Module 7 – Project Management Phase 2:

Elaboration Phase (Detailed Feasibility Analysis)

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The Objectives of this module

- To discuss about the elaboration phase, and how to conduct this detailed feasibility analysis, including:
  - the purpose of the elaboration phase (feasibility study),
  - who should conduct the feasibility study,
  - suggested contents of the study, and
  - what should we do with the outcome of the study.
SW Project Management Process in 5 Phases

1. Inception Phase (Preliminary) – Developing a concept paper for preliminary and initial discussion

2. Elaboration Phase – Conducting detailed feasibility study

3. Planning Phase – Formulating a SW high-level master plan

4. Execution Phase (Implementation & Oversight)
   – SW Project Implementation and
   – Monitoring and Controlling the project’s progress

5. Feedback & Lessons-learned Phase – Collecting lessons learned and suggesting opportunities for SW improvement and extensions.
The purpose of the elaboration phase

- The purpose of the feasibility study is to provide decision-makers with an insight into the options available and their consequences for each involved governmental authority and each involved business sector, e.g.

  - detailed analysis of “as-is” and “to-be” procedures and documentation,
  - possible service functions to be provided by the “to-be” applications architecture,
  - technical and interoperability issues,
  - legal infrastructure
  - implementation options i.e. full or phased implementation) and the possible steps,
  - financial and business concerns, e.g. options for investment (by public, public-private, or private only), and other required resources, free services or fee charge for services, how to sustain the operational cost, etc.
  - potential benefits and risks,
  - a time frame, and
  - implementation and management institutions and strategy.
Who should conduct this detailed study? What should we do with the outcome?

- **A task force** (or called, a working group) comprising of all stakeholders’ representatives should be identified and mandated to actively involve in this study, normally by the assistance of a consulting team who may do the detailed analysis, reporting, facilitating the discussion, consolidating the feedback and refinement of the final report and most (if not all) of the agreement.

- The outcome of this study should be presented, refined, then (hopefully) finalized, and approved by the high-level Project Management Group.

  - The **next step of formulating a (more detailed) SW master plan** can be mandated by the Project Management Group as a way forward*.

* In some cases, the SW high-level master plan may be developed along with the feasibility study and then at the same time be approved by the Project Management Group.
Suggested Contents of the study

1. Project Needs and Potential Benefits of a Single Window
2. Organizational Aspects and Interagency Collaboration
3. Human Resources and Training
4. Legal Infrastructure
5. Procedures, Information and Documentation
6. Technical aspects of a Single Window
7. Impact assessment
8. Implementation Options
9. Financial Options and Business Models
10. Promotion and Communications
How to conduct a detailed feasibility study?

During a detailed feasibility study, all components related to SW implementation will be analyzed again but with much more details than in the preliminary study.

It is strongly recommended that this study be based on direct face-to-face interviews with key players in both government and trade, complemented by relevant questionnaires to collect information from a wider circle of potential participants and users.

**Several meetings** among key stakeholders and focus groups for presentation of findings, obtaining feedbacks and refinement should be conducted.
How to conduct a detailed feasibility study? (cont)

- Using the **SW development cycle** (as explained in the previous slide).

- Using the **architecture concept** (i.e. try to describe all key issues as clearly as possible, where possible using diagrams/pictures to help conveying the messages so that verification, validation, and refinement can be less ambiguous, and then common understandings and agreements by relevant stakeholders can be easily reached.)

- Developing several **architectures***/pictures and each picture (suitable for a different viewpoint) with

  1. Several **smaller components**
  2. **Inter-relationships (links)** between those components
  3. **Governing principles** for each component and/or each relationship, e.g. who is in charge of each component.

* As defined in ISO / IEC 42010:2007 Systems and software engineering, Architecture is the fundamental organization of a system comprising of a structure of components, their inter-relationships, and governing principles and/or guidelines for their design and evolution over time.

UNNExT Workshop on SW Planning and Implementation, 14-15 December 2011, Geneva
**“To-Be” Thailand SW Architecture**

2. **Governance Mechanism** – policy decision, service charge regulation, service level agreement etc.

