INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) STRATEGY
ICT Strategy

- packages the development and implementation of relevant ISs and their resource requirements into one or multi-phased project
- defines the resource requirements of the ISs and projects that the organization seeks to implement.
Purpose of ICT Strategy

- guide the procurement and deployment of ICT resources
- guide the hiring, placing or development of ICT personnel
- optimize investment on ICT resources
- provide input to local budgeting.
Steps in ICT Strategy Formulation

1. Identify projects and define scope and objectives
2. Create a WBS per project
3. Define project deliverables
4. Determine duration per activity in WBS
5. Map out the resource requirements
6. Identify ICT organizational requirements
7. Determine staffing support
What is a Project?

- **Temporary**
  - every project has a clear start and a clear end

- **Unique Product, Service or Result**
  - Every project is undertaken to create a unique product, service or result. The product, service or result can either be a component of another item or an end item in itself.
Quadruple Constraint

- balance of the project’s scope, time (schedule), cost (budget) and quality
- A change in one affects the other factors as well
Scope

✓ Sum of the products, services and/or results of the project;
✓ Establishes WHAT IS and WHAT IS NOT included in the project

Cost

✓ Budget defines the expenses to complete the project

Source: National Computer Center’s “Project Management Guide”
**Quadruple Constraint**

**Schedule**
- Bounded by start and end dates
- Defines the logical relationships between deliverables

**Quality**
- Degree to which a system, component or process meets specified requirements and standards set by the client/user

*Source: National Computer Center’s “Project Management Guide”*
PMBOK-Based Project Management

✓ PMBOK stands for Project Management Body of Knowledge
✓ It is a global standard of project management framework issued by the Project Management Institute (PMI)
✓ Composed of:
   9 Knowledge Areas
   5 Process Groups

Source: Project Management Basics, Okinawa International Center, Japan International Cooperation Agency
# Knowledge Areas & Process Groups

<table>
<thead>
<tr>
<th>Sys. Dev. Stages</th>
<th>(N/A)</th>
<th>(N/A)</th>
<th>Analysis / Design / Programming / Testing</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Process Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Knowledge Areas</td>
<td>Initiating</td>
<td>Planning</td>
<td>Executing</td>
<td>Controlling</td>
</tr>
<tr>
<td>Integration Mgmt</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Scope Mgmt</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Time Mgmt</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cost Mgmt</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Quality Mgmt</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource Mgmt</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications Mgmt</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Mgmt</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement Mgmt</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Project Management Basics, Okinawa International Center, Japan International Cooperation Agency*
Formulating Project Objectives & Scope

**Objective** - should be:
- ✓ S - specific
- ✓ M - measurable
- ✓ A - achievable
- ✓ R - realistic
- ✓ T – time-bounded

**Scope**
- ✓ Coverage or project components
- ✓ Departments and offices covered
- ✓ Functional areas addressed by the project
ICT Options

Fund Sourcing:
- BOT or Foreign Assistance
- Local Funding (ex. E-Government Fund)
- Budget

ICT-Enabled Solutions
- Automation (speeding up processes)
- Streamlining (rationalizing processes)
- Reengineering (restructuring processes)
- Paradigm Shift (rethinking & reinventing processes)

Systems Development
- In-house vs. Outsource

Processing
- Centralized vs. Distributed

Products
- Proprietary vs. Open Source
### Sample WBS (Work Breakdown Structure)

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Office Management System</td>
<td>Sales Management System</td>
<td>Ordering Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sales Report Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Billing Function</td>
</tr>
<tr>
<td></td>
<td>Human Resource Management System</td>
<td>Employee Info Management Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organizational Chart Output Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transfer Info Management Function</td>
</tr>
<tr>
<td></td>
<td>Document Management System</td>
<td>Document Registration Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Document Distribution Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Version Control Function</td>
</tr>
</tbody>
</table>
3. Define Project Deliverables

After defining the flow of activities per component or phase of the project, you can now identify the milestones and project deliverables.
4. **Determine Project Duration**

- Define duration for each activity. You can plot them in a Gantt Chart using a spreadsheet or project management tool.
- Determine the level of effort needed for each activity in man-hours.
- Determine sequencing and logical relationships/dependencies of activities.
5. Map Resource Requirements

Shows the location of the resources, what kind and the number needed.

