



**CROWN AGENTS**  
ACCELERATING SELF-SUFFICIENCY & PROSPERITY

Financial Management of Development Projects

21 May 2019

# **MONITORING & EVALUATION**



# Session Introduction

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## Session Aim

- Introduce and discuss monitoring and evaluation methods
- Highlight typical performance indicators

## Session Learning Objectives – by the end of this course, you will be able to:

- Understand the trend from financial monitoring systems to results-based performance measurement
- Set up a monitoring and evaluation framework together with the appropriate indicators
- Understand the differences between monitoring and evaluation



# Session Agenda

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**Our Learning Journey** – how we will achieve our objectives:

1. Stages of monitoring & evaluation
2. Monitoring vs. evaluation
3. The logic model
4. Types of indicators
5. M&E Case Study
6. Session close



# Monitoring and Evaluation: Concepts

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A performance measurement framework requires regular monitoring and evaluation to be effective

The monitoring and evaluation framework has to be set up at the commencement of operations

Taxpayers all over the world demand more transparent budget systems and clearly trackable performance data



# Monitoring and Evaluation: Concepts

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In response to mounting pressure from constituents governments gradually changed traditional audit practices:

- In addition to the traditional financial statements, governments introduced M&E to assess performance in all areas of government operations
- Increased emphasis on tracking performance measures and disclosing them for system improvements
- Several Governments (e.g. Australia and New Zealand) now sign performance contracts with governmental service providers



# Monitoring and Evaluation: Concepts

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In such service contracts governmental entities agreed to deliver services adhering to predetermined quality standards

In addition, there are agreed performance indicators, which regularly gauge the success of operations, whether these service standards are being met

- Hospital waiting lists
- School performance targets
- Reporting to management

Consequent evaluations revealed shortcomings and called for actions to improve existing systems



# Best International Practices

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Regulations in certain countries make internal performance audit mandatory

In Ireland government authorities are required by law to undertake internal auditing/evaluation of their organization (assisted by the Value for Money Unit)

The VFM Unit has published dozens of evaluations to date, which deal with the specifics of evaluating government service provision



# Monitoring: Definition

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*“Monitoring is a system of tracking and controlling the state of execution of processes in order to document changes and developments, provide early warning and serve as a basis for evaluation”*

Monitoring is a process of tracking against predefined values and indicators

Budget execution monitoring is a sustained collection of data about expenditures and program performance measures





# Monitoring: Considerations

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Enables updates to key program *goals and objectives*

Enables provision of information on program *implementation* (overall or at a particular stage)

Facilitates increased public trust in the program by promoting communication of program results and ensuring *transparency of activities*

To ensure that stakeholders receive well structured and intelligent information flow monitoring systems have to be designed in a user-friendly and comprehensive manner



# Monitoring: Pre-requisites

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***Operational efficiency.*** The data used for financial monitoring should be real-time and at any moment provide the information about performance of objectives (set goals), and the amount of resources spent.

***Periodicity/regularity.*** An efficient monitoring system envisages provision of the necessary information about program implementation under terms and for periods stipulated by respective government bodies

***Complexity.*** The system of efficient monitoring should be able to deal with complex analysis of all activities of an institution, including analysis of external and internal factors.

***Validity.*** The system of financial monitoring can function efficiently only if data for policy analysis is regularly scrutinized for its validity and accuracy



# Implementing the monitoring system: stages

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<b>Stage 1. Assessment of challenges</b>
<b>Stage 2. Definition of monitoring goals</b>
<b>Stage 3. Definition of program performance measures and sources of data collection</b>
<b>Stage 4. Appointment of executors responsible for monitoring and assessment of resource needs</b>
<b>Stage 5. Specification of scope of works</b>
<b>Stage 6. Monitoring</b>



# Monitoring: Stages

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## Stage 1: Assessment of challenges

- Definition of potential challenges in the budget execution process

## Stage 2: Definition of monitoring goals

- What is the aim of monitoring? It is not a self-serving process but a prelude to evaluation



# Monitoring: Stages

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## Stage 3: Definition of program performance measures and sources of data collection

- Special attention needs to be paid to the design of program performance measures, which are indicators of program implementation
- To conduct monitoring the following parameters are important:
  - Relevance of selected performance measures/indicators
  - Arranging regular collection of actual indicators
  - Correlation of planned and actual performance measures and identification of deviations
  - It is important to be familiar with the problem to be solved and to perceive program goals



# Monitoring: Stages

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Stage 4: Appointment of implementers responsible for monitoring and resource needs assessments:

- This stage envisages appointing those responsible for collecting relevant information
- It is important to include monitoring costs into the program budget (according to the data collected by international organizations, monitoring and evaluation costs can range from 2-3 % to 6-8 % of the general program budget)



# Monitoring: Stages

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## Stage 5: Specification of Scope

- Determining the frequency of information collection
- Determining techniques of analysing and processing the information obtained
- Planning the process of further application of the data obtained

## Stage 6: Monitoring

- The feedback process



# Monitoring: Data collection

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Primary methods of information collection include:

- Budgetary reporting, government statistics
- Focus group discussions
- Conducting surveys (telephone and mail surveys, interviews, studies)
- The main sources of information collection are budget institutions, divisions, individuals or groups of individuals, documents (e.g. personnel reports, divisional reports), etc.