6. **Private Sector & Transport Agencies**
   - Importer/Exporter
   - Carrier
   - Custom Broker/Freight Forwarder
   - Ship Agent, Airlines Agent
   - Other Logistics Service Providers
   - Bank and Insurance

5. **Value-Added Service Providers**
   - VAS
   - VAS
   - VAS
   - VAS

1. **e-Document Exchange Hub for Cross-boarder Trade and Transport**

3. **36 Government and facilitating Agencies**
   - Customs Dept
   - Dept. of Foreign Trade
   - Dept. of Fisheries
   - Dept. of Disease Control
   - Port Authority Of Thailand
   - Port/Airport

4. **ICT National Infrastructure and related IT Laws**
   - responsible by Ministry of ICT

**National Single Window (NSW)**
By Customs Department

1. **Process Re-design & Data Harmonization**
   - ebMS

2. **Governance Mechanism**
   - ebMS

3. **Process Re-design & Data Harmonization**
   - ebMS

4. **ICT National Infrastructure and related IT Laws**
   - ebMS

**Other Business Parties**

**Other agencies**
How to conduct a detailed feasibility study? (cont)

Referring to the SW Development Cycle (Business Process)

- Conducting more detailed Business Process Analysis (BPA) to
  - understand the “as-is” procedures and documentation,
  - identify bottlenecks and improvement opportunities, and
  - propose “to-be” procedures and documentation enabled by reducing and simplifying some procedures/documents, applying e-document submission, e-document exchange, and electronic processing.

For a more detailed BPA guide and associated capacity building workshops request, please refer to UNESCAP/UNECE and

Referring to the SW Development Cycle (Data Harmonization)

- Conducting feasibility and potential benefits through some document analysis and data harmonization to
  - understand the “as-is” data elements and their structures of relevant documents, and
  - propose “to-be” flows and structures of documents and data elements for better data exchange, and easier (e.g. non-duplicated data entry by the users) and more automatic handlings.

With this analysis, we could identify one important sub-project to be carried as part of the overall project implementation phase which is the Data Harmonization Project.

For more any capacity building workshop on Data Harmonization, and an upcoming Data Harmonization Guide, please refer to UNESCAP/UNECE.
How to conduct Data Harmonization?

• Evaluate and select data model based on comprehensiveness and compliance, e.g. WCO Data Model 3.0

• Confirm that the scope of a data harmonization project matches the scope of the business process analysis of the Business Process Phase

• Define each data element in terms of definition, data type, data format, and data constraints in actual operation

• Analyze data elements across various documents and organize them in a comparable manner

• Map the data elements to selected standard data model
"As-Is" Regulatory Business Process and Documentations for Exporting Jasmine Rice

Problems:
- Duplicated Information & multiple physical visits to different locations
- High Cost and Time for sending and receiving documents
- Possible Data Inconsistency

5 regulatory agencies and 17 different documents are required (not counting those required by other business entities, e.g., banks, transporters, logistics providers).
"To-Be" Data Harmonization and "To-Be" Business Process (Improvement)

**As-Is**
- 429 data elements to be filled in different physical documents
- Multiple submissions of identical data
- Multiple visits to government agencies (to submit and collect documents as well as to report actual quantity of goods exported)

**To-Be**
- 180 data elements to be filled in electronically
- No repetitive submission of identical data
- No physical visit
- Electronic data cross-checking between controlling agencies
- Electronic data sharing between controlling agencies
"To-Be" Data Harmonization