<table>
<thead>
<tr>
<th>Office</th>
<th>Item</th>
<th>Existing</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting System</td>
<td>✤ Server</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
<tr>
<td></td>
<td>✤ Workstation</td>
<td>✤ 1</td>
<td>✤ 7</td>
</tr>
<tr>
<td></td>
<td>✤ Laser Printer</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
<tr>
<td></td>
<td>✤ UPS</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
<tr>
<td></td>
<td>✤ Hub</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
<tr>
<td></td>
<td>✤ Scanner</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
<tr>
<td></td>
<td>✤ Modem</td>
<td>✤ none</td>
<td>✤ 1</td>
</tr>
</tbody>
</table>
List down the criteria or basis for the distribution taking into account the jobs or process performed using computers:

<table>
<thead>
<tr>
<th>Office</th>
<th>Process Using Computer</th>
<th>Volume</th>
<th>No. of Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Office</td>
<td>✗ Process of ROA</td>
<td>✗ 50 ROA/ day</td>
<td>✗ 2 clerks</td>
</tr>
<tr>
<td></td>
<td>✗ Process of Journal Voucher</td>
<td>✗ 35 vouchers per day</td>
<td>✗ 2 clerks</td>
</tr>
<tr>
<td></td>
<td>✗ Posting of Journals</td>
<td>✗ 50 per day</td>
<td>✗ 2 clerks</td>
</tr>
<tr>
<td></td>
<td>✗ Generate Reports</td>
<td>✗ 10 Reports per month</td>
<td>✗ 2 clerks</td>
</tr>
</tbody>
</table>

Possible criteria:
✓ Transaction type
✓ Volume of transaction
✓ Number of users
6. Identify ICT Organizational Requirements

✓ Assess current ICT organizational structure. Based on the activities/tasks and deliverables written in the WBS, is the current manpower capacity and available skills sufficient to implement the project and operationalize it?

✓ Identify which activities/tasks will require hiring of people with specific skill sets.
7. Determine Staffing Support

✔ After identifying activities/tasks that lacks the needed manpower support and by looking at the project Gantt chart or WBS, you can now determine the skilled personnel needed and estimate how many should be hired.
Sample Organizational Structure

IT Services & Consulting Group

DIRECTOR
ITO III (SG 24)

Gov’t Portal & Website Development
ITO II (SG 22)
- 2 - ISA III (SG 19)
- 2 - CP III (SG 18)
- 2 - ISA II (SG 16)
- 4 - CP II (SG 15)
- 1 - DEMO IV (SG 13)
- 1 - ISR 1 (SG 10)
- 2 - DEMO II (SG 8)

Application Systems Development
ITO II (SG 22)
- 1 - ITO I (SG 19)
- 3 - ISA III (SG 19)
- 4 - CP III (SG 18)
- 1 - ISA II (SG 16)
- 11 - CP II (SG 15)
- 1 - ISR I (SG 10)
- 4 - DEMO II (SG 8)

Network Solutions Engineering
ITO I (SG 19)
- 1 - ISA III (SG 19)
- 2 - CMT III (SG 17)
- 1 - CMT II (SG 15)
- 1 - CP II (SG 15)
- 1 - CO IV (SG 14)
- 1 - DC III (SG 11)
- 1 - CMT I (SG 11)
- 3 - AMO IV (SG 11)
- 1 - AVAT II (SG 8)
- 2 - DEMO II (SG 8)
ICT Training

✔ ICT Management
  ✔ Managing with ICT
  ✔ Information Systems Project Management
  ✔ Information Systems Strategic Planning