# Evaluation: Definition

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*“Evaluation is the analysis of the data via application of various collecting, analytical and consolidation techniques”*

Unlike monitoring, evaluation of results is a non-recurrent activity that allows conducting a profound analysis of ongoing programs and covers such issues as timeliness, quality and stability of expected or achieved results from program implementation



# Monitoring and Evaluation: Differences

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MONITORING	EVALUATION
Is conducted on a regular basis (monthly, quarterly, annually)	Is conducted at key stages of program implementation but at least annually
The program is approved without changes	The data obtained is applied to improve program effectiveness as well as for determining plans for the future
Actual activity results are compared to planned ones	The data obtained is applied to improve program effectiveness as well as for determining plans for the future
The data obtained is applied to improve program effectiveness	The data obtained is applied to improve program effectiveness as well as for determining plans for the future



# Evaluation: Scope and process

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May be undertaken involving

- A single priority program
- A whole budgetary institution
- A sector

May involve the use of analytical techniques to

- Analysis of service provision
- Program management analysis
- Performance analysis
- Strategy analysis
- Effectiveness analysis



# Evaluation: Goals and objectives

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Improvements in service provision

Improvement in accounting and reporting

Resource allocation

Update the program (its goals and objectives) and to reorient the program if necessary

Ensure current and additional financing

To inform decision-makers

To inform the public



# Evaluation based on program performance

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<b><i>Needs assessment</i></b>	<b>Evaluation of factors, which determined the necessity of program implementation.</b>
<b><i>Implementation evaluation</i></b>	<b>Analysis of program preparation quality (competence of program designers, review of methodological materials used in program development, logical scheme of the program, analysis of program content and resources).</b>
<b><i>Outcomes evaluation</i></b>	<b>Analysis of the results achieved; comparison of actual and planned results.</b>
<b>Effectiveness evaluation</b>	<b>Comparison of program results with the resources spent in the course of its implementation. The main task of effectiveness evaluation is to find the most effective alternatives for problem solution.</b>
<b>Cost-benefit analysis</b>	<b>Analysis, which allows determining the relation of all costs and benefits of the program in monetary value. The program is considered to be effective if benefits of its implementation outweigh total expenditures.</b>
<b>Efficiency assessment</b>	<b>Measurement of positive program results per one service recipient.</b>
<b>Impact evaluation</b>	<b>Evaluation of the relation between program services and results achieved.</b>



# Monitoring and Evaluation: Data collection

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Budgetary reporting, government statistics

Review of documents and analytical materials

Interviews

- Goal is to receive quality information, not possible to obtain from statistical data or other documents

Focus group

- Focused discussion with selected group with specialized knowledge/skills in the subject areas under evaluation

Questionnaires and surveys

Structured observation



# Monitoring and Evaluation: Data analysis

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*Quantitative techniques* suggest the processing of quantitative data collected with the help of formalized mathematical operations

- Quantitative analysis is utilized to achieve high accuracy in the course of comparing homogeneous data and to process a large amount of information
- Quantitative analytical techniques are used to process indicators characterising program implementation activities and their efficiency
- While using quantitative analytical techniques it is important to choose relevant evaluation indicators; they should be correct, universal and adequate



# Monitoring and Evaluation: Data analysis

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*Qualitative techniques* suggest data analysis performed in the course of an interview or research

- Qualitative techniques are used to analyze specific subjective issues describing incidents from a person's life
- Formalized mathematical operations are not utilized while using qualitative techniques
- Expert judgment is the most widely used method of generalising qualitative techniques
- Informational bases for qualitative techniques in program evaluation are the description of a program, regulatory and other documents, results of interviews, etc





# Performance measures

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Designing performance indicators

Input, output, workload, efficiency, effectiveness and benefit



# Developing Performance Measures

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Having defined the Mission, Goals and Objectives of a program meaningful performance measures need to be designed to track performance

Each **objective** needs to have performance measures assigned within the budget program



# Performance Measures: Purpose

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Improve the quality of services and program results

Increase the efficiency of expenditures that influence directly the reduction or justification of expenditures of the budget agency

Extend responsibility of budget agencies for the results of their activities



# Developing Performance Measures

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Strengthen positive attitude of citizens in relation to government activities

Increase efficiency of activities of the budget agencies pursuant to customer-oriented policy directed to satisfaction of citizens needs

