is usually based on a Likert scale of 1 to 7.

cycle time

The time from start to finish of a job.

economy

Price paid for a given resource (of designated quality for delivery on an agreed schedule).

effectiveness

The extent to which an objective or goal is achieved.

efficiency

Ratio of work done to the resources used in producing and delivering it (e.g., measure of the amount of resources used to complete and deliver program and service outputs).

efforts

Inputs used in producing and delivering outputs.

error rate

Number of mistakes found; deviations from quality requirements or specifications.

impact

Change attributable to an intervention, such as a policy, action, program, project, investment, or process.

inputs

Financial and physical resources used to produce an output. Physical resources include human and materiel resources. Resources are measured in dollars and unit quantities. Acquired physical resources are intermediate outputs of an acquisition process.

institutionalize

To establish as common practice, within an agency, the use of performance measurement systems.

measurement

Expressing performance in numbers or as a numerical equivalent. Quantifying the extent, quantity, dimensions, capacity, etc.

measures

The following are specific types of measures:

monitoring	Measures used to monitor performance and for management and self control
diagnostic	Measures used to help diagnose performance problems

mission

A general statement of the purpose toward which a program, service, or function is directed. It should express the purpose in terms of results being sought, and identify the intended customer-target population.

operating performance

Operations include activities involved in producing and delivering outputs, acquiring and safeguarding resources, and complying with laws and regulations. Performance measures the results of operations.

outcomes

Results that occur (at least partially) because of goods and services provided. A measurement category that includes several potential performance aspects.

output

The products or services an organization produces.

performance

Term commonly used to describe both the doing of work and what is achieved or accomplished. In measurement, performance describes what is accomplished.

performance aspect

Distinct characteristic of performance. Examples are profit, quality, efficiency, and timing.

performance measurement

An assessment of an organization's performance which has, as its components, measures of productivity, effectiveness, quality, and timeliness.

position management

The effective and economical organization of personnel resources and work processes to accomplish the mission of an organization.

processes

The way things are done; a sequence of steps followed to produce an output. Practices used in doing work to achieve the desired level of performance for each aspect of output performance.

productivity

The ratio between outputs and inputs. (See efficiency.)

quality

Conformance to requirements. The absence of defects in, and excellence of, completed work and service delivery. Quality has multiple meanings. Four common definitions are: "fitness for use," "conformance to requirements," "best for certain customer conditions," and "conformance to customer requirements" (Juran, Crosby, Feigenbaum, Xerox).

Example variables: accuracy, reliability, consistency, durability, appearance.

There may be two quality dimensions:

Quality of delivery	Customer interactions. Example variables: staff courtesy, enthusiasm, problem solving proclivity, perceived competence, credibility, responsiveness, facility cleanliness, comfort, accessibility, and security.
Quality of outputs	Goods and services. What the customer for a given output needs, wants, or expects of that output. What the customer needs, wants, or expects that output to do. (It is appropriate for the entity to take the lead in helping the customer identify the requirements.)

quality costs

Amount spent for overall quality. Also called "cost of quality." Costs associated with poor quality and assurance of good quality. Typically, costs are categorized as prevention (assurance), detection, and failure. Costs include resources used to assure good quality, detect quality problems, fix quality defects, rectify quality failures that cannot be fixed, and resources lost to failure (waste, unrecoverable erroneous payments, etc.). May include mission–related cost consequences from poor quality (e.g., missed opportunities, lost customers, lost revenue).

quantity

A measurement of the amount of work done, or products and services delivered.

results

Performance that comes about as a consequence or effect of goods and services provided and is dependent on parties and forces outside the entity. To customers an example of this relationship is profit. Performance not directly controllable by management. Synonymous with "outcomes."

specifications

Customer requirements translated into measurable terms; translation of customer requirements into agency terminology; detailed description of the output based on the customer requirements. Used by the supplier to ensure that requirements will be met.

strategic planning

A planning activity concerned with anticipating events, making diagnoses, and shaping appropriate courses of future action so an organization can respond effectively to contingencies and opportunities. Typically conducted on a multiyear basis.

timeliness

Duration and speed for doing work.

unit costs

The ratio of the value (cost) of resources consumed (staff, materials, and travel) to a unit of output.

unit of measure

Unit used in quantifying for measurement a particular performance aspect (minutes, hours, days, years, tons, pounds, etc.).

workload

Quantity of work received, work to be done. When used as the amount of work completed, it is synonymous with output quantity.

Lesson 2

Why, for Whom, and When to Measure Performance

GS GRADUATE SCHOOL USDA

This lesson will cover in detail the necessary components for measuring performance.

OBJECTIVES

On completion of this lesson you will be able to do the following:

- Cite the uses and users of performance measures
- Explain when to measure performance to meet user needs

WHY MEASURE PERFORMANCE?

Commonly cited reasons for measuring performance:

_____

_____

_____

_____

_____

_____

USES OF PERFORMANCE INFORMATION

- What gets measured, gets done
- Accountability
- Planning and budgeting
- Control
- Diagnostics (operations improvement)
- Others

WHY MEASURE: DECISION MAKING

Measurement by itself will not improve government performance.

Measurement helps government officials make better decisions.

Government officials can use performance measures to make decisions that make services more responsive to public needs and desires.

Two questions government decision makers face are:

1. How much (funding, demand, etc.)?
2. Which (region, state, city, district, neighborhood, street, or park to target)?

WHY MEASURE: GOVERNMENT INITIATIVES

The following section will discuss the three major requirements enumerated in the Government Performance and Results Act.

FEDERAL

The Government Performance and Results Act contains the following three major requirements:

1. **Strategic plans**—Include, for each major program activity, the following:
   - Mission statement
   - Goals and objectives
   - Description of how goals and objectives are to be achieved
2. **Annual performance plans**—These must be submitted with the annual budget. For each program activity, do the following:
   - Establish performance goals to define the level of performance to be achieved.
   - Express such goals in objective, quantifiable, and measurable form.
   - Briefly describe operational processes, skills and technology, human capital, information, other resources required to meet goals.

- Establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes.
- Provide basis for comparing actual program results with established goals.
- Describe the means to be used to verify and validate measured values.

3. **Annual program performance reports**—These are submitted six months after fiscal year-end. For each report, include the following:
   - Set forth performance indicators established and actual performance achieved compared with goals.
   - Review success in achieving performance goals.
   - Explain why any goals were not met and plans and schedules for achieving them.
   - Explain why any goal was impractical or infeasible.

WHY MEASURE: GOVERNMENT INITIATIVES

The following paragraphs will describe the state and local government initiatives.

STATE AND LOCAL

Governmental Accounting Standards Board (GASB)

Concepts Statement 1

Objectives of financial reporting include the following:

a. Financial reporting should assist in fulfilling the government's duty to be publicly accountable and should enable users to assess that accountability.

b. Financial reporting should provide information to determine whether current-year revenues were sufficient to pay for current-year services.

c. Financial reporting should demonstrate whether resources were obtained and used in accordance with the entity's legally adopted budget; it should also demonstrate compliance with other finance-related legal or contractual requirements.

d. Financial reporting should provide information to assist users in assessing the service efforts, costs, and accomplishments of the governmental entity.

Concepts Statement 2

Governments should do the following:

a. Establish relevant performance goals and objectives and communicate them to the citizens.

b. Develop and report performance indicators that measure progress in achieving those goals and objectives.

State Example Locations

Florida

Minnesota

North Carolina

Oregon "Benchmarks"

Texas

Virginia

Local Example Locations

Austin, Texas—performance-based budgeting

Indianapolis, Indiana—popular budget

Prince William County, Virginia

Phoenix, Arizona

Portland, Oregon—SEA report

San Diego, California—activity-based management

Seattle, Washington

WHO ARE THE USERS

Possible Users — Possible users can be classified as potential users of performance information.

Categories of Users

WHY MEASURE FOR WHOM

Uses and Users	
Why (uses)	**Who (users)**
Accountability	
Planning and budgeting	
Control	
Diagnostics (operations improvement)	
Independent oversight	

WHEN TO MEASURE: *FREQUENCY*

When to measure performance depends on the purpose for which measurement is desired and the user.

Why	Who	When
Accountability		
Planning and Budgeting		

Why	Who	When
Control		
Diagnostic – Operations Improvement		
Independent Oversight		

Lesson 3

What Performance to Measure

This lesson will cover in detail the components necessary to determine what performance to measure.

OBJECTIVES

On completion of this lesson you will be able to do the following:

- Name and define key terms used in performance measurement
- Name and define common aspects of performance to consider in developing a comprehensive family of measures
- Distinguish the common ways of categorizing performance measures
- Distinguish performance from process

DECIDING WHAT TO MEASURE

The fundamental requirement in measuring performance is deciding what to measure. The authors in *Service America* proposed that thoughtful people can reach a consensus on "the what" after a little serious consideration of the possibilities.[1] The possibilities are performance aspects.

WE NEED A FAMILY OF MEASURES

Having comprehensive information about performance to meet the needs of differing users requires a family of measures. It is rare that only one measure will suffice. A family is made up of selected performance aspects, and possible related dimensions. Each aspect, or its related dimension, will have one or more measures. The measures are commonly grouped into categories.

[1] *Service America*, Albrecht and Zemke, Dow Jones-Irwin, 1985

TERMS AND DEFINITIONS

The following terms are commonly used in describing performance.

Performance category

Includes two or more performance aspects and measures.

Performance aspect

A characteristic of performance (output quantity, timeliness, cost, etc.). The Government Auditing Standards uses this term in reference to program performance.

Performance dimension

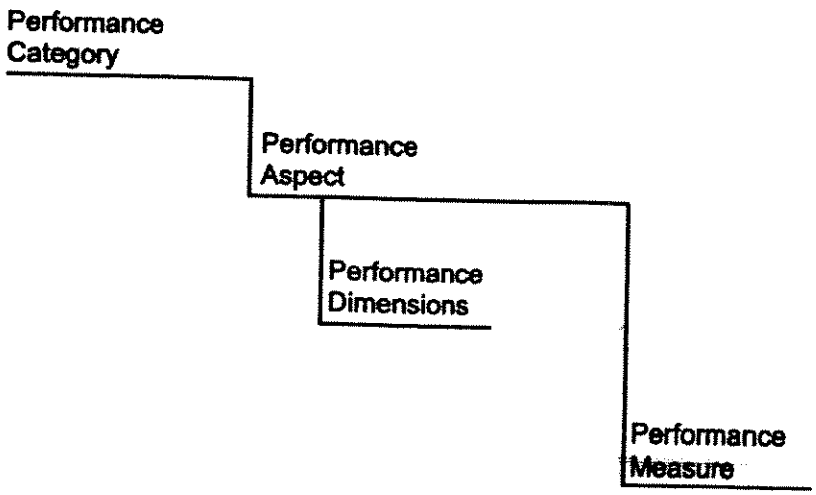
Distinct measurable feature of a performance aspect (e.g., for quality: accuracy, taste). Used in various literature to differentiate nuances of performance. Performance attribute is a common synonym.

Performance measure

Expression of performance as a number or numerical equivalent. Can also be used colloquially to describe what performance one intends to measure or has a measure of (on-time performance, unit cost, etc.). Performance indicator is a commonly used synonym. A measure is compiled using a prescribed method. The method can be a formula, instrument (e.g., for measuring temperature, road smoothness), or a trained observer.

LIST OF POTENTIAL PERFORMANCE ASPECTS

A short list of aspects that warrant consideration for most government entities, programs, services and functions follows. A more comprehensive list is provided in Appendix A.



Always Applicable	May Be Applicable
Customer satisfaction	Cost benefit
Purpose achievement	Value
Quality	Financial condition
Timeliness	Cost recovery/profit
Output quantity (need met)	Revenue
Efficiency	Cost of quality
Operating costs	Cost of fraud
Price of resources	Price/fee paid by users

Three notes on performance aspects are as follows:

1. Some performance aspects that are generally applicable for measurement, may not always be measurable given the current knowledge.
2. Some aspects may apply only under certain conditions (e.g., cost recovery for a self-financing service).
3. Some aspects include citizen expectations of public officials. These are subject to risk assessment and audit under GAGAS standards. We discuss these shortly under the accountability model of what to measure.

