

Business Process Analysis for Trade Facilitation Improvement

1. Defining Scope of and Planning a BPA Project

WCO-UNESCAP

**3rd UNNExT Masterclass: Digital Customs and Single Windows in
the context of WTO TFA**

19 – 28 April 2017

**Customs Border Control Training Institute (CBCTI)
Cheon-An, Republic of Korea**

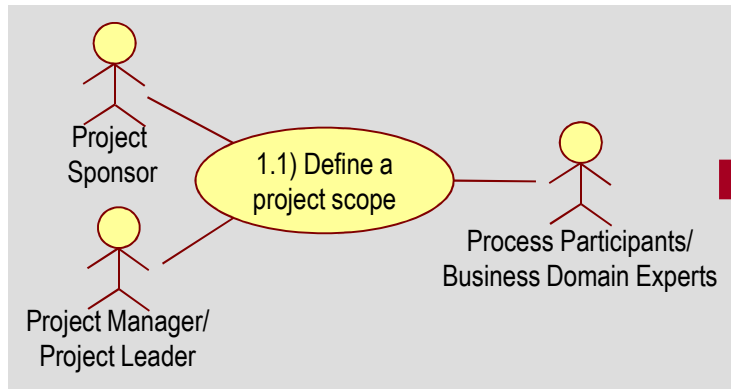
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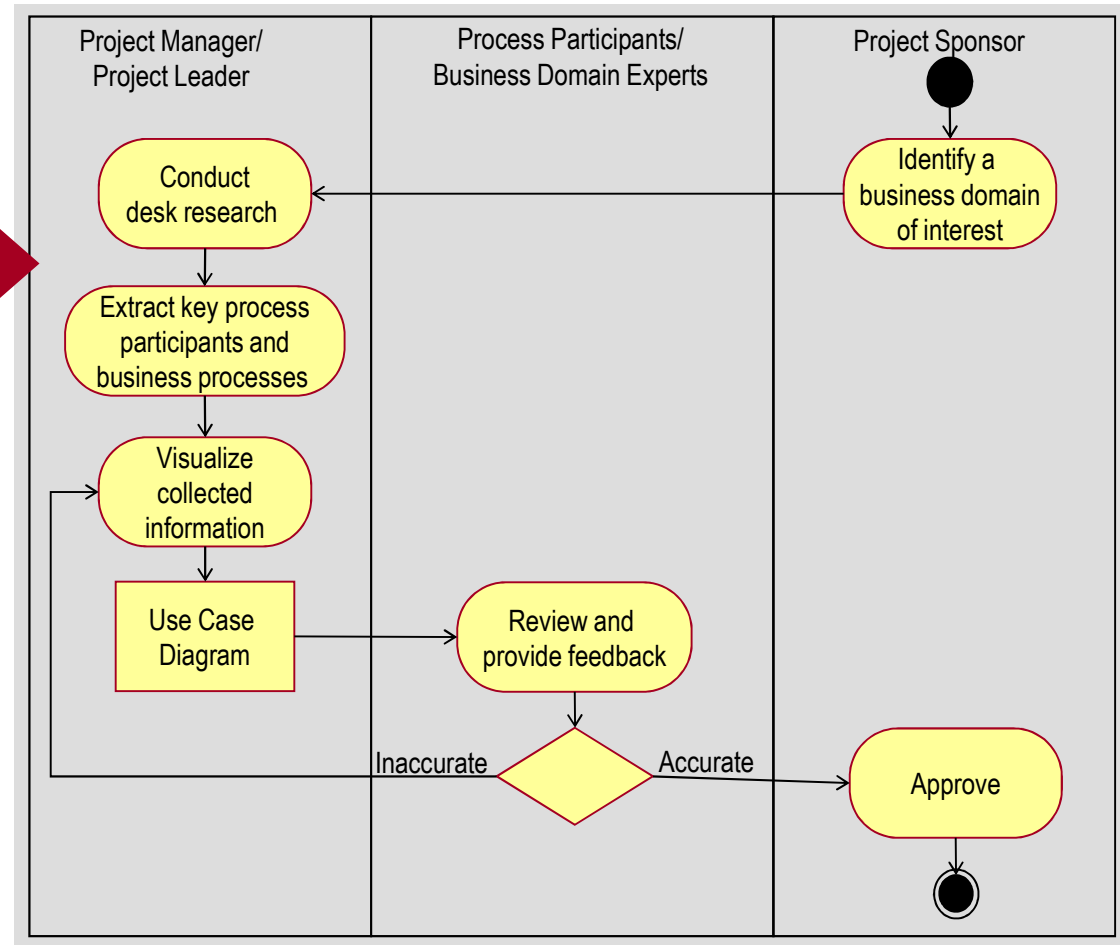
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1.1 Defining the Scope of a BPA Project



Objective – To define a scope of the BPA project for conducting detailed Business Process Analysis and improvement recommendations.