✔ Systems Design and Development
  ✔ Structured Systems Analysis & Design (SSAD)
  ✔ Object-Oriented Systems Analysis & Design
  ✔ Programming Languages

✔ Database Design and Development
  ✔ Relational Database Design
  ✔ Database Administration

✔ Facilities
  ✔ PC Troubleshooting & Maintenance

✔ Network Management/Data Communications

✔ Others (ex. IT Resource Acquisition)
EXERCISE

Material/s needed:
- Part II.B - D
- Annex A-5 ICT Inventory
- Problem ID Facilitative worksheet

Instruction for Identification of Projects & objectives:
- Review Part II. B-D. Which can be grouped together under Agency-Specific ICT project and Cross-Agency ICT project?
- Give each group a project name that is descriptive of the product, service or result that will materialize if the project is implemented.
- Define SMART objectives that is ICT-related
- Based on objectives, list down expected deliverables
Intermediate outcome refers to changes in behavior of targeted stakeholders as a result of the implementation of the ICT project.

Examples:

- Enhanced access to collection services
- Enhanced access to justice
Immediate outcome refers to changes in institutional capabilities of the Agency in adopting/utilizing the ICT system developed or installed

Examples:

- Improved tax collection
- Improved resolution of cases
Outputs refer to

✓ completed deliverables of the project
✓ tangible results that the project should be able to guarantee delivering.

Examples:
✓ Enhanced eFPS adopted
✓ Centralized Case Monitoring System adopted
Objectively verifiable indicators (OVI)

- let you know that something is changing or has changed
- can be quantitative or qualitative
- basis for monitoring so focus on a limited set of indicators

Examples:
- No. of online users
- Level of satisfaction of customers
Baseline data

✓ indicates how much change will occur if the desired outcome is achieved

Target

✓ performance standard expected to be reached
## Performance Measurement Framework

<table>
<thead>
<tr>
<th>Hierarchy of targeted results</th>
<th>OVIs</th>
<th>Baseline data</th>
<th>Targets</th>
<th>Data collection methods</th>
<th>Responsibility to collect data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intermediate outcome</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhanced access to collection services</td>
<td>% of delinquent taxpayers</td>
<td>&lt;Current&gt; % of delinquent taxpayers</td>
<td>&lt; % &gt; decrease in delinquent taxpayers</td>
<td>Mandatory reporting, Business intelligence module</td>
<td>ISG, Project M&amp;E Group</td>
</tr>
<tr>
<td>% of taxpayers filing online</td>
<td></td>
<td>&lt;Current&gt; % of taxpayers filing online to total taxpayers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Immediate outcome</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved tax collection</td>
<td>Tax revenue-to-GDP ratio</td>
<td>Tax revenue-to-GDP ratio improved to 15.6% by 2016 Reduced no. of personal contact to ?</td>
<td></td>
<td>Mandatory reporting, Business intelligence module</td>
<td>ISG, Project M&amp;E Group</td>
</tr>
<tr>
<td>No. of personal contact for tax transactions</td>
<td>&lt;Current&gt; no. of personal contact for tax transactions</td>
<td>Reduced no. of personal contact to ?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhanced eFPS adopted</td>
<td>No. of simplified forms</td>
<td>No. of simplified forms to be simplified</td>
<td>&lt; no. &gt; of simplified forms Reduced no. of processes to ? Issued &lt; no. &gt; policies</td>
<td>Mandatory reporting</td>
<td>ISG, Project M&amp;E Group</td>
</tr>
<tr>
<td>No. of processes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of policies issued</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
EXERCISE

Material/s needed:
✓ Part III. A & B

Instructions:
✓ State expected outputs/deliverables
✓ Identify intermediate and immediate outcomes if project’s outputs are accomplished.
✓ Define OVIs that are within the control of the agency and preferably have mechanism/means for verification
✓ Aim for SMART targets