Review of Definitions

What is:
Customer satisfaction
Mission achievement
Quality

What is:
Timeliness
Output Quantity
Need met
Efficiency • Unit cost • Productivity
Operating costs
Price of resources
Cost benefit/cost effectiveness
Value
Financial condition
Cost recovery/profit
Cost of quality
Cost of fraud
Price/fee for outputs

MEASUREMENT PARADIGM

The concept of performance is a broad one. Thus, there is a range of different measurement methods. The following paradigm of measures was developed by Paul Epstein.[2]

1. Measures of societal conditions

   There are undesirable conditions the public wants to reduce (e.g., crime, illiteracy, air pollution) and desirable conditions the public wants to increase or maintain (e.g., libraries, parks, property values, adequate roads, jobs).

2. Measures of program and service accomplishments
3. Measures of citizen or client satisfaction and perceptions
4. Measures of the unintended adverse impacts

MEASURES OF ACCOMPLISHMENTS

The following paragraphs will go into detail about the five various models that emphasize accomplishments and efforts.

FIVE TYPICAL MODELS

Various models have been developed to define and categorize performance. This course recognizes five models that emphasize accomplishments and efforts. Any discussion of performance measurement will encompass the notions of performance categories and performance aspects. Aspects fit within categories. The recognized performance categories and performance aspects can best be understood and depicted in reference to five models.

1. Service Efforts and Accomplishments
2. Service Delivery
3. Accountability
4. Performance Report Card
5. Control

[2] *Using Performance Measurement in Local Government*, Paul Epstein.

MODEL 1 SERVICE EFFORTS AND ACCOMPLISHMENTS

Research done by the Governmental Accounting Standards Board on Service Efforts and Accomplishments provides a list of performance categories and generic performance aspects to consider for measurement.

Efforts

1. Financial inputs

   - Dollar costs of the service during the period
   - In current dollars
   - In constant dollars (adjusted for price level changes)
   - Per household, per capita, per output

2. Physical inputs

   Amounts of nonmonetary resources expended, especially the amount of work time expended during the period. Expressed in full-time equivalent years, square feet, kilowatt-hours, etc.

Accomplishments

1. Outputs

   Amount of workload accomplished

2. Outcomes

   A numeric indicator of program results. This category includes indicators of service quality such as timeliness, effectiveness, and amount or proportion of need that is or is not being served.[3]

Note: In this course we treat quality and timeliness as output-related measures.

[3] Research Report, "Service Efforts and Accomplishments Reporting: Its Time Has Come," Governmental Accounting Standards Board, 401 Merritt 7, P.O. Box 5116, Norwalk, CT, 068576-5116, 1990

Ratios of Efforts to Accomplishment

Cost benefit

Amount of input related to (divided by) amount of outcomes or results. Input can be any of the variations noted above.

Efficiency

Amount of input related to (divided by) amount of output. Input can be any of the variations included above.

Productivity (or efficiency) indices

These traditionally have been used in reporting national productivity trends. An index is calculated by relating the ratio of productivity in the current year to that of a preselected base year. These indices have the advantage that the productivity ratios for different activities for a service, or across services, can be combined by weighting each ratio by the amount of input for each activity. Productivity indices use as input, physical input quantities, or constant dollars.

Explanatory Information

This is a term used to cover a variety of information relevant to a service that helps users understand the performance on the SEA indicators and factors affecting an organization's performance. The explanatory information should be grouped into two categories.

1. Elements substantially outside the control of the public agency, such as demographic characteristics.
2. Elements over which the agency has significant control, such as staffing patterns.

MODEL 2 SERVICE DELIVERY

The service delivery model presents the four widely recognized categories of performance. It helps illustrate where the aspects of performance apply.

Resources → Processes → Outputs → Outcomes

The following points demonstrate how the concept works:

- Organizations use financial resources to obtain, through an acquisition process, needed human and material resources (physical resources).

- Organizations apply those human and material resources through an operating process to produce program or service outputs.
- The outputs are delivered to customers (the taxes for the outputs are collected from customers).
- The outputs are expected to achieve the program or service purpose, which are the mission outcomes.
- There is no process between outputs and outcomes. Attainment of the desired outcomes is totally dependent on delivering the correct type outputs of appropriate quantity and quality, when needed, at the lowest possible cost.
- Controls are applied within processes (within the processes for acquiring resources and within the processes for delivering program and service outputs) to achieve specific aspects of performance.

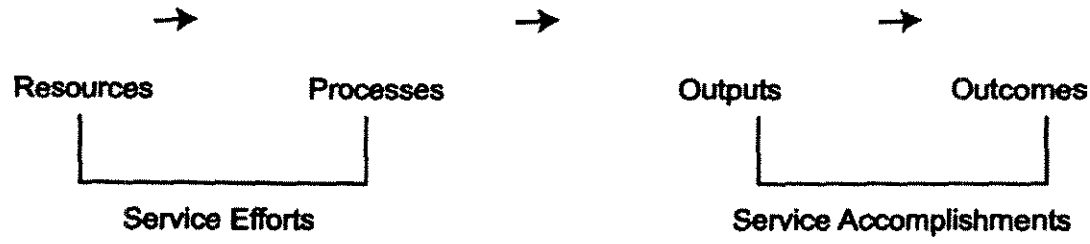
Outcomes	Results that occur (at least partially) because of goods and services provided. The ultimate effects of the program on the problem, need, or condition that the program or service was supposed to improve or prevent (reduce unemployment as a result of training better employment services, prevent health-related problems by providing pure water, etc.).
Outputs	Units of work completed (number of people trained, number of vouchers processed, number and amount of loans granted, etc.). Outputs are delivered to internal users and external customers. Physical resources obtained thru an acquisition process are outputs of that process.
Processes	The way things are done; a sequence of steps followed to convert inputs into outputs. Practices used are expected to achieve the desired level of performance for each aspect of output performance. There are processes for acquiring resources, producing outputs, and delivering products and services to customers.
Inputs	Financial and physical resources used to produce an output. Physical resources include human and materiel resources and are measured in dollars and unit quantities. (Acquired physical resources are intermediate outputs of an acquisition process.)

Relating Performance Aspects to Categories

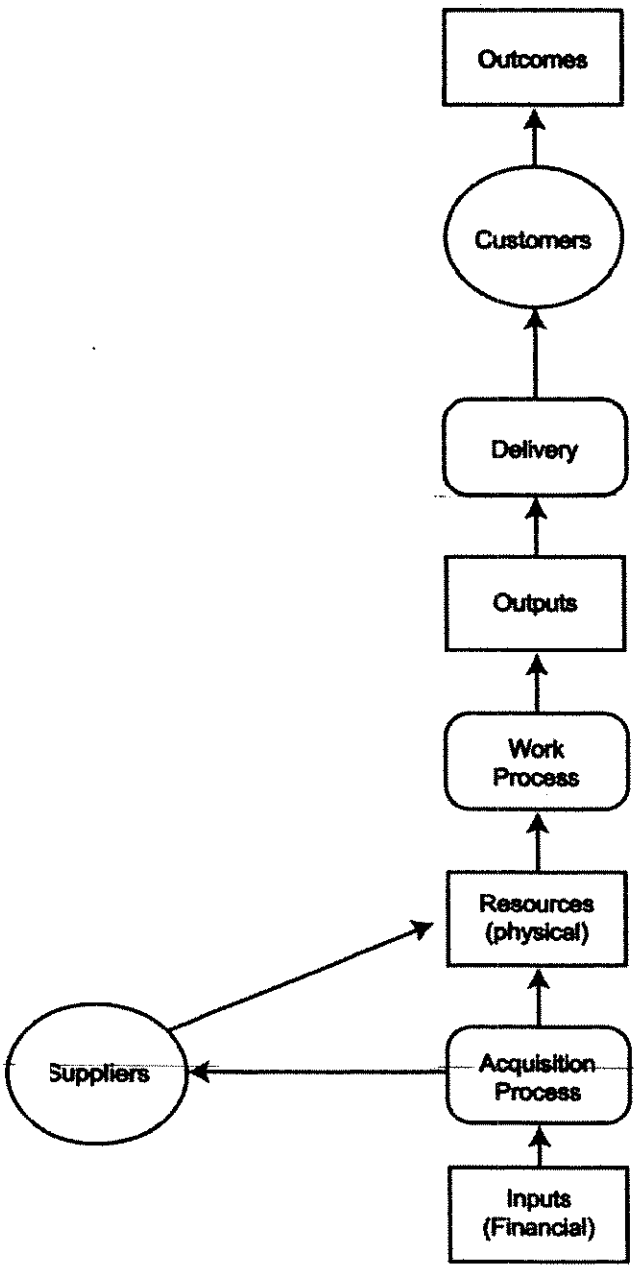
Service Delivery Model			
Resources	**Process**	**Outputs**	**Outcomes**
Quantity	Efficiency	Quantity	Customer satisfaction
Quality	Cost of quality	Quality	Purpose achievement
Timeliness	Cost of fraud	Timeliness	Value
Price (paid)		Cost	Cost benefit
		Price/fee (charged)	Cost recovery/profit
		Customer satisfaction	Financial condition
			Population served

Relationship of Service Delivery and Service Efforts and Accomplishments

Performance Categories



Expansion of Service Delivery Model



MODEL 3: PERFORMANCE ACCOUNTABILITY

Performance accountability requires an organization to establish and accomplish its goals and to demonstrate it has done so. This model presents a comprehensive set of performance categories and performance aspects. It provides a useful basis for performance accountability reporting, for management to manage, and for auditors to audit.

Components of Performance Accountability			
Mission Performance Goals			
Input economy	Process efficiency	Output effectiveness	Outcome effectiveness
Financial • amount • timing Physical • quantity • quality • timing • price	Productivity Unit costs Operating ratios	Quantity Quality • products • delivery Cost (unit) Fee charged	Mission and goal achievement Financial viability Cost benefit Revenue
Crosscutting Performance Goals			
←– – – – –	internal – customer satisfaction – external		– – – – – →
←– – – – –	laws – compliance – regulations		– – – – – →
←– – – – –	resources – safeguarding – infrastructure		– – – – – →
←– – – – –	availability – information – reliability, validity		– – – – – →
←– – – – –	underlying values		– – – – – →

MISSION AND GOALS

Measuring performance for accountability involves understanding the mission, purpose, and related goals for the four categories of performance. Government leaders, managers, and employees should define performance expectations, with appropriate public input, that cover each major performance goal. Systems should be developed to measure, monitor, and continuously improve performance, and

ultimately hold all government organizations and employees accountable for meeting or exceeding the expectations.

INPUT ECONOMY

This is defined as obtaining inputs at the most economical price. Measures of how well governments acquire products and services of reasonable quality, when needed, at low costs (through competitive processes, where possible).

1. Financial Measures
    a. Amount—cost of products and services
    b. Timing—financing cost
2. Physical Measures
    a. Quantity—the right amount of products and services
    b. Quality—products and services equal to or greater than specifications
    c. Timing—delivery cycles, maintenance cycles, replacement strategy, etc.

PROCESS EFFICIENCY

Measures of the government's ability to produce various levels of output at stated levels of input include the following:

- Productivity (output/input)
- Unit cost (input/output)
- Operating ratios—utilization of resources, backlog, cycle time, etc.

OUTPUT EFFECTIVENESS

Measures of the completion and delivery of products and services to customers.

Level or quantity	Amount of products and services compared to capacity or need.
Timeliness	Measures of timely delivery of products and services (expected finish date or ratio of on-time accomplishment).
Quality	The adherence of products and services to quality specifications.

Price/cost	The price paid by the public compared to government cost to produce.
Customer satisfaction	Measures of customer perception of whether the program met customer requirements.

OUTCOME EFFECTIVENESS

Making a difference, it is the impact of output. Measures of change in conditions or accomplishment due to a government's delivery of products or services.

Mission and goal achievement	Actual results compared to predetermined goals or benchmarks.
Financial viability	Short- and long-term prospects for breaking even or achieving financial viability requirements.
Customer satisfaction	Measures of customer perception of program outcomes through surveys or similar techniques.

CROSSCUTTING GOALS

Crosscutting goals span and bind the four performance accountability goals. Together they provide the basis for inspiring and upholding public trust in government operations.

1. Compliance—knowledge and wise management of applicable laws and regulations is a basic expectation of all government employees. Compliance involves the following terms:

   a. Interpretation—establishing clear legislative and regulatory intent.

   b. Responsibility and authority—defining parameters and establishing who is responsible for what.

   c. Reasonableness—applying laws and regulations in a practical and cost beneficial manner.

   d. Documentation—providing reasonable proof that required compliance was attained.

