FORMULATION OF INFORMATION SYSTEMS (IS) STRATEGY
Generate & direct resources to develop ISs that serve the shared goals of the organization

Tells where you are going in IS development and how to get there
What is an Information System

- a collection of procedures, activities, people and technology, set up for the collection and storage of data and its processing to produce information for communication to people who need to act upon it.
System Model

INPUT

PROCESS

FEEDBACK
/CONTROL

OUTPUT
Why We Need Information

- to effectively & efficiently perform one’s job
- to assist decision-making activities
- to know options available to us.
Types of Information System

Office Automation Systems (OAS)
- support clerical and other common office tasks. Examples are:
- Word Processing
- Electronic Spreadsheet
- Desktop Publishing
- Presentation
- E-Mail
Mission-Critical Information Systems

- support client-driven transactions or operations for the delivery of MFOs. Examples are:
  - Philippine Business Registry
  - Philippine Health Information Exchange
  - e-Filing and Payment System
Support to Operations (STO) Systems

- support planning, policy development, monitoring, coordination and secretarial tasks. Examples are:

- Performance Monitoring System
- Project Monitoring System
- Planning Information System
General Admin and Support Services (GASS) Systems

- support tasks related to finance, assets, personnel, legal, procurement. Examples are:
  - Document Tracking System
  - Financial Management Info System
  - Records Management System
  - Inventory System
Identify the ISs
Set IS priorities
Describe the IS and their linkages (Conceptual Framework)
Map out the approach to IS development.
Steps in IS Strategy Formulation

1. Identify and Rank the ISs
2. Design the Conceptual Framework
3. Describe the ISs and their Status
4. Describe the IS Dev’t Strategy
5. Present the Computing Scheme
6. Describe the Linkages
1. Identification of IS

- Identify KEY PROCESSES in the Strategic Concerns for ICT Use (Part I.E p.6)
- Identify ACTIVITIES linked with or supporting key processes (Subsystems)
- Look for the possibility of merging processes/ activities dealing with similar data (Data-based IS)
- Provide a descriptive name for the IS
Identification of IS

HR MGMT & DEVT
Selection, Hiring, Training, Payroll, etc.

FINANCIAL MGMT
Budgeting, Accounting, etc.

SUPPLIES & PROPERTY MGMT
Canvassing, Procurement, Disposal, etc.

RESOURCE MANAGEMENT INFORMATION SYSTEM
Identification of IS

HR MGMT & DEV'T
Selection, Hiring, Training, etc.

FINANCIAL MGMT
Budgeting, Accounting, etc.

SUPPLIES & PROPERTY MGMT
Canvassing, Procurement, Disposal, etc.

ADMIN SERVICES
Maintenance, Security & Janitorial Services, Records Mgmt.
Identification of IS

- HR MGMT & DEVT
  Selection, Hiring, Training, etc.

- FINANCIAL MGMT
  Budgeting, Accounting, etc.

- SUPPLIES & PROPERTY MGMT
  Canvassing, Procurement, Disposal, etc.

- ADMIN SERVICES
  Maintenance, Security & Janitorial Services, Records Mgmt.

GENERAL ADMINISTRATIVE & SUPPORT SERVICES
INFORMATION SYSTEM
2. Design the Conceptual Framework

✓ Present the general design of the ISs showing
   • subsystems if any
   • sources and recipient of data
   • databases to be used
   • linkages

✓ use symbols to represent the ff:
   • ISs and sub-systems - circle or rounded-edge square
   • data sources and recipients
   • databases - cylinder
   • linkages – arrows
3. Description and Status of ISs

- Describe each ISs in terms of:
  - performance indicator/s in relation to relevant MFOs
  - salient features
  - major information generated

- State status of proposed ISs if:
  - for development
  - for enhancement
4. IS Development Strategy

✓ Describe how each IS is developed:
  - in-house
  - outsourcing/contracting
  - combination of in-house & outsourcing
  - purchase of off-the-shelf packages
  - grant/donations from other organizations
Two big classifications of computing scheme:

- Stand-alone or independent systems
- Networked systems.
Stand-alone/Independent Systems

- a computer system, by itself, operates or process an application system or IS
- operating system, application program and database are resident in the same computer.
Illustration of stand-alone system
Networked Systems

the linking of computers, printers and other devices so that users can exchange and share information and resources.
Networked Systems

Two types:

- Local Area Networking (LAN) - confined to moderate sized geographic areas such as one office, building, warehouse or campus.