to harmonize for the common-meaning data elements among different documents

<table>
<thead>
<tr>
<th>Regulatory-required Documents to be prepared by the rice exporter</th>
<th>As-is (no. of data elements)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To obtain a permit for the export of rice (A. 4)</td>
<td></td>
</tr>
<tr>
<td>• Application for permission to export rice (KP. 2)</td>
<td></td>
</tr>
<tr>
<td>• Sales report (KP. 3)</td>
<td></td>
</tr>
<tr>
<td>• Application for the collection of the permit for the export of rice (A. 3)</td>
<td></td>
</tr>
<tr>
<td>• Draft A. 4</td>
<td></td>
</tr>
<tr>
<td>• Commercial invoice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>150</td>
</tr>
<tr>
<td>To obtain a certificate of standards of product (MS. 24/1)</td>
<td></td>
</tr>
<tr>
<td>• Application for certificate of standards of product (MS. 13/1)</td>
<td></td>
</tr>
<tr>
<td>• Commercial invoice</td>
<td></td>
</tr>
<tr>
<td>• Permit for the export of rice (A. 4)</td>
<td></td>
</tr>
<tr>
<td>• Certificate of analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32</td>
</tr>
<tr>
<td>To declare to-be exported goods</td>
<td></td>
</tr>
<tr>
<td>• Export declaration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>114</td>
</tr>
<tr>
<td>To inform Customs the movement of goods to port</td>
<td></td>
</tr>
<tr>
<td>• Goods transition list</td>
<td></td>
</tr>
<tr>
<td></td>
<td>27</td>
</tr>
<tr>
<td>To obtain phytosanitary certificate (PQ. 9)</td>
<td></td>
</tr>
<tr>
<td>• Application for phytosanitary certificate (PQ. 7)</td>
<td></td>
</tr>
<tr>
<td>• Bill of lading</td>
<td></td>
</tr>
<tr>
<td>• Certificate of fumigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>29</td>
</tr>
<tr>
<td>To obtain certificate of origin</td>
<td></td>
</tr>
<tr>
<td>• Application for certificate of origin</td>
<td></td>
</tr>
<tr>
<td>• Draft certificate of origin</td>
<td></td>
</tr>
<tr>
<td>• Commercial invoice</td>
<td></td>
</tr>
<tr>
<td>• Certificate of standards of product (MS. 24/1)</td>
<td></td>
</tr>
<tr>
<td>• Bill of lading</td>
<td></td>
</tr>
<tr>
<td>• Letter of credit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>67</td>
</tr>
<tr>
<td>To report actual quantity exported</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Thai Case Example exporting rice

180 common data elements among these 17 documents
Example – Exchanged Documents

A Case Example 2 (cont)
(to enable single window data entry)

 Permit for the export of rice by Department of Foreign Trade

Rice Quality Certificate
By The Thai Chamber of Commerce

UNNeXt Workshop on SW Planning and Implementation, 14-15 December 2011, Geneva
### Example – Defining data element names and definitions for 2 documents by comparing with International Standards

#### 2 documents required for exportation of rice

<table>
<thead>
<tr>
<th>Permit for the export of rice</th>
<th>Rice Quality Certificate</th>
<th>Data Element Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>weight (kg.)</td>
<td>Net Weight (kg.)</td>
<td>Net Weight (item)</td>
<td>[TDED 6020] The measure of the net weight (mass) of this cross-border trade line item, excluding all packaging.</td>
</tr>
<tr>
<td>Unit Price</td>
<td>Price</td>
<td>Unit Price (item)</td>
<td>[TDED 5110] Price per unit of quantity on which an article item amount is calculated.</td>
</tr>
<tr>
<td>Name of transport</td>
<td>Ship’s name</td>
<td>Name of Transport</td>
<td>[TDED 8212] Name of a specific means of transport such as the vessel name</td>
</tr>
</tbody>
</table>
Financial Analysis and Business Model Study

Referring to the SW Development Cycle (Financial and Business Model Analysis)

- It is necessary to conduct a comprehensive cost benefit analysis, e.g. cost of designing, developing, and maintaining individual agency systems; its potential benefits; and who should finance the development and operations e.g.
  - a system totally financed by government to an entirely self-sustainable model, or
  - possibilities for public-private partnerships with some service fees, or
  - Some parts financially supported by private sectors with fees.

- Clarity on the financial model can significantly influence decision-makers to support the implementation of the system.
The feasibility study is a key element of the overall Single Window development.

From many real experiences, Phase 1 (Conceptual Analysis) & Phase 2 (Detailed Feasibility Analysis) are normally conducted iteratively in several cycles until most critical issues can be commonly understood, agreed and committed organizationally, politically and financially.

The outputs and formal decisions from the preliminary study and the feasibility analysis should provide some basis for the policy decision makers, policy managers and relevant stakeholders to formulate a SW high-level master plan and/or a more detailed implementation plan.

In some cases, the enough-detail plan(s) may be already included and approved in those discussions. But here we decide to explain the guide for the planning phase in the next module separately for the sake of simplified explanation and decomposition.
Group Exercise 3:

- Using an architecture-style picture to **visualize and decompose complicated issues into several smaller components**, with relationships (using links/lines to express relationships between components), **governance** (e.g. who is in charge of the development/operation of each component, or other governing conditions).

1. Identify **those agencies involving** in the “to-be” regulatory SW of your country.

2. Identify relevant **business users** who will interact with the target SW.

3. What are the key **functions and documents** that should be electronically submitted and exchanged between those stakeholders?

4. Try to **visualize the above components** by drawing some diagrams/pictures with components, relationships/links between those components, and identifying which agency should be in charge of each component.