2. Safeguarding

Safeguarding of an entity's resources is a fundamental responsibility of public officials and others entrusted with public resources (Government Auditing Standards).

Safeguarding includes having policies and procedures to reasonably ensure that resources are protected against waste, loss, and misuse. It also includes having policies and procedures to maintain the condition of equipment, facilities and infrastructure, and to provide for the health and safety of employees.

Resources include financial and physical resources. Physical resources include equipment, facilities, infrastructure, information, and people.

3. Continuous Improvement

Government leaders should establish an environment which encourages ongoing improvement in government services through creativity, experimentation, and innovation. For example, this environment might include the following four principal management tactics:

- Supporting persistent and passionate champions (day-to-day workers) of innovation in the face of opposition and low odds
- Management consistently standing up for and modeling innovation
- Supporting thoughtful failures from which something is learned, and defying silly rules which impede fast action
- Demanding innovation through measurement and reward systems, which apply hard number targets to what has traditionally been conceived as a soft variable

4. Useful Information

The characteristics of information needed to demonstrate results, make decisions, measure risk and reduce uncertainty are the following:

Availability—systems should be in place to gather, record, and analyze data. Responsibility is assigned for each input, process, output, and outcome measure.

Reliability—controls which help ensure consistency, stability, and minimize error. Examples are standard classification methods, training, supervision, automated tests, and reconciliations.

Validity—information, free of error or bias, that is related to and helps measure attainment of mission and goals. Validity includes comparing actual results to widely accepted standards.

5. Underlying Values

Government leaders establish an environment where fundamental values are evident and practiced. The following are examples of underlying values:

- The existence of ethics, honesty, and integrity together with the necessary knowledge, skills, and abilities are needed to achieve the organization's goals.
- Programs and taxes are established and administered equitably.
- Cooperation and partnership is a goal within all levels of government and the private sector.
- Managers and employees are informed of expectations and held accountable for their job performance through fair and effective employee performance appraisal systems.
- The work environment includes a commitment to safety, equal opportunity, and individual development.

MODEL 4 REPORT CARD

This model presents a family of five measurement categories intended to give managers a fast and comprehensive perspective of the business. Selected performance aspects are included in each category as shown in the following figure.[4]

[4] *Local Government Auditing Quarterly* (December 1997), published by National Association of Local Government Auditors) p. 59

Report Card Model	
Financial Results Measures	**Mission Results Measures**
• Budget balance • Financial condition • Cost recovery or profit • Cash flow, cash reserves • Revenue	• Purpose achievement • Value • Cost benefit, Cost-Effective • Population served or market share
Customer Measures	
• Satisfaction with value • Satisfaction with product or service price and quality • Satisfaction with delivery quality and timing • Satisfaction with tax rates and equity	
Internal Operations Measures	
• Cost (total and per output unit) • Quantity (outputs) • Quality (ouputs and delivery) • Timeliness (output delivery) • Efficiency • Cost of quality • Cost of fraud • Maintenance funding rate	• Prices (input resources) • Quality and delivery timing of purchased parts and services • Employee quality and morale • Cycle time • Safety of operations • Asset utilization • Compliance
Innovation and Learning Measures	
• Rate of technology introduction • Rate of process improvement • Rate of new product introduction	• Staff development and training • Staff contribution to improving operations • Managerial competence

MODEL 5 MANAGEMENT CONTROL

Measurement is a tool management uses to monitor how well performance goals are being accomplished and track performance for the purpose of taking action to correct problems and sustain performance. In management texts, control (controlling) is described as a management function along with planning, organizing, and directing. Performance measurement is integral to control.[5]

[5] Controlling Always involves measurement. Peter Drucker.

In a model control system for an ongoing program or service, management would do the following:

1. Select the aspects of performance that are relevant and important for each service or program.
2. For each performance aspect, develop measures covering the past year and preferably the past five years.
3. Set expectations or goals for each performance aspect.
4. Continually measure performance for each aspect.
5. Compare measured performance with established goals and benchmarks, and performance in prior years, to determine variances.
6. Analyze the cause of substantive variances.
7. Take appropriate action to address variances, including adjustment of goals or expectations.

DEFINITIONS

Clarification of definitions for these three terms: Results, outcomes, and accomplishments.

Significant differences:

Results

Depend on forces outside the control of management, such as customers and the legislature. Includes performance aspects that management can not control, like profit and literacy improvement

Outcomes

Includes results, plus the performance aspects quality and timeliness.

Accomplishments

Include both output and outcome performance and related performance aspects.

Category	Performance Aspects
Results	Purpose achievement
	Cost benefit, cost effective
	Population served/market share
	Financial condition
	Cost recovery/profit revenue (taxes)
	Customer satisfaction with utility and value
Outcomes	Purpose achievement
	Cost benefit, cost effective
	Population served/market share
	Financial condition
	Cost recovery/profit
	Customer satisfaction with program utility and value plus quality and time of delivery
	Quality (outputs, service delivery)
	Timing or timeliness of delivery
Accomplishments	Purpose achievement
	Cost benefit, cost effective
	Population served/market share
	Financial condition
	Cost recovery/profit
	Customer satisfaction with program utility and value plus quality and timing of delivery
	Quality (outputs, service delivery)
	Timing or timeliness of delivery

EXERCISE 3–1: PERFORMANCE ASPECTS

Directions: Check the performance aspect in the column below that applies to the measure listed.

Measure	Input	Output	Efficiency	Timeliness	Quality	Purpose
Permits issued per staff daily						
Number of curbside recycling pickups per work hour						
Annual minority youth employment rate in the region						
Percentage of arrests resulting in conviction						
Number of police assigned to each geographic sector						
Cost per hour of sex education classes						
Waiting time to schedule a clinic appointment						
Average fire department response to fire alarms						
Residents rating quality of water services						
Pool maintenance costs per user						
Building plans processed per staff day						
Cost of repairing pot holes						
Pavement smoothness						

EXERCISE 3-2: CORRELATION BETWEEN WHAT PERFORMANCE TO MEASURE IN THE PRIVATE SECTOR AND GOVERNMENT

Directions: For each private sector performance aspect listed below (typically measured in the private sector), identify if the aspect, or a variation, might apply in government.

Private Sector	Government
Market share	
Return on investment	
Profit	
Dividends per share	
Customer satisfaction	
Quantity	
Quality	
Timing	
Price	
Cost	
Cost of Quality	
Efficiency	

SELECTING PERFORMANCE ASPECTS TO MEASURE

Prerequisites

Three pieces of information are generally needed in selecting what performance aspects (and any related dimensions) to measure for a program, service, or function.

1. Know the mission or purpose.
2. Know the goals to be achieved.
3. Know what outputs are delivered to achieve the mission.

> *Purpose is the result or effect that is intended or desired, and can exist without being expressly stated.*
>
> *Goals quantify the level of performance intended or desired.*
>
> *Legislatures set the program purpose when they establish a program; however, management is expected to set goals for program efforts, operations, outputs, and outcomes.*
>
> Government Auditing Standards, 1994 Revision

In the ideal, the aspects of performance to measure will follow from a program's purpose and goals. Ideally, goals are set in strategic planning.

In practice, the question of which comes first, goals or measures, is like the chicken and egg debate.

How does one know what goals to set if one has not decided what aspects of performance are important and warrant measurement?

Can one set realistic goals without first measuring performance to learn the current level of performance?

EXERCISE 3–3: PERFORMANCE ASPECTS TO MEASURE

Directions: Take five minutes and list the performance aspects you believe are relevant in measuring your organization's performance. Be prepared to discuss your list with the class.

EXERCISE 3–4: MUNICIPAL WATER DELIVERY

Directions: Working in small groups, list eight aspects of performance you would measure for delivery of water to customers by a public water authority intended to be financially self supporting. (You may list more if you want.) Assume that delivery is done by a government entity that is to be financially self sufficient.

STATED MISSION

To provide customers with an adequate supply of safe drinking water on demand at appropriate pressure and at minimum cost, and provide adequate customer service.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

PROCESS VS. PERFORMANCE

Process—The Key

The process is where it happens. If we are to improve performance in terms of effectiveness, efficiency, timeliness or quality our attention is focused on the process. The process is where we decide which mix of inputs to use to produce our products or services and how to best apply this mix.

Process Synonyms

Take five minutes and list some terms that you use or have heard used as synonyms for processes or to describe some part of a process.

Relationship Between Processes and Controls

Examples	Accounting Controls

Process vs. Performance Goals

The following paragraphs are examples of correlating process and performance goals.

Process

Develop a plan to install catalytic converters in automobiles to reduce hazardous emissions.

Performance

In the current year reduce hazardous emissions by 10%.

Process

Encourage library patronage by revising library hours to correlate with customer demand.

Performance

Provide branch library services at the cost of $2 or less per patron.

EXERCISE 3–5: PERFORMANCE VS. PROCESS GOALS

Directions: Performance goals address what we are trying to accomplish; process goals address how we will do it. Check column below that applies to the goal listed.

Goals	Performance	Process
Establish a plan to encourage affirmative action initiatives.		✓
In the current year reduce community teenage pregnancy rates by 10%.	✓	
Use the new computer system to track sick leave usage.		✓
Select an alternative for reducing hazardous emissions	✓	✓ (both)
Provide branch library services at the staff cost of $2 or less per patron.		✓

Goals	Performance	Process
Increase by 5% the number of users rating street conditions as satisfactory this month.	✓	
Reduce the per participant cost of pool maintenance by 5% during the current year.	✓	
Summarize citizen attitudes regarding community safety by analyzing survey results.		✓
Respond to all level-1 emergency calls with a unit on site within six minutes.	✓	✓
Reduce by 20% the number of restaurants that require re-inspection for critical violations.	✓	
Establish a system to measure and monitor agency progress toward achieving strategic plan goals.		✓
Select an effective developmental approach for modernizing the computer-based tax processing system.	✓	✓ Both
Reduce the number of manually processed transactions from 13 million to 8 million by October 1, 2001.	✓	
Respond satisfactorily to 98% of scheduled calls on technical tax law questions during the 2001 fiscal year.	✓	
Collect and analyze workforce quality information including appraisals, employee surveys, and exit interviews.		✓

WHAT IS THE RELATIONSHIP BETWEEN TQM AND PERFORMANCE MEASUREMENT?

They are mutually supportive for the following reasons:

1. New management values encourage use of performance measurement to improve, not punish.
2. Empowerment enables employees, not only management or policy makers, to use the system.
3. Process measures complement performance measures.
4. Customer requirements drive development of performance goals and measures.
5. Performance measurement helps establish accountability by examining quality along with other aspects of performance.
6. TQM + Performance Accountability = Continuous Improvement

Summary of Performance Categories and Related Performance Aspects and Goals

Category	Performance Aspects	Goal
Financial input	Amount	Have amount of money available when needed.
	Timing	
Physical input	Quantity	Obtain best price for resources at stated (desired/necessary) levels of quantity, quality, and timeliness. Physical resources are also outputs of acquisition/procurement processes.
	Quality	
	Timing	
	Price	
Output	Demand	Produce and deliver the appropriate amount of products and services of desired quality at the time when needed, at low cost. Extent to which demand is met is always a concern.
	Quantity done (workload)	
	Quality	
	Timeliness	
	Cost	

Category	Performance Aspects	Goal
	Fee (price charged)	
Process	Efficiency	Use minimum resources to do required work.
	Cost of quality	
	Safeguarding	
	Compliance	
Satisfaction of the customer or resident	Value/utility	Achieve a high rating from customers on the usefulness of the program or service; adequacy of benefits.
	Needed	
	Product quality and cost	Customers have favorable perception of products and services provided.
	Delivery quality and timing	
Taxpayer satisfaction	Tax rates	Have favorable perception of tax rates and equity in application, and with financial condition of the entity or program/service. Residents and businesses are attracted, not repelled.
	Equity	
	Financial condition	
Financial outcome	Profit/cost recovery	Maintain solid short-term and long-term solvency; meet profit/cost recovery and ROI requirements.
	Return on investment	
	Financial condition	
	Short-term viability	
Mission outcome	Purpose achievement	Achieve intended purpose of program or service. Provide to target population and achieve desired participation rate by the target population. Program or service does some good and that good is worth the cost.
	Population served	
	Cost benefit and cost effective	

Lesson 4

How to Measure Performance

GS GRADUATE SCHOOL USDA

This lesson will cover in detail the components necessary tor measuring performance.