There are six main types of performance measures

Experience suggests that as countries using performance measures evolve so do they develop more sophisticated measures



# Developing Performance Measures

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Quantitative measures (input, output) are replaced gradually by more qualitative indicators outcome, benefit



# Illustrative Performance Measures

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<b>Input Measure</b>	No. of Employees involved in program implementation, No. of hospital beds
<b>Output Measure</b>	No. of Classes Delivered, No. of projects completed
<b>Workload Measure</b>	Average area of road pavements to be repaired per week, average number of patients to be serviced
<b>Efficiency Measure</b>	Cost of repairing one kilometer of pavement, cost of supplying one cubic meter of water
<b>Effectiveness Measure</b>	Reduction of road accidents due to road repair, Growth in the share of disease detection at early stages
<b>Benefit Measure</b>	Reducing juvenile crime rate



# Input Measures

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*“An input measure is a statistic value which shows the structural level of input resources necessary for the execution of a specified budget program objective”*

An input measure is expressed in kind. For example: the number of assets, metric area and cubic (m<sup>3</sup>) volume of buildings and constructions, number of events, full time staff etc

To achieve the program's planned result, the input measure must conform to the principles of *necessity* and *adequacy*

If an input measure is artificially undervalued, the level of resource will be insufficient for the complete execution of the objective

If, on the contrary, the measure was overvalued, this may result in ineffective and non-targeted use of budget resources



# Input Measures: Examples

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Program:

- “Pre-school education, education and care of children”.

Objective:

- To provide in 2017 – 2019 reliable care and education for XXX children.

Input measures:

- The number of general type pre-school educational institutions
- Total area of an institution and its grounds.
- Total area of the buildings and constructions of the institution





# Input Measures: Examples

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Total cubic area of the institution's facility

The number of teachers in pre-school educational institutions of the general type

The number of teachers in pre-school educational institutions of the complex type



# Input Measures: Examples

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Program: “Sport activities”.

Objective: In 2017 to provide for the participation of XXX representatives in national sports competitions.

Input measures:

- The number of coaches involved
- The number of referees involved
- The number of medical specialists involved
- The number of teams represented at the competitions



# Workload Measures

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*“The workload measure is a scope of work to be performed by a responsible unit or an object at which the efforts of a responsible unit are directed in the process of the budget program goal achievement.”*

## **Example 1.**

Program: “University Education in Sciences”.

Objective: In 2017 – 2019 to provide quality education and related research facilities for XXX students nationwide.

Workload measures:

The number of students enrolled in science programs.



# Output Measures

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*“An output measure is a measure of the rendered budget services, scope of work performed, number of service or work recipient, which corresponds to the responsible unit mission and the budget program objective”*

Output measures help define what actually was done by way of implementing the program.

Being a statistic indicator, an output measure does not necessarily display the quality of services provided or work done

It also does not indicate of the level of service or work satisfaction the recipients need



# Output Measures: Example

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Program: “Prevention and treatment of AIDS” (a complex program).

Objective: To publish a booklet on a specified topic, XXX additional copies for distribution during observance of the Day of the AIDS Control in the year 2017.

Output measures:

The number copies of the booklet, units



# Efficiency Measures

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*“Efficiency measure is a workload or an output measure divided by an input measure”*

Program: “Rehabilitation of Motorway 32”.

Objective: To build and repair 150 kms of road sections on Motorway 32 by the end of 2019.

Efficiency measure:

Cost of construction per kilometer



# Efficiency Measures: Examples

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Program: “Hospital medical care for patients of all ages”.

Objective: To provide quality health care services for XXX patients according to the medical parameters during 2017 – 2019

Efficiency measures:

- The cost per filled beds during the year
- The number of cured patients per one medical specialist



# Effectiveness Measures

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*“An effectiveness measure is a statistic which shows the success of program execution. It shows measurable, significant results of the services provided, work performed, etc.”*

An effectiveness measures allow for evaluation of the final result of a program performance.

The indicator provides an opportunity to track the progress in achieving the program goals and objectives on an annual (or as needed) basis

The focus of the benchmark is on the key notion “Resources → Result”, and the indicator presents the results of program efforts





# Effectiveness Measures: Example

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Program: “Hospital medical aid for patients of all age groups”.

Objective: To provide quality treatment for XXX patients during 2017 – 2019.

Effectiveness measures:

Decrease of the frequency of the illness level nationwide percentage, including:

Differentiation by age groups.



# Benefit Measures

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*“A benefit measure is an indicator, which displays the benefits from execution of a specified budget program for the territorial community at large or society”*

Program: “Pre-school education and care”.

Objective: To provide care and quality education for XXX children during 2017 – 2019.

Benefit measures:

Increase by % the number of working women who have children aged from 3 to 6, percent.