Rationals for defining Scope of a BPA Project

Business domain of interest

- Within an organization, e.g. customs declaration and customs clearance.
- Across organizations, e.g. customs clearance, along with the issuance of export permits for rice exportation

Coverage

- The stage of the international supply chain under investigation, e.g. “Buy”, “Ship”, or “Pay” (all related procedures, or only some parts of them)
- The environment and conditions in which the business domain of interest operates such as mode of transport, term of delivery, term of payment, country of destination, country of origin (given that regulatory requirements vary from one country to another)

Strategic importance

- Economic rationale, e.g. strategic export products, perceived threats in the international trade
- Legislative priorities
- Public sentiment/Public interest

Tips

- **Be precise on the scope of the BPA**
 - Specify the environment and conditions in which the business domain of interest operates at the early phase of the BPA project

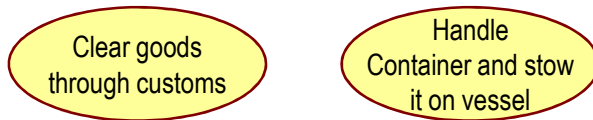
- **Set the scope from the project beneficiary's perspective**
 - With limited resources, detailed modeling and analysis of business process for exporting one product is not possible. In this case, the project emphasis should be oriented towards project beneficiary.
 - If the beneficiary is an exporter, the emphasis is on what the exporter has to do in order to ship the cargo to the destination country.
 - If the beneficiary is a carrier, the emphasis is on what the carrier has to do in order to leave the port of departure.

- **Break the project into sub-projects if the scope is relatively large**
 - E.g., if the project requires the analysis of business process for exporting 10 country's strategic products, break the project into 10 sub-projects and define the project scope for each of them

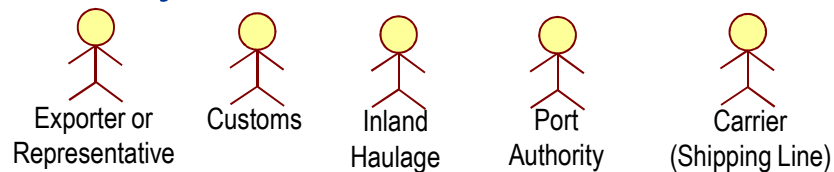
Drawing a Use Case Diagram

Based on the outcome of desk research,

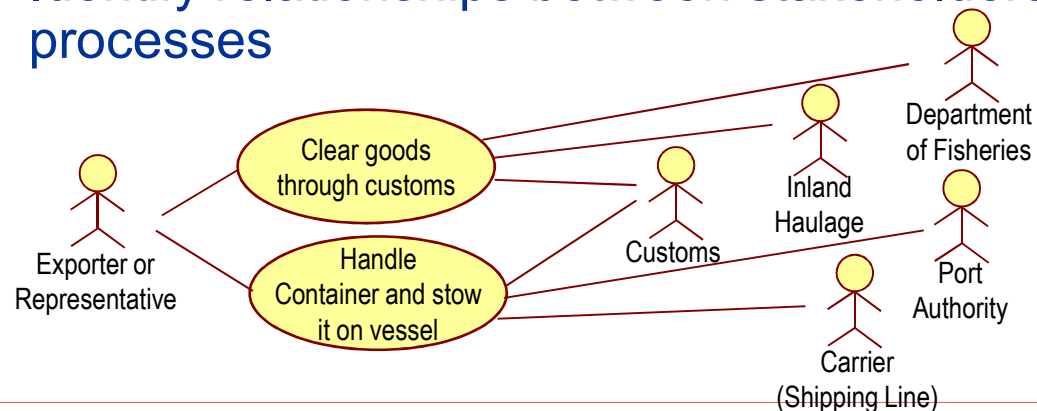
- Identify key business processes and name it using a descriptive verb phrase