OBJECTIVES

On completion of this lesson you will be able to do the following:

- Explain the role of dimensions, formulas, and units of measure m performance measurement
- Cite choices of dimensions, formulas, and units of measure for selected performance aspects
- Choose appropriate dimensions, formulas, and units of measure for selected services in case exercises

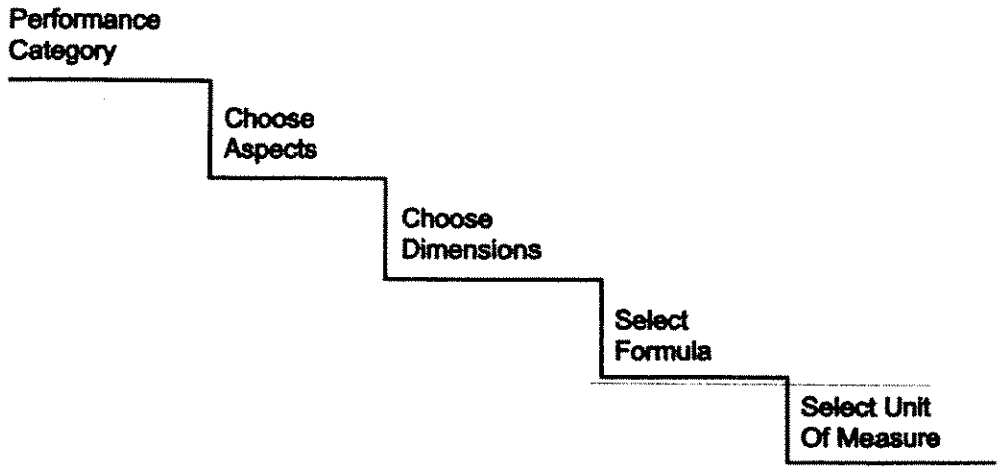
Having chosen what performance aspects to measure, the next tasks are to do the following:

1. Choose performance dimensions (where applicable) for a given aspect.
2. Select measurement method (i.e., formula).
3. Select unit of measure to use in counting.

The boundary between what and how to measure for these three tasks is a gray one. We have included them together for instructional purposes because in practice it is normally impractical to do one task without doing the other two.

Our intent here is to introduce you to the basics in preparing performance measures.

TERMS AND DEFINITIONS



Dimension

Distinct measurable feature of a performance aspect. A performance aspect may have two or more related performance dimensions or no dimensions. The possibilities differ for each performance aspect.

Formula

Broadly, any conventional rule or prescribed method for doing something measuring performance. A set of algebraic symbols expressing a mathematical fact.

Unit of measure

What we use to quantify the aspect or dimension of performance to be counted (e.g., transactions, hours, days, years, tons, pounds, kilowatts).

Ways to Express Measures

Performance measurements can be expressed in the following ways:

A quantity

- Number of lives lost in fires
- Yield in bushels
- Number of accidents
- Number of applicants that placement found jobs

A ratio

- Lives lost in fires per 10,000 population
- Yield in bushels per acre
- Number of accidents per 1,000 miles of road
- Percent of total applicants that found jobs

Ratios are useful and normally necessary in making comparisons.

PREPARING MEASURES FOR SELECTED ASPECTS

The following paragraphs discuss the different aspects of measurements and their uses.

OUTPUT QUANTITY

The amount of outputs completed stands on its own as a measurable aspect of performance.

This formula is a simple one of addition.

$0 + 0 + 0 + 0 + 0 =$ total outputs

$0_1 + 0_1 + 0_1 + 0_1 =$ total type 0_1 outputs

$0_2 + 0_2 + 0_2 + 0_2 =$ total type 0_2 outputs

Unit of measure—The units of measurement for length, area, volume, capacity, weight, amount, etc. apply. Examples: Lane miles painted, transactions completed, square feet of walls painted, and gallons of water delivered.

The job is to identify what to count as the output. Possible choices are the following:

- The actual output (e.g., amount of garbage collected)
- A proxy indicator (e.g., collection stops, customers)

Most programs, services, and functions will have more than one output. Thus, it is important to differentiate and separately count the different kinds of outputs.

An illustration of this point is the example of garbage collection. Options on what to count as the output and the unit of measurement are the following:

- Number of households
- Number of commercial customers
- Number of collection stops, number of containers emptied, manual or mechanized pick-up stops
- Number of tons collected

For pickup, we would differentiate hand pickup stops and mechanized pickup stops. For "disposal," we would likely measure tons of garbage.

The bottom line question is, "Is the amount of output sufficient?" Does the amount of work done meet the need too much, too little, or just right?

EXERCISE 4–1: MEASURING PERFORMANCE

Directions: In measuring performance for your own organization or program, take five minutes to think about what you would:

1. Count as the output(s).

   Can you think of alternatives?

2. Use as the unit(s) of measure.

   How would you quantify the demand for your services and measure how well you have met the demand?

TIMELINESS

Timeliness applies in acquiring resources, completing outputs, and delivering outputs.

FORMULA

There are five potential methods for measuring timeliness. The formulas are self evident and necessitate straight forward arithmetic.

- Elapsed Time

  Formula: completion time – arrival time = elapsed time

- Waiting Time

  Formula: service start – customer arrival = waiting time

- Response Time

  Formula: arrival time – time of call = response time

- Inactive Time (vs working time)

  Formula: add the time for periods when no work is done

- On Time or On Schedule

  Formula: scheduled time – arrival time = on time; scheduled time – completed time = on time

TO ILLUSTRATE

For garbage collection, the relevant measurement method would be "on schedule." Is garbage picked up on the scheduled day?

For fire, one relevant measurement method is the response time in getting to the scene.

The unit of measure is the time increment. Common units are the following:

- Minutes
- Hours
- Days
- Months

Two seldom-used measurements are weeks and years.

The best unit to use is one that customers use in their expectations of the appropriate time.

EXERCISE 4–2: MEASURING PERFORMANCE

Directions: In measuring your organization's performance, take two minutes and list the following things:

1. The formula(s) you would use

2. The unit(s) of measure

QUALITY

Quality is a complex concept with multiple meanings. Conformance to requirements is the most common.

Quality applies to the following things:

Products—the outputs themselves

Service—delivery of the outputs

Quality has many dimensions.

DIMENSIONS OF OUTPUT QUALITY:

- Conformance/accuracy
- Aesthetics—conformance in terms of appearance, sound, taste, smell, and feel
- Reliability
- Durability

DIMENSIONS OF SERVICE DELIVERY QUALITY OF THE STAFF:

- Responsiveness
- Enthusiasm
- Courtesy
- Competence and credibility
- Ability to communicate
- Authority and ability to solve problems

DIMENSIONS OF SERVICE DELIVERY QUALITY OF THE FACILITIES:

- Cleanliness
- Accessibility
- Safety
- Comfort

TO ILLUSTRATE

For garbage collection, the conformance dimension for product quality applies. Accuracy means that all garbage is collected and none left on the ground. There is also no damage to containers and proper placement of containers.

For unemployment benefits, all the conformance dimensions for product quality apply; all the dimensions for service quality apply.

Conformance always applies, and is the most applicable to services.

It is unique in that it is measured with respect to a requirement or specification. Error rate is a common quality measurement in government. An error is a deviation from what is defined as correct by a requirement or specification. In measuring cleaning, one needs a standard of cleanliness.

A prerequisite in measuring quality conformance is identifying the applicable quality requirement or specification in a way that deviations can be quantified.

FORMULA

Requirement – actual = quality level

In addition to calculation with data (as in statistical quality control), quality is measured with instruments (e.g., machines for checking pavement smoothness) and trained observers (e.g., to check cleaning of streets and offices).

Quality of delivery is best measured with a customer survey using a Likert scale instrument

Unit of measure

The increment we use to count adherence to, or deviations from, the requirement. Is there an acceptance range?

EXERCISE 4–3: MEASURING PERFORMANCE

Directions: In measuring your organization's performance, take a minute and list the following:

1. What dimensions of quality you would measure for performance.

_____

_____

_____

2. What you would use as the quality standard or requirement.

_____

_____

_____

_____

EFFICIENCY

The job in measuring efficiency is to select the desired measurement method or methods, then count the outputs to be included and decide on and count the inputs to match with those outputs.

Formula—Methods for measuring efficiency are discussed below.

Units of measure—Are needed for outputs and inputs.

Outputs—The unit will be the output itself (pieces of mail handled, cases processed, etc.).

Input—Use a unit for the resource(s) consumed that is the most meaningful. Example options are staff hours, full time equivalents, square feet, hours of use, dollars expended.

OUTPUTS

Counting of outputs was discussed under the performance aspect, output quantity.

INPUTS

Three choices on what resources to include:

1. Include all resources used in producing an output. We do this by using cost in dollars.
2. Include multiple resources, but exclude one or more. An example resource one might exclude, real property costs. We do this by using cost in dollars.
3. Include only one resource. The normal practice is to include the most predominant resource. Usually this is labor, especially in government. Common units of measure for labor are minutes, hours, days, FTE's, and staff years; dollars are not a desired unit.

Options when using labor as the input are the following:

- Direct labor only
- Direct and indirect labor separately
- Total labor, or a combination of direct and indirect labor

UNIT COSTS

Use dollars as input; work completed as output.

FORMULAS

unit cost = costs (of resources used) ÷ output quantity

Example
Cost per application processed or dollars per license issued.

unit cost = costs ÷ weighted output quantity

The latter formula is used with multiple outputs.

PRODUCTIVITY RATIOS

These are expressed as output per units of input.

Use resource quantity as input; work units completed as output.

FORMULA

output ÷ resource quantity used = productivity rate

Example

Applications processed per staff day or licenses issued per staff minutes consumed

Productivity ratio measures include only one resource. Usually that resource is labor, or the most substantive resource used. Use resource quantity when possible. When using cost (for the single resource) as the input, it usually is better to use unit cost measurement.

Note that unit cost is defined as the resources consumed to produce one unit of output.

PRODUCTIVITY INDICES

Expressed as a measure of the change over time of the quantity of products or services produced (output) to the quantity or cost of resources used in production (input).

Use resource quantity as input; work units done as output.

FORMULA

change in output ÷ change in input = productivity index

or

index of output ÷ index of input = productivity index

OPERATING COSTS TO TRANSACTION DOLLARS

A unique productivity ratio, usually expressed as a percentage

Use dollars as input; dollars as output. Output dollars are a proxy indicator of work done.

FORMULA

operating cost ÷ transaction dollars = efficiency rate

Examples

- Operating costs as percent of sales
- Operating costs as percent of benefit payments
- Operating costs as percent of taxes collected

RESOURCE UTILIZATION

Shows the usage rate of a given resource and would be used for critical resources.

FORMULA

amount used ÷ total available = usage rate

Examples

- Space occupancy
- Equipment availability
- Staff productive hours

INPUT RELATIONSHIP RATIOS

Show the relationship in use between two categories of resources. Are expressed as a rate or percentage and are pseudo measures in that they say nothing about efficiency. They are best used for diagnosis.

FORMULA

input A ÷ input B = usage ratio or percentage

Examples

- Direct to total staff
- Direct to indirect staff
- Supervisors to employees
- Students per teacher

Resources Per Capita Ratios

These measures show the ratio of some service resource to the population served.

Examples

- Library books per capita
- Fire trucks per capita
- Police on patrol per capita

These too are pseudo measures in that they say nothing about efficiency or effectiveness.

EXERCISE 4–4: MEASURING PERFORMANCE

Directions: In measuring your organization's performance, take a minute and list how you would measure efficiency.

What resource or resources would you include?

What measurement method would you use?

PRICE OR FEE

In government, price usually applies to the acquisition of resources. However, price can apply where a fee is charged (parking, green fee in golf, etc.) The concern is with both the absolute price and the change in price over time.

FORMULA

dollars paid ÷ units bought = unit price

price this year – price last year = price change

UNIT OF MEASURE

The normal unit is a dollar but it could be expressed in terms of $10, $100, etc.

In government, the terms *fee* and *penalty* are more commonly used than the term *price.*

MISSION PURPOSE

In government, the typical purpose of a program, service, or function is to meet, or eliminate, some need. As such, the purpose stands on its own as a measurable aspect of performance. One might, however, consider possible negative consequences.

Mission purpose is a performance aspect within the category of results or outcomes.

The job is to establish what the purpose is and find a way to quantify the level of purpose achievement attained. One measure is to relate what is achieved to a goal. The other is to compare the level achieved to what would have been without the program.