- Wide Area Networking (WAN) - usually consisting of a series of complex packet switches interconnected by communication lines.
Network computing can be:

- Centralized
- Distributed
- Centralized-Distributed
Centralized

- one site supplying all information processing
- information is integrated at one location
- resources and control are integrated at one location.
Centralized LAN

Department A

Workstation

Printer

Department B

Servers

Department C

Workstation
Distributed System

- more than one site supplying information processing
- different information are integrated at different locations
- resources and control are integrated at different locations.
- a popular example is cloud computing, which allows a large number of computing devices to run a program or application through a real time network such as the Internet
Distributed System

Department A

Department B

Department C

Printer

Server

Workstation

Server

Workstation

Workstation
Centralized-Distributed

- more than one site supplying information processing, but connected in a single server
- different network information are integrated at one location.
6. IS Inter-linkages

✓ Describe each IS in terms of:
  - system owner
  - users, both internal and external
What is a Database?

- Organized collection of data for storing, managing and retrieving information.
- Supports processes requiring information as output
EXERCISE

Material/s needed:

✓ Accomplished Part I.E Strategic Concerns for ICT Use
✓ Diagram of Existing ISs Interface
✓ Annex A-2
✓ Annex A-5 ICT Inventory
✓ Annex A-4
✓ Diagram of Existing Network Layout
✓ Problem ID Facilitative worksheet
EXERCISE

✓ Instruction for Identification of IS:
✓ For each MFO/business process or critical business systems in column 1 and column 2 respectively, of your Part I.E, is there an existing information system that facilitates the delivery of that MFO or business activity?
✓ If yes, did the user complain of problems? Will it be solved by enhancing the existing system/s?
✓ If no IS exist, what information system would you propose?
✓ The name of the IS should be descriptive of the functional area or service for which it is intended.
EXERCISE

Instruction for PART II.C DATABASES REQUIRED:

✓ Based on PART II.B, for each identified ISs where you have stated the major information to be generated, will there be data needed to generate said major information?

✓ If yes, what are the data needed? Write them under the General Contents/Description of table in Part II.C

✓ If there are data that have been repeatedly identified by several ISs, then a single database can serve them.

✓ STATUS – If none yet exists, then write to be built-up. If there is an existing database but you plan to convert it then write for conversion. However, if you plan to migrate to another platform, then write for migration.

✓ INFORMATION SYSTEMS SERVED – What is/are the ISs that will make use of the database?

✓ DATA ARCHIVING STRATEGY – How will you store the data for processing?
Instruction for PART II.D NETWORK LAYOUT:

- Based on Facilitative worksheet, PART II.A to PART II.C, you can now assess the existing network layout to see if the additional requirements can be absorbed by the current network resources. If not, draw the logical layout that will support your proposed ISs, databases, computing scheme. See Annex A-4. However, for capacity requirements and HW needed including configuration, it will be defined in Part IV. Resource Requirements. You can then refine your network diagram.
**Part II.B**

### B. DETAILED DESCRIPTION OF PROPOSED INFORMATION SYSTEMS

| NAME OF INFORMATION SYSTEM/ SUB-SYSTEM | Example:  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RANK: 1</strong> Electronic Filing and Payment System (eFPS)</td>
<td></td>
</tr>
</tbody>
</table>

| DESCRIPTION | Simplify forms and enhance session management to support increase in the number of eFPS users. The system will also be enhanced to provide better management reports on the monitoring of taxpayers’ compliance. It will be integrated with eTIS to ensure that data in the forms filed online will be recorded automatically and will be available for viewing in eTIS by BIR personnel real-time. The back-end process of eFPS will also be enhanced to support the eTIS data requirements. |

| STATUS | For enhancement |
| DEVELOPMENT STRATEGY | Outsourced |

| COMPUTING SCHEME | Client-Server |

| USERS | INTERNAL | BIR Personnel |
| EXTERNAL | Taxpayers |

| SYSTEM OWNER | Information Systems Group |
## Part II.C

### C. DATABASES REQUIRED

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<thead>
<tr>
<th>NAME OF DATABASE&lt;sub&gt;1&lt;/sub&gt;</th>
<th>GENERAL CONTENTS/DESCRIPTION&lt;sub&gt;2&lt;/sub&gt;</th>
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