# Exercise based on departmental objectives

	Goal 1		Goal 2	
	Program 1	Program 2	Program 1	Program 2
Input				
Output				
Workload				
Efficiency				
Effectiveness				
Benefit / Impact				



# Public sector indicators: Examples

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## Health

- Public health spending as a % of GDP
- Public health spending per capita
- Doctors per 1,000 inhabitants
- Deaths per 1,000 inhabitants
- Intensive care beds per 1,000 inhabitants
- Average time spent in intensive care
- Life expectancy at 65 years old
- New births / deaths ratio



# Public sector indicators: Examples

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## Economy

- % Increase in nominal labour cost per unit
- % Annual change in labour productivity
- Annual change in real labour cost per unit
- GDP growth (%)
- % Annual increase in nominal wages
- % Increase in real wages
- Balance of payments to public debt
- % of General Government net liabilities
- % of General Government gross liabilities
- Number of tax audits



# Public sector indicators: Examples

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## Employment

- People employed / population (%)
- People employed / population, by age (%)
- People employed / population, by sex (%)
- Long term unemployed to total unemployed by sex (%)
- Public spending to combat unemployment as % of GDP
- Part-time employment by sex



# Public sector indicators: Examples

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## Education

- Public spending for education as a % of GDP
- Class hours per academic year
- % of registered students per level
- Personal computer per student
- % of schools with internet access
- % of citizens that have graduated from secondary education
- Illiteracy ratio
- Cost of university education per student

# Victoria State Police (VSP): Case Study

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*Victoria State Police's Major Crime Department uses innovative performance measurement system to monitor and evaluate fight against organised crime*





## VSP Case study: Performance measure

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The performance measurement was via a Return-on-Investment (ROI) measure for investigation activities

Strategy was changing *“internal structures, culture and thinking in order to succeed in matching and combating the fluid, flexible, dynamic and networked characteristics of organised crime networks”*

Motivated by need to counter the pressures placed on public agencies to deliver against publicly announced performance measures and targets



# VSP Case study: Performance measure

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ROI is an extension of Cost-Benefit measurement

The department's 5 year plan has following priorities:

- A Safer Victoria
- Connecting the Community
- Valuing our People

Stated outputs:

- Reducing the crime rate
- Reducing the road toll and incidence of road trauma
- High levels of community perceptions of safety
- High levels of customer satisfaction



## VSP Case study: Performance measure

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New performance measure motivated by the view that simple counting of arrests and charges did not adequately capture the significance of performance in a serious and organised crime context:

- Arrests and charges in a serious and organised crime context were considered to have a greater impact on a key required outcome of “build friendly, confident and safe communities”

In addition the new measure was seen as capable of demonstrating accountability and ‘value for money’ to the general public



# VSP Case study: Calculating the measure

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Defining the intervention. ROI, a quantified measure was chosen because:

- Relatively easy to use to evaluate the impact of individual investigations as well as being aggregated to measure performance of specific squads
- Can be used to demonstrate VFM
- Inputs, outputs and outcomes easily traceable to it at the lowest levels of computation



# VSP Case study: Calculating the measure

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## Identifying and valuing inputs

- Direct costs including the cost of personnel resources
- Service delivery costs including other direct expenditure such as third party supplier expenses, travel, accommodation and training
- Indirect costs including such as premises as other capital-related costs, as well as costs of corporate departments such as chief executive office, accounting and finance, strategy development and human resources.



# VSP Case study: Calculating the measure

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## Identify and Value Outputs and Outcomes

- Primary output of any investigation is arrest and charges
- Other outputs and outcomes identified through focus groups and interviews with law enforcement investigators, intelligence analysts and senior management together with a review of relevant literature

*Confiscation of Criminal Assets:* measured by amounts restrained and confiscation orders raised

*Income tax assessments:* Issuance of taxation notices to for criminal activities and the associated under-reporting of income



## VSP Case study: Calculating the measure

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*Recovery of stolen and fraudulently acquired property:* Criminology statistics used to estimate the costs of lost outputs and intangible costs associated with victim loss where victims are individuals

*Avoidance of Harm:* Removal of criminal products from the community, primarily involving drug, firearm and fraud-facilitating documents, based on harm costs per kilogram for specific drug already developed by the Australian Federal

Other outcomes were considered and excluded:

- Prevention / early detection of crime



## VSP Case study: Calculating the measure

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Estimate the ROI (Cost – Benefit)

- ROI metric indicates the value generated related to the resources expended on investigations, calculated as follows:

ROI (%) =

$$\frac{\text{Monetary Value of Outputs/Impacts}}{\text{Monetary Value of Inputs Consumed}} \times 100$$





## Session close

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Let's wrap up the session:

- Recap of key learning
- Final questions?
- Revisit session objectives – achieved?
- Application of learning – update your action plans
- What's next?



**THANK YOU /**



# CROWN AGENTS

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