The unit of measure must relate to the purpose.

FORMULAS

The classic formula for evaluating program effect is:

results with program – results without program = program effect

or, measuring success:

goal – actual results (effect) = success level

(sometimes expressed as a percent ratio)

CUSTOMER SATISFACTION

This performance category includes citizen and user (consumer) satisfaction and perceptions of performance, usually with a number of performance aspects. Data can be obtained from citizens in general on community or societal conditions, or from specific users or target groups of particular programs or services.

Users are normally concerned with the following aspects of performance:

1. Benefit derived or purpose achievement
2. Quantity (sufficient to meet need or desire)
3. Quality of the product (one or more dimensions)
4. Quality of service delivery (one or more dimensions)
5. Timeliness
6. Price (where it applies)

Customers generally are not able to judge efficiency accurately (they may have observations or opinions).

FORMULA AND UNIT OF MEASURE

Customer satisfaction is best measured with a survey using a Likert scale instrument. The typical unit of measure is a scale of 1–7 or 1–5.

Citizen and customer complaints provide another source of data. Expressing these as a performance measure is tricky. One way is to measure total numbers of complaints. Another is to measure net increase or decrease in complaints. Yet another is to stratify complaints in level of severity and measure either total or net changes.

EXERCISE 4–5: MEASURING PERFORMANCE

Directions: In measuring your organization's performance, take a minute and list how you think the customer might rate your performance for each of the following aspects:

1. Quality of your product or service

2. Quality of delivery

3. Timeliness

4. Price (does it apply?)

5. Benefit

EXERCISE 4–6: ROAD MAINTENANCE AND REPAIR

Directions: For the following three road maintenance and repair activities, complete the table.

Mission: To ensure that pavement provides a smooth and safe ride, and lasts as long as it should (thereby reducing future costs for rehabilitation or reconstruction).

Aspect		Stripe Painting	Pot Hole Repair	Resurfacing
Input Quantity	Resource			
	Unit of measurement			
Output Quantity	Work unit types			
	Unit of measurement			
Efficiency	Formula			
	Unit of measurement			
Quality	Dimensions			
	Requirement			
	Unit of measurement			
Timeliness	Formula			
	Unit of measurement			

Lesson 5

Steps to Developing a Measurement System

This lesson will cover in detail the components necessary for developing a measurement system.

OBJECTIVES

On completion of this lesson you will be able to:

- Discuss the steps in preparing performance measures
- Develop a set of measures for case exercises following the steps

INTRODUCTION

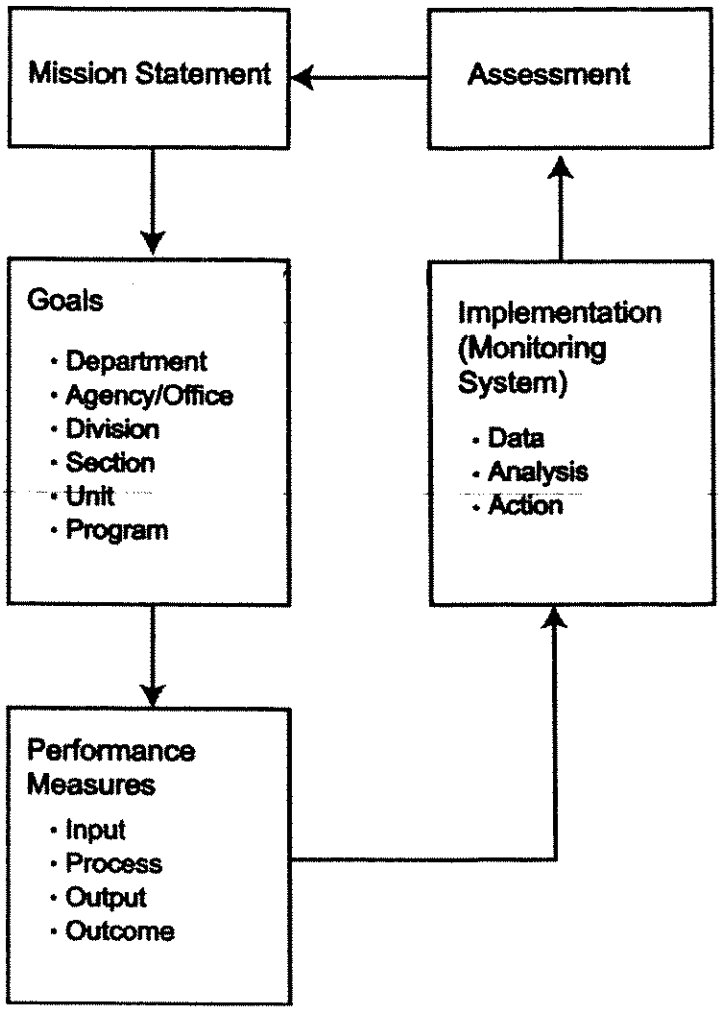
Measuring performance on a continuous or recurring basis requires that an entity have a performance measurement system.

Performance measuring systems will differ from organization to organization, but it is the manager's responsibility to ensure that the system provides performance measurement information necessary for management, reporting, and budgeting.

MANAGER'S SIX-STEP APPROACH IN DEVELOPING A MEASUREMENT SYSTEM

1. Affirm, for the subject program, service, or function the following:
   - The mission (purpose and goals)
   - The target population
   - The outputs (work done to achieve the purpose)
2. Identify uses and users of performance information.
3. Select aspects of performance, and dimensions of quality, to measure.
4. Develop the measurement system.
5. Establish a monitoring system to track and analyze changes in, and the adequacy of, performance by using trends and appropriate benchmarks.
6. Report on performance by providing explanatory data about the measures and results and displaying the results so they can be easily understood and remembered.

PERFORMANCE MEASUREMENT SYSTEM



A STEP-BY-STEP APPROACH TO MISSION STATEMENTS

This section will take a step by step approach to developing a measurement system.

Prepare a statement of, or affirm, the purpose for the subject program, service or function. All programs and services have some purpose in mind. That purpose is to address some need or problem, real or perceived.

Mission Statement

A clear statement of the purpose toward which the program, service, or function is directed.

The mission statement should do the following:

- Express the purpose in terms of results being sought.
- Identify the intended customer or target population.

A mission statement might also cite what is done (activities, outputs) to achieve the desired results.

A mission statement should not contain numerical targets.

A program may have more than one purpose. For example, the federal school lunch program initially had two.

1. To provide nutritious meals to the nation's children.
2. To supplement farm income by increasing food demand.

The purpose may be broadly and imprecisely stated. This does not preclude measurement.

The mission statement is the starting point for identifying the results to be measured and the related performance measure or measures that are needed.

Example: Mission Statements

Federal Offshore Oil and Gas Inspections Program

To verify, at reasonable cost, that oil and gas producers leasing federal lands accurately report the amount of oil and gas produced, operate safely, and do not pollute the environment.

Hospital Emergency Room

To give assurance to the afflicted.

Municipal Water Supply

To provide customers with an adequate supply of safe drinking water on demand at appropriate pressures and minimum cost, now and in the future. Secondary goals are the maintenance and replacement of current infrastructure and the provision of adequate customer service.

Garbage Collection

To provide, in the most efficient and effective manner, for the collection of solid waste, leaving an environment that is aesthetically pleasing and free of health hazards.

Road Maintenance

To ensure that pavement provides a smooth and safe ride, and lasts as long as it should (thereby reducing future costs for rehabilitation or reconstruction). To efficiently use labor, equipment, and material in doing the maintenance.

Internal Revenue Service

To collect the proper amount of taxes at the least cost.

General Services Administration

To ensure quality work environments for federal employees and do it better, cheaper, faster, easier, smarter, or not at all.

City Child Welfare

We, the employees of (blank) City's Child Welfare Administration, are dedicated to the mission of protecting vulnerable children from abuse and neglect (providing a safety net), stabilizing fragile families, and engaging communities.

Army Audit Agency

Provide objective and independent auditing and consulting services that help the Army make informed decisions, resolve issues, use resources effectively, and satisfy statutory and fiduciary responsibilities.

Step 1

Quantify Needs to be Met

Programs and services are intended to meet some need. If the actual need differs in nature and magnitude from that envisioned, this warrants consideration in deciding whether to proceed with measurement and in selecting what performance to measure. The program may have results other than those intended.

Identify and Quantify Target Population

The target population is the group, body or thing at which a program, service or function is directed. It is the target population that represents the need. For programs, people are often the target population. However, the population can be things, such as land and air, and activities or locations where work is done, such as offices that process claims and plants that generate nuclear power. It can be important to know the full demographics of the target population, particularly size and location, and age (where the population is people).

Identify the Outputs

Outputs are the heart of a program. They are what is to be done to resolve the target problems and achieve the intended purpose and goals. Outputs are sometimes referred to as program treatments, activities, and services to be delivered. The procedures employed in a program are how the outputs are produced or delivered.

Programs and services may have components; two or more interrelated but independent parts that produce distinct outputs. A job training program could, for example, have the following three components:

1. Classroom training
2. School-related temporary on-the-job training (e.g., co-op programs)
3. Job placement

There will be one or more outputs for each component.

Step 2: Identify Uses and Users

The tasks in this step are to identify who the intended user group or groups for the performance measurement information are, and what they would expect to use the performance information for. Measures for internal management will likely be more numerous and detailed than measures for external reporting.

Step 3: Select What Performance Aspects to Measure

The tasks in this step are to select what aspects of performance, and any related dimensions, to measure. This might be done in strategic planning. The following is a suggested approach:

1. Develop a list of possible aspects to measure.
2. Select those aspects that are most appropriate given the program's purpose and user needs.
3. For each aspect, select applicable or desired dimensions of performance (if any) to measure.

Goals should be established at this point, if possible.

Step 4: Develop Measurement System

The task here is to develop a system for measuring performance on a recurring basis. The system may be automated or manual. The following is a suggested approach:

1. For each performance aspect and any chosen dimensions, choose the appropriate measurement method, formula, and unit of measure.
2. Identify the source of data needed to support the measures.
3. Decide how, on a recurring basis, to collect the data and to assure its reliability and validity. Whenever feasible, use existing information systems to provide the data. It is desirable to estimate the cost of collecting the data.
4. Prepare the measures.

Step 5: Establish a Monitoring System

The task in this step is to establish a monitoring system to track and analyze (see performance management control model) changes in, and the adequacy of, performance using goals based on trends and appropriate benchmarks.

1. Establish a goal or goals for assessing the adequacy of performance (if not done previously). Choose "base year" for analyzing performance trends. Choose benchmark comparisons to use as a goal. Benchmarks enable management to determine if the level of performance achieved for each performance aspect and each dimension is satisfactory. Refine benchmarks over time.

2. Compare measured performance (actual) to the goal or goals.
3. If actual performance varies from goals, have a process for determining the explanation and initiating appropriate action. In some cases, one appropriate action may be to change the goal.

Goals are indispensable to management control. Mission goals are quantifiable statements of measurable expectations which contribute to accomplishing the program's mission. Operating goals apply to other aspects of performance (efficiency, quality, timeliness, etc.).

Programs are expected to have goals. They may be set by the legislative function or by management A good goals statement will do the following:

1. Quantify the expected results in terms of amount or level.
2. Specify the time frame to achieve that level or levels.

In assessing the adequacy of performance, legislative and management established goals should be used with caution. There is the risk that goals they set will be unrealistic.

Good Goals

- Clear
- Specific
- Measurable
- Practical and cost beneficial
- Attainable within a specific time frame

Illustration Council Priority: Opportunities for Youth

Austin, Texas commits to assist youth and support families in the healthy development of children, enabling youth to maximize their potential, to make positive lifestyle choices and to become productive citizens.

Mission 1	Youth crime—Reduce the incidence of crime committed by youth ages 10–16.
Goal A	Reduce the number of auto thefts by youth from ages 10–16 by 10% by September 2001.
Goal B	Reduce the number of youth involved in drug activity by 20% by September 2001
Mission 2	Education—Increase the percentage of students progressing successfully through the school system to graduation.
Goal	Reduce the dropout rate from 24% to 19% by June 2001. (Cultural reductions: Hispanic from 33% to 19%, African-American from 26% to 19%, and Anglo from 17% to 8% by 2001.
Mission 3	School to work transition—Increase employment opportunities for youth.
Goal	Increase meaningful summer employment opportunities by annually coordinating services for 2,000 youth ages 14–23, 65% are to be economically or socially challenged.
Mission 4	Teen pregnancy—Reduce the rate of unwanted teen pregnancies.
Goal	Reduce the teen pregnancy rate among children 13–17 years of age by 1% per year between 2000 and 2004.
Mission 5	Child abuse—Reduce the incidents of child abuse and neglect in Austin, Texas.
Goal	Produce a community plan to reduce child abuse and neglect from 75 per 1,000 annually to less than 36 victims per 1,000 by the year 2004.

Sources for Performance Goals

Trends of an Entity's Performance with Prior Periods

Trend data provide essential knowledge about whether performance has increased or declined. Trends do not truly show whether performance is satisfactory. Measures for a period of at least five years should be used; comparison for a shorter period (such as three years) can mislead and result in erroneous conclusions.

Accepted Norms

Generally accepted norms, such as payment of bills within 30 days, can be useful; but they tend to become outdated.

Technical Analysis

Analysis of what is possible or reasonable are very useful. "Should-take times" computed by industrial engineers are an example. The analysis can be prepared by your audit staff.

Working Time to Actual Elapsed Time

The amount of hands-on time it takes to do a job can sometimes be used to assess the reasonableness of actual elapsed time for job completion (e.g., 20 working hours for claim examination and processing compared to nine months actual processing time).

Inter-Program Comparisons Between Divisions, Offices, and Geographic Areas

These provide a good picture of the range of performance within an entity or program, and are helpful in identifying opportunities for improvement by good managers.

External Comparisons with Entities Doing the Same or Similar Work

External comparisons provide the best benchmark and are used by many private sector companies.

Customers

The opinion of service recipients and taxpayers or residents may be the ultimate criteria for certain aspects of performance.

Criteria to Develop Performance Goals

Sources

- Historical trends

Plus (one or more of the following)

- Benchmark programs to comparable programs in other public or private sector organizations
- Comparisons within the organization but among different organizational units, locations, client groups, or geographical areas
- Customer expectations or demands
- Program intent
- Internally established targets
- Industry or sector standards
- Working time to actual elapsed time (for timeliness goals)

Examples of Performance Goals and Measures

Model Component	Goal	Measure
Input economy	In FY 01, decrease the audit office's personnel allocation by five full time positions.	Number of audit office positions deleted in FY 01.
Process efficiency	In FY 01, provide branch library services at the staff cost of $2 or less per patron.	Average branch library staff costs per patron in FY 01.
Output quality (accuracy)	In FY 01, reduce the restaurant critical inspection error rate by 10%.	Restaurant critical inspection error rate in FY 01.
Output quality	In FY 01, expand curbside recycling services to 1,000 additional homes.	Number of additional homes receiving curbside recycling services in FY 01.

Model Component	Goal	Measure
Output timeliness	In FY 01, all level-1 emergency calls will be responded to with a unit on site within six minutes.	Response times (range) to level-1 emergency calls in FY 01.
Outcome effectiveness	In FY 01, place in permanent jobs 15 at-risk youth enrolled in a pilot employment program.	Number of pilot program participants placed in permanent jobs in FY 01.

Step 6: Report on Performance

In reporting the results of measured performance, the Governmental Accounting Standards Board in its SEA research report recognized that there will be a need to provide some explanatory information. Three types of explanatory information may be needed.

- Background information about the program purpose, method of operation, and outputs.
- Explanation of what the reported performance measures actually show. This is needed where interpretation is not self-evident, or where confusion, distortion or misinterpretation may occur.
- Explanation of the reasons for changes in performance and for shortfalls in performance. Users will likely want to know the reasons and what action management plans to take.
- Additionally, the wise manager will indicate the impact changes in performance and shortfalls will have on budget planning. It is always better to plan corrective actions internally than to have them externally imposed.

It is critical in reporting to display the measured results so they can be easily understood and remembered. Visual presentation in charts and graphs is recommended.

Be a Manager: Create Your Own Performance Measurement System

EXERCISE 5–1: WATER AUTHORITY

Directions: In this first planning session, you are to complete the first four steps in developing a measurement system. Do this for Water Delivery, and any other department responsibility assigned by your instructor.

You are managers in the Municipal Water Authority.

The Water Authority's mission is the following:

To provide customers with an adequate supply of safe drinking water on demand at appropriate pressures and minimum cost, now and in the future. Also, provide for the maintenance and replacement of current infrastructure and the provision of adequate customer service.

As managers of the Department of Water Delivery you are accountable for generating sufficient revenues from water sales to finance operations of the Water Authority. The Department's responsibilities include the following:

1. Delivery of water to residents and businesses
2. Marketing of water sales
3. Billing and collection for water use
4. Reading water meters

The Department of Water and Sewer Infrastructure is responsible for maintenance of the water system infrastructure, and for construction of new infrastructure. The Department of Water Supply is accountable for obtaining an adequate supply of water and for the purity and overall quality of the water.

The Water Authority is a public utility that is intended to be self financing. Over the past five years the financial statements have shown a small loss.

There are 60,000 residents within the Water Authority's area of water delivery; 45,000 obtain their water from your department. Five years ago, the number was 50,000. Complaints abound about the quality of the water, the accuracy of billing and meter readings, and customer service. There are weekly complaints of water main breaks and long delays in reconnecting affected residents with water. There are concerns within your department with loss of water and delinquency of residents in paying water bills.

Other than measures of profit and a count of water customers, your department does not have a systematic set of performance measures.

As part of a strategic planning initiative, you, as the managers of the water delivery department, have decided to develop a measurement system.

1. Affirm the mission purpose.
   a. Quantify needs to be met
   b. Identify and quantify target population
   c. Identify outputs
2. Identify uses and users of performance information. Assume that the use is for external reporting to the mayor and city council. Data will be released to the press.
3. Select aspects of performance and any related dimensions to measure.
4. Develop a measurement system.
   a. For each aspect and chosen dimensions, choose the measurement method (formula) and unit of measure.

Service: Water Delivery			
Mission: To provide customers with an adequate supply of safe drinking water on demand at appropriate pressures and minimum cost, now and in the future. Also, provide for the maintenance and replacement of current infrastructure and the provision of adequate customer service.			
User and uses: External reporting to city council and mayor			
Outputs:			
Target population:			
Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

EXERCISE 5–2: LICENSING DRIVERS

Directions: In this, your first planning session, you are to complete the first four steps in developing a measurement system. Do this for issuance of licenses for new drivers (not previously licensed) and renewal licenses.

You work within your state's department of cars and drivers.

As managers in headquarters of the drivers unit you are accountable for issuing drivers licenses to persons demonstrating the competency to drive cars and motorcycles, commercial trucks (with over 10 wheels), and commercial passenger carrying vehicles. There are 75 locations throughout the state where your unit issues drivers licenses. Your Unit's responsibilities include the following:

- Issuing licenses to new drivers
- Renewing licenses for drivers with a valid in-state license
- Issuing licenses to out-of-state drivers holding a valid drivers license
- Issuing licenses to experienced drivers with a prior license who do not currently have a valid license
- Issuing replacement drivers licenses

By state law you are to charge a fee that covers half the administrative cost of operating the drivers unit.

The cars unit is responsible for licensing vehicles in the state. The records unit maintains a computerized file of all vehicle and drivers licenses that the cars and drivers unit's access via computer.

You, the managers of the drivers unit, regularly proclaim that your unit is the most efficient drivers license issuing office in the nation. The legislature has remarked on your ability to keep costs low. However, your unit receives daily complaints from citizens about half-day waiting times and delays in getting a license.

Also, it's rumored that anyone can get a license in your state.

Other than a count of licenses issued and budget figures on cash expenditures and receipts, your unit does not have performance measures.

As part of a strategic planning initiative, you, as the managers of the drivers unit, have decided to develop a measurement system for your management use. Your unit is not satisfied with the existing mission statement.

1. Affirm the mission purpose.
   a. Identify needs to be met
   b. Identify target population
   c. Identify outputs
2. Identify uses and users of performance information.
3. Select aspects of performance and any related dimensions to measure.
4. Develop a measurement system.
   a. For each aspect and chosen dimensions, choose the measurement method (formula) and unit of measure

Service: Licensing drivers			
Mission: To issue state drivers licenses to persons demonstrating the competence to drive vehicles.			
Uses and users: Managers of the drivers unit.			
Outputs:			
Target population:			
Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

EXERCISE 5–3: TAX COLLECTION

Directions: In this, your first planning session, you are to complete the first 4 steps in developing a measurement system. Do the following for all duties of your Bureau:

You are managers within your county's auto tax bureau.

The State Legislature, several years ago, enacted legislation authorizing local governments in the state to collect a property tax on vehicles. Counties may set the tax rate up to a maximum of 4% of vehicle value and are to use a published blue book to establish vehicle values. Your county has been collecting the tax from the year the authorizing law was enacted. It set the tax rate at 4% and uses the tax to establish vehicle values.

The mission statement for your Bureau reads, "To collect the proper amount of auto taxes, timely, at the least cost."

Your auto tax bureau has the following duties, for which you as managers are accountable:

1. Establish the value of vehicles for tax purposes.

2. Compute the amount of tax that each resident owes on each car they own using the county imposed 4% tax rate and the vehicle value determined by your bureau.

3. Hear and rule on appeals from residents about the vehicle values established by your bureau.

4. Collect the tax amounts due and remit them to the county treasurer, less operating costs for the Bureau.

The County Board of Supervisors (county legislative body) has asked you to justify why the amount of tax remitted to the treasurer has declined each year for the past seven years. Also, ad hoc numbers put together by your budget office indicate that appeals have increased by about 5% a year and all appeals (in the budget office sample) are found to have merit and the vehicle value is adjusted down.

You have a count of tax notices issued and the cumulative assessed tax, and accounting figures on tax collections, cash expenditures for Bureau operating costs, and tax remittances to the county treasurer. However, your bureau does not now maintain performance measures.

As part of a strategic planning initiative, you, as the managers of the auto tax bureau, have decided to develop a measurement system. Your intent is to use the measures for management of the bureau and to report to the County Board of Supervisors.

1. Affirm the mission purpose.
   a. Identify needs to be met
   b. Identify target population
   c. Identify outputs
2. Identify uses and users of performance information.
3. Select aspects of performance and any related dimensions to measure.
4. Develop a measurement system.
   a. For each aspect and chosen dimensions, choose the measurement method (formula) and unit of measure.

Service: Tax collection			
Mission: To collect the proper amount of auto taxes, timely, at lest cost.			
Uses and users: External reporting to the county board of supervisors; internal management.			
Outputs:			
Target population:			
Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

Performance Category	Performance Aspect or Dimension	Formula – Measurement Method	Unit of Measure

Lesson 6

Performance-Based Budgeting

information on the subsequent five years). Strategic plans shall contain a comprehensive mission statement that covers major functions and operations of the agency; general goals and objectives, that include outcome-related goals and objectives, especially for major functions; a description of how goals and objectives are to be met; description of how the performance goals interrelate with the strategic goals; clear identification of external agency factors that can significantly impact the agency's ability to achieve its goals and objectives and a description of program evaluation process used to establish, reassess and continuously evaluate goals and objectives.

2. Annual Performance Plans

All agencies are now required to submit annual performance plans (began for fiscal year 1999) when budgets are submitted. These plans shall accomplish the following objectives:

a. Establish performance goals that discuss the level of performance to be achieved by program activity.

b. Express such goals in an objective, quantifiable, and measurable form, unless authorized to be in an alternative form.

c. Briefly describe the operational processes, skills, and other technology, and the human capital, information or other resources required to meet the performance goals.

d. Establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity.

e. Provide a basis for comparing actual program results within the established performance goals.

f. Describe the means to be used to verify and validate measured values.

3. Program Performance Reports

Commencing March 31, 2000, and no later than March 31 of each year thereafter, the head of each agency shall prepare and submit to the president and the congress a report on program performance for the previous fiscal year. The report shall do the following:

a. Set forth the performance indicators established in the agency performance plan. It also must include the actual program performance achieved compared with the performance goals expressed in the plan for that fiscal year.

b. If alternative goals were specified in an alternative form, the results of such a program will be described in relation to such specifications. Pro-

gram performance reports are to include information on whether performance failed to meet the criteria of a minimally effective or successful program.

c. The fiscal year 2000 report shall include actual results for the preceding year. The report for fiscal year 2001 shall include actual results for the two preceding fiscal years. The fiscal year 2002 report and the reports for all subsequent years shall include annual results for the three preceding fiscal years.

Information contained in each report will accomplish the following:

- Include information on an agency's success toward achieving performance goals.
- Evaluate performance plan for the current fiscal year relative to the performance achieved toward the performance goals in the fiscal year covered by the report.
- Explain and describe when a performance goal has not been met
- Information on any waivers (granted by the director of OMB)
- Summary of findings for any program evaluations conducted during the year

Drafting of this information is only to be performed by federal government employees. The intent of the law is for federal employees to take ownership and responsibility for achieving their agency's goals.

In the course thus far, you have learned a great deal about performance measurement. You have learned what it is, what is required, why it is required, and how to do it. Now we will examine how it is applied to that most critical evolution in government—budgeting.

BUDGETING IN THE FEDERAL GOVERNMENT

GPRA has focused all government agencies on developing their mission statements, goals, and objectives. The next step is to prepare a performance-based budget. Let us first establish an important point when we discuss budgets. Distribution of the budget is very political.

Appropriated resources directly impact who will have and who will have not. The external and internal workings of an organization influence budgets, as well as the political process within congress and the administration.

The formal definition of a budget is a specific plan for future spending. In the federal government, the president of the United States—representing the executive branch (and acting through OMB) prepares a budget request and presents it to congress—the legislative branch. The legislative branch is responsible for reviewing the budget request, establishing funding levels, voting, and forwarding an appropriations act to the president for signature. After the president's signature, the act becomes law, and agencies then have an appropriations law, which they are required to execute.

Over just the past 40 years at least four budget systems have been employed by the federal government.

1. Zero-base budgeting
2. Program budgeting
3. Line-item and object of expenditure budgeting
4. Performance budgeting

ZERO-BASED BUDGETING (ZBB)

ZBB was initiated by President Carter during the late 1970's and is still being used by a number of the states. ZBB requires that all financial needs be re-evaluated each budget cycle and that justifications be prepared explaining each of the requirements.

PROGRAM BUDGETING

Some individuals use performance budgeting and program budgeting synonymously. A system called the Planning Programming and Budgeting System (PPBS) was extensively used during the administrations of Presidents Kennedy and Johnson. It is still employed by the Department of Defense, primarily because it provides a five-year advanced budget projection and detailed planning processes.

Program budgeting provides a systematic approach to planning. The five major elements of the PPBS applied by the Defense Department are as follows:

1. Identify and define the fundamental objectives of the government and relate all activities to those objectives—regardless of which department directs the activities.
2. Explicitly and methodically identify alternative methods for accomplishing objectives.
3. Estimate total cost implications of each alternative, looking not just at the coming year but several years into the future.

4. Examine the expected future benefits of each alternative, as it relates to funding and quality.

5. Present the resulting cost and benefit comparison for each alternative, discussing any major assumptions and uncertainties. Providing this information to decision makers enables them to make a more informed decision.

This method of budgeting provides decision makers with effective alternatives so there is a link between using good data and making quality decisions.

LINE ITEM AND OBJECT OF EXPENDITURE BUDGETING

Currently, the federal government uses a combination of line item budgeting and object of expenditure (object class) budgeting. Expenditures are tracked by both activity and by object class. Both are consistently applied across government entities, however, agencies have the option of using subobject class codes to better define their obligations and expenditures.

Line item and object class budgets focus on inputs. Inputs include the processes and resources used to accomplish outputs or short term goals and they normally do not link budget needs to anticipated program results. In a line item and object class system, budget requests are not associated with performance or program objectives. The emphasis is on the areas where funds are spent, and the functional organization, not the relevance of what is accomplished with those resources.

Shown below are some examples of the object class code and standard titles. A listing of object class descriptions is prepared by the Office of Management and Budget and published in OMB Circular A-II.

Code	Standard Title
11.1	Full time permanent personnel
11.5	Other personnel compensation
12.1	Civilian benefits
21.0	Travel and transportation of persons
22.0	Travel and transportation of things
24.0	Printing and reproduction
25.1	Advisory and assistance services
26.0	Supplies and materials
31.0	Equipment

Example of a line-item budget

General Services Organizations

Financial Plan—Costs by Activity and Division (Dollars in Thousands)

Activity and Installation	Total	Q1	Q2	Q3	Q4
Maintenance					
East	13,700	3,310	3,540	3,480	3,370
West	9,460	2,310	2,420	2,420	2,310
Total	23,160	5,620	5,960	5,900	5,680
Supply operation					
East					
West	46,240	10,980	11,870	11,870	11,520
Total	43,500	8,500	12,250	10,500	12,250
	89,740	19,480	24,120	22,370	23,770

Activity and Installation	Total	Q1	Q2	Q3	Q4
Contracting					
East	3,500	845	905	935	815
West	2,500	595	655	655	595
Total	6,000	1,440	1,560	1,590	1,410
Totals					
East	63,440	15,135	16,315	16,285	15,705
West	55,460	11,405	15,325	13,575	15,155
Total Costs	118,900	26,540	31,640	29,680	30,860

The following is an example of an object class budget for the same organization.

General Services Organization

Financial Plan—Costs by Object Class (Dollars in Thousands)

Object	Total	Maintenance	Supp. Ops.	Contracting
Personal compensation	64,580	15,600	45,340	3,640
Personnel benefits	5,650	1,300	4,050	300
Travel and trans. Persons	1,450	270	1,000	180
Transport things	2,170	270	1,800	100
Rent, comm. and utilities	2,900	500	2,220	200
Other services	22,950	1,820	20,350	780
Supply and materials	19,200	3,400	15,000	800
Totals	118,900	23,160	89,740	6,000

Year after year, agencies present the budget baseline, request an increase in funding, and explain or justify why they are requesting the increase. The increases are presented by object class and the justifications for the increases are also explained by object class. Again, the program goals and objectives are not primary issues in the current budget presentation information.

PERFORMANCE-BASED BUDGETING

Performance-based budgeting concentrates on processes rather than inputs. Processes are those activities that need to be accomplished to meet goals. Performance budgets are tailored to show a direct link between anticipated program results and proposed spending. Beginning in fiscal year 1999, the president was required to submit an overall federal government performance plan along with the budget. The office of management and budget has been overseeing pilot programs in the performance budgeting area.

Activities used in a performance budgeting environment are accompanied with workload indicators. For some agencies the emphasis is on activities, their unit cost, and the total cost.

As budget resources become more limited it will become more important to link program performance and expected results with funding resources. In addition, the requirement that a performance plan be submitted with all budgets beginning with the FY 1999 budget will begin the challenging exercise of associating budget needs with anticipated program results. For program budgeting to be successful there must be a diligent effort to develop credible performance measures that are recognized and respected by both the executive and legislative branches of our government. There must also be a clear and concise crosswalk to performance budgeting from our current budget system. This will help lawmakers develop confidence in performance budgeting. Establishing accounting systems that not only address object class groupings but also include program performance costs will be a significant step towards linking performance budgeting to program goals and results.

Advantages and Disadvantages of Various Budget Systems

Budget System	Advantages	Disadvantages
Line item or object class	Emphasizes expenditure control; tells what is being purchased; focuses on inputs tight expenditure control.	Difficult to determine if agency is wasting resources; does not give program or activity information; limited information for policy makers; there is no useful efficiency information.
Program	Promotes organizational output; treats budget as a planning document; has four components (structure, projections, program memoranda, and analytical studies).	Requires evaluations and not all programs can be analyzed yearly; does not always adequately cover short term outputs.

Budget System	Advantages	Disadvantages
Performance	Focuses on processes or activities; eliminates the overlapping of programs; highlights strategies for better management and evaluation; uses indicators to track progress; explains how efficiently tasks are being accomplished; emphasizes cost analysis data and uses unit cost information; allows flexibility in presentation; increases accountability; links planning, budgeting, and program evaluation.	Does not concentrate on inputs; does not ask the question, "Should the agency be performing this task, program, or activity in the first place?"

What do the advantages of performance-based budgeting translate to?

1. Focuses on processes or activities; eliminates the overlapping of programs; highlights strategies for better management and evaluation. This element groups together programs and activities that share the same purpose and allows legislators to measure various programs with a common purpose. Strategies and activities for achieving the purpose of a program can also be more clearly identified.
2. Allows for better short-term management and long-term evaluation of programs by providing direction to program managers, improving program performance, and providing measures of results.
3. Brings flexibility of presentation of the budget material presented by departments with the expectation that the proper questions are asked.
4. Yields to oversight which provides increased accountability, more clearly defined outcomes and outputs, and comparisons of programs.

ELEMENTS TO CONSIDER WHEN PREPARING A PERFORMANCE BUDGET

Performance-based budgeting is a dynamic subject and pilot programs have been underway under the guidance of the office of management and budget. Over the past several years, states and foreign governments have made tremendous strides preparing performance budgets. However, there is much work to do on the federal level.

To transition current accounting and management information systems to performance-based budgeting programs will be a challenging endeavor. Cost center data may help accomplish this goal. The cost center codes or description sections in agency accounting or financial management systems are a current means for grouping or capturing program financial data. Multiple sections of a cost center code or description listing allow various ways to manipulate financial information. The following steps are recommended in developing a performance budget:

1. Understand each organization's mission and goals
2. Create overall program areas or activities
3. Identify goals and programs that support major program areas
4. Develop programs, subprograms, and elements
5. Narrative descriptions of performance budget categories
6. Cost the performance programs and budget
7. Overview, summary sheet, and other relevant budget data

Step 1 Understand Each Organization's Mission and Goals

GPRA requires that each federal organization develop a five year strategic plan that defines the agency's mission statement and goals. Before a performance budget can be developed, there must be a clear understanding of why the agency exists and what does it exist to do.

The three primary questions asked when developing a mission statement are the following:

1. What is the service/commodity/product being furnished?
2. Who is the targeted group receiving/eligible for the service/commodity/product?
3. In general terms, why is the program beneficial?

By responding to these questions, agencies are able to develop mission statements and begin to define their critical goals.

EXERCISE 6–1: DISSECTING A MISSION STATEMENT

Directions: As a class, critique the mission statement for the National Parks. Does it answer the three questions?

For your information, the mission statement for the National Park Service, United States Department of Interior, is as follows:

> To conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

1. What is the service/commodity/product being furnished?
2. Who is the targeted group receiving/eligible for the service/commodity/product?
3. In general terms, why is the program beneficial?

How would you recommend improving the mission statement for purposes of program budgeting?

EXERCISE 6–2: CREATING A MISSION STATEMENT FOR A NEW PARK

Directions (Group Exercise): The class will be divided into groups of no more than four individuals. Each group will work together on the exercises for today. Using the questions presented above, and a specific location you select for your park (any will do, from a city block to Yosemite, you choose) create a mission statement for a park. Your group should decide on the theme for the park.

USE THIS AREA TO WRITE A MISSION STATEMENT

Step 2 Create Overall Program Areas or Activities

Creating program areas is done by identifying major activities important to the agency or organization. The program areas should allow for establishing activities together that have similar purposes. Some examples of program areas or activities are the following:

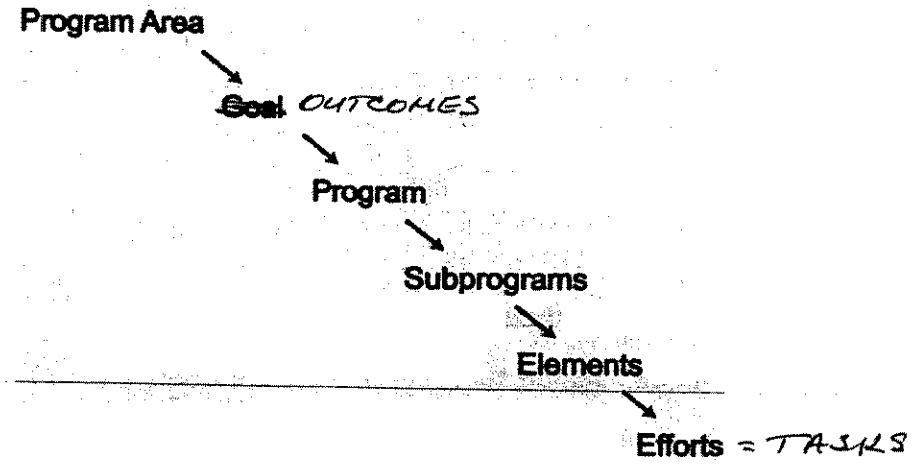
- Jobs and employment
- Transportation system
- Telecommunications networks
- Education
- Natural resources
- Cultural resources
- Environment
- Housing
- Commerce and economic development

Step 3 Identify Goals and Programs that Support Major Program Areas

Programs mandated by statute have a stronger basis for existence and, possibly, more of an opportunity for funding than those programs that are not supported by federal law. Any public law reference numbers should be used in narrative presentations. The program categories developed should be broad enough to do the following:

- Address common goals
- Have similar clients
- Have similar outcome measures
- Be analyzed by similar methods

There is a flow down of work processes from the general level to a more detailed level. You should emphasize a few vital goals. The flow down of items is demonstrated in with the following chart:



Step 4 Develop Programs, Subprograms and Elements

Please note that programs may be divided into subprograms, elements, or efforts. However, not all programs are divided into subprograms or elements. Depending on the agency or organization's budget policies, they may be divided directly into efforts.

Note: If an activity-based management system is used, the further flow down is typically from elements to processes to activities to tasks. In much of the performance-based budgeting literature, processes are often synonymous with efforts.

Step 5 Narrative Descriptions of Performance Budget Categories

The major program areas should have descriptions, in narrative format, that identify the following goals based on the following:

- Need and/or demand for service
- A description of activities
- Objectives for each activity
- Measures of outputs and outcomes
- Agency efforts by fund and the dollar requirements

EXERCISE 6–3: CREATING PROGRAMS AND PERFORMANCE MEASURES FOR YOUR PERFORMANCE-BASED BUDGET

Directions: Now that you have prepared a mission statement, create two major programs for your park (e.g., safety). To support each of the two programs you have developed for your park, use the following format and examples to support the items outlined in Step 5. (Program area, goal, subprograms, elements, efforts.) For each of the two program areas develop a goal. For subprogram/activities you have identified, develop objectives and performance measures. Costing the budget will be done in Exercise 6–4, after discussion of step 6. Remember, these budgets will be presented to the class.

Format and Example—Performance Measures

Program Area: Safety

Goal: For each program area develop a goal. Example: To protect employees and park properties against criminal activities and man made hazards and coordinate the response to disaster situations as a result of natural and human causes.

Subprogram or Activity: For each subprogram or activity that you designate you must have at least two objectives and at least one performance measure for each objective.

Example:

Subprogram or Activity: Security Partrol

Objective 1: To reduce the incidences of criminal activity on park properties by 20 percent during the year

Objective 2: To reduce response time to 5 minutes for all help calls

Performance measures:	Current Year	Budget Year est.
Number of crimes on agency property	52	42
Average response time	7 minutes	5 minutes

Program Area: 1

Goal:

Subprogram or Activity 1: _____

Objective(s):

Performance Measures:	Current Year	Budget Year est.

Subprogram or Activity 2: _____

Objective(s):

Performance Measures:	Current Year	Budget Year est.

Program Area: 2

Goal:

Subprogram or Activity 1: _____

Objective(s):

Performance Measures:	Current Year	Budget Year est.

Subprogram or Activity 2: _____

Objective(s):

Performance Measures:	Current Year	Budget Year est.

STEP 6

Once your have completed Steps 1–5 it is now time to focus on what has been the primary focus of budgeting in the federal government; assigning costs to budgeted items. (You will finish costing your budget in exercise 6–4). Before going to Exercise 6-4, we must discuss several important points.

First, OMB requires all agencies to develop object class budgets. Object class budgets are routinely developed by most agencies for major program areas. Next, GPRA requires a performance plan for all agencies with the fiscal year 1999 budget. This requires aligning costs of major program areas with core subprograms and activities.

In some agencies developing performance plans around core subprograms and activities has been and still is difficult. This is because they have not developed clear and concise crosswalks from the traditional system of budgeting to performance budgeting. In order to develop budget plans based on cost by subprogram/activities a systematic cross walk must be developed.

To manage core subprograms and activities, many agencies are adopting activity-based management (ABM) and activity-based costing (ABC).

Organizations that use ABM and ABC understand that they must maintain the traditional object class structure for external reporting. On the other hand for internal planning and accountability, they also develop activity-based budgets with dollar amounts assigned to specific activities, based on the expected volume output. Such budgets include targeted activity costs and appropriate performance measures.

DEFINITIONS

ABC

A cost accounting methodology that measures the cost and performance of process-related activities. It assigns costs to cost objectives such as subprograms, processes, and products.

More complex federal agencies are now using relational financial management databases with ABC methodology to link activity information in a common data source.

In order to build these data bases organizations must identify and define critical core subprogram activities. Subprogram /activity dictionaries and appropriate coding structures are developed for aggregating data.

ABM

A management structure that structures its operations along its major program lines, their core subprograms, activities processes, and outputs. It is top down and bottoms up with emphasis on improvement.

activity dictionary A list with a clear concise description of all core subprograms and their activities and includes the specific program area location. Some activities are cross functional in that they may occur in more than one function, department, or major work unit.

ABC cost accounting information is designed to identify and tie all costs incurred to a particular program, subprogram, activity, or process.

The purpose of ABM and ABC is to produce and report cost information required for performance planning, developing budgets, and day to day decision making. This of course allows managers to be both accountable and responsible for the activities that they manage.

ABC analysis offers a variety of tools to managers such as cost driver analysis, benchmarking, and value analysis to better understand cost of performing certain activities.

benchmarking A method used to understand an activity or process, then to look at internal processes or activities that are similar for which that activity or process can be measured. Benchmarking is most commonly used by government agencies to set performance standards based on best practices of other government organizations.

common data source All of the financial and programmatic information available for the budgetary, cost, and financial accounting processes. It includes all financial information and much nonfinancial data, such as environmental data, that are necessary for budgeting and financial reporting. It also includes evaluation and decision information developed as a result of prior reporting and feedback.

cost driver/cost driver analysis A factor that is the basic cause of changes in the amount of resources that an activity consumes. The cost of an activity is the function of one or more processes that drive consumption patterns. For example if in a year an activity requires 50 inspections at an average cost of $75 each to perform, it consumes $3,750 total for these inspections. Through cost driver analysis you can understand how the level of resources for any activity varies and budget allocations can be adjusted accordingly.

value analysis An analysis that reviews activities to determine whether or not they add value to an activity or process. Value added activities should be reviewed for continuous improvement. Activities that are non value added should be eliminated.

EXERCISE 6–4: COSTING YOUR BUDGET

Directions: First, you will develop object class budgets for the three major program areas. Next, you will enter cost data on the performance-based budgets for the three programs areas that you started in Exercise 6-3. The total costs on the performance-based budget should equal the total cost on the object class budgets.

Finally, after you have developed performance measures and entered cost data for your budget, prepare a program summary using the worksheet at the end of this lesson (to be presented to the class).

ASSUMPTIONS

- Object class budgets are available from a common data source for each major program area showing the actual costs for the prior year. The cost is fictional (for the purpose of this exercise, you make up the costs).
- Your total current budget year base is expected to increase by 5% in the next budget year. On the program cost summary worksheet, you must spread the total fictional cost for each subprogram activity. Total cost on object class budgets and program summary worksheet must match.
- Once this is done, list in bullet form your reasoning for the current year budget and any recommended modifications for the ensuing fiscal year. Your logic should be based on the performance indicators that you have developed in Exercise 6–3.

BUDGET OBJECT CLASS WORKSHEETS

Program Area 1	
	CY Budget Base 000's
O.C 11.1 Full time personnel 11.5 Other Personnel Comp. 12.1 Personnel Benefits 21.0 Travel 24.0 Printing and Repro. 25.0 Other Miscellaneous Services 26.0 Supplies and Materials 31.0 Equipment **Total**	

Program Area 2	
	CY Budget Base 000's
O.C 11.1 Full time personnel 11.5 Other Personnel Comp. 12.1 Personnel Benefits 21.0 Travel 24.0 Printing and Repro. 25.0 Other Miscellaneous Services 26.0 Supplies and Materials 31.0 Equipment **Total**	

Program Area 3	
	CY Budget Base 000's
O.C 11.1 Full time personnel 11.5 Other Personnel Comp. 12.1 Personnel Benefits 21.0 Travel 24.0 Printing and Repro. 25.0 Other Miscellaneous Services 26.0 Supplies and Materials 31.0 Equipment **Total**	

Program Cost Summary

The following format is provided for training purposes (to be presented in class).

	Current Year Budget Base	Recommended Modifications Increase/ Decrease	Budget Year Total
Program 1			
Subprogram/activity			
Measures			
Subprogram/activity			
Measures			
Subtotal			
Program 2			
Subprogram/activity			
Measures			
Subprogram/activity			
Measures			
Subtotal			
Program 3			
Subprogram/activity			
Measures			
Subprogram/activity			
Measures			
Subtotal			
Grand total			

SUGGESTED REFERENCE MATERIAL

Executive Guide: Implementing the Government Performance and Results Act. Washington, D.C.: United States General Accounting Office, 1996.

Managing for Results: The Department of Justice's Initial Efforts to Implement GPRA. Washington, D.C.: United States General Accounting Office, 1995.

Reaching Public Goals: Managing Government for Results. Washington, D.C.: National Performance Review, 1996.

Resources for Evaluators: The Guide to Results-Based Accountability: An Annotated Bibliography of Publications, Web Sites, and Other Resources. Cambridge, MA: The Harvard Family Research Project. 1996.

Swiss, James E. *Public Management Systems Monitoring and Managing Government Performance.* New Jersey: Prentice Hall, 1991.

Toward Useful Performance Measurement: Lessons Learned from Initial Pilot Performance Plans Prepared Under the Government Performance and Results Act. Washington, D.C.: National Academy of Public Administration, 1994.

Lesson 7

When Performance Measurement Goals Are Sometimes Not Achieved

This lesson will cover in detail the components necessary for determining when performance measurement goals are sometimes not achieved.

OBJECTIVE

Understand the reasons that performance measurement goals may not be achieved.

Why are effectiveness goals sometimes not accomplished?

1. Theoretical framework is flawed, for example, no direct cause and effect relationship exists between program and the desired outcomes.
2. Intervening or external variables exist or interfere, which negate, deflect, or mask the program's effect. This leads to an emphasis on explanatory information.
3. Management systems/processes are deficient.
4. Program goals are unrealistic or unattainable.
5. Inputs/resources are inadequate.
6. Act of providence intercedes.

QUESTIONS TO HELP IDENTIFY SOME OF THE REASONS WHY INFERENCES ABOUT CAUSE AND EFFECT MAY NOT BE VALID

These questions are applicable to conclusions about both past relationships and the expected effects of recommendations. (Adapted from *GAO Project Manual*)

1. Have cause and effect relationships between events or conditions been assumed merely because they follow each other in time?
2. Have cause and effect relationships between events or conditions been assumed merely because covariation is observed?
3. Are there any other variables or processes not considered that could explain a significant part of project/program results, such as:
    a. Changes in the economy, political relationships, or environmental conditions?
    b. Aging of the involved persons or objects.?
    c. Simultaneous occurrence of other programs or activities.?

4. How many (or what proportion) of project/program results are actually explained by the factors considered, and how many are not explained?
5. Were biases introduced into performance measures at the design stage as a result of such factors as:
   a. Lack of random selection of measured or control groups?
   b. Participants' awareness of program/project purposes?
   c. Unreliability of measures used?
6. Were biases or errors introduced into measurement work in the implementation phase by such factors as:
   a. Failure to gather information in the same way at each location?
   b. Failure to examine and take into account the confidence limits associated with key variables and allowing impressions formed early in a series of observations to effect later observations?

POTENTIAL BARRIERS TO SUCCESSFUL PERFORMANCE MEASUREMENT SYSTEMS

Experience has shown that successful performance measurement, and thus successful performance budgeting depend upon a number of criteria, including for example, good communications, adequate data, and cooperative management at each level. Several barriers have been identified which may occur to impede development of performance budgets.

- Minimal use of performance as a criteria for resource allocation decisions
- Lack of sufficient incentives/rewards
- Fear that measures will be misinterpreted or misused (used capriciously)
- Difficulty agreeing on or establishing criteria to assess performance, especially criteria for outcomes or results
- Cost and expertise required to collect and maintain reliable data
- Lack of consistent and appropriate reporting mechanisms
- Attempting to game the budget process using improper or inaccurate performance measures

When these barriers occur, experience has also shown that improving communications and increasing sharing of analysis between the parties involved is the most promising way of removing the barriers.