- Identify stakeholders

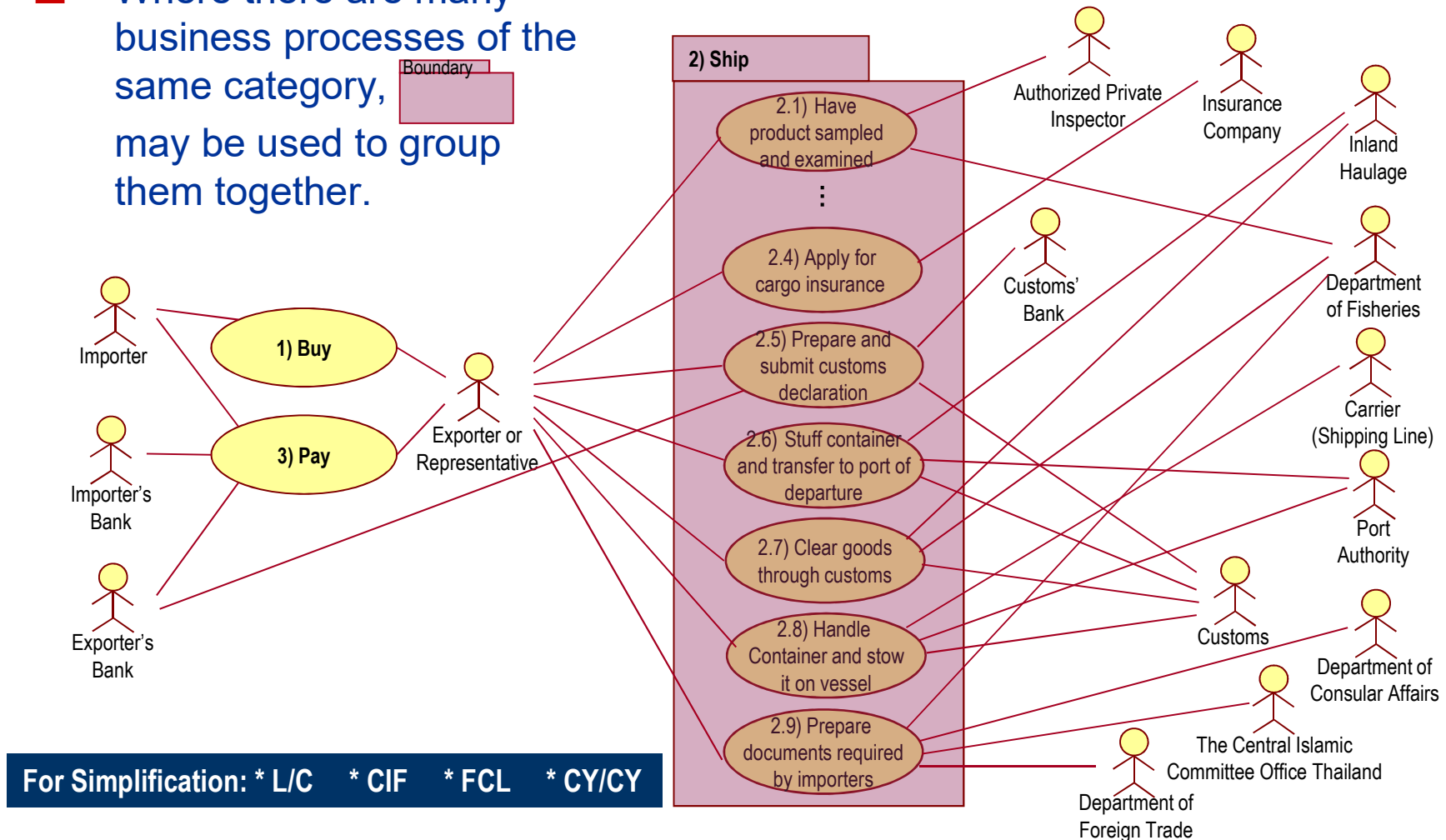


- Identify relationships between stakeholders and key business processes



An Example – Scope of a BPA Project (precisely illustrated with a Use Case Diagram)

- Where there are many business processes of the same category, Boundary may be used to group them together.



Group Exercise

– Defining the scope of a BPA project -

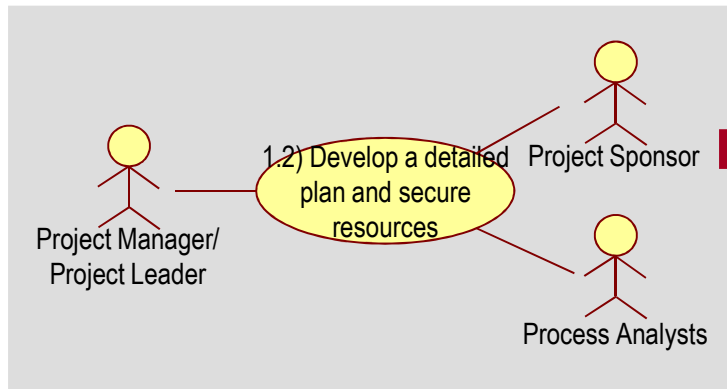
- Splitting into small groups
- **Discussing the scope** of a BPA project (that you think is very useful to be carried on even after this workshop), e.g.
 - Identifying **one** or two **strategic export product(s)** of your country
 - Identifying **a major port** or **a major mode of transport** (with high level/volume of export activities), e.g. through a major sea port, an air port, or a cross-border dry port.
 - Identifying **some complicated procedures**, e.g. customs clearance with some certain permits and/or special inspection (involving with **not just customs but other regulatory agencies**).
- **Preparing a presentation** on the selected scope of a BPA project, and reasons **why this scope is selected**.

Group Exercise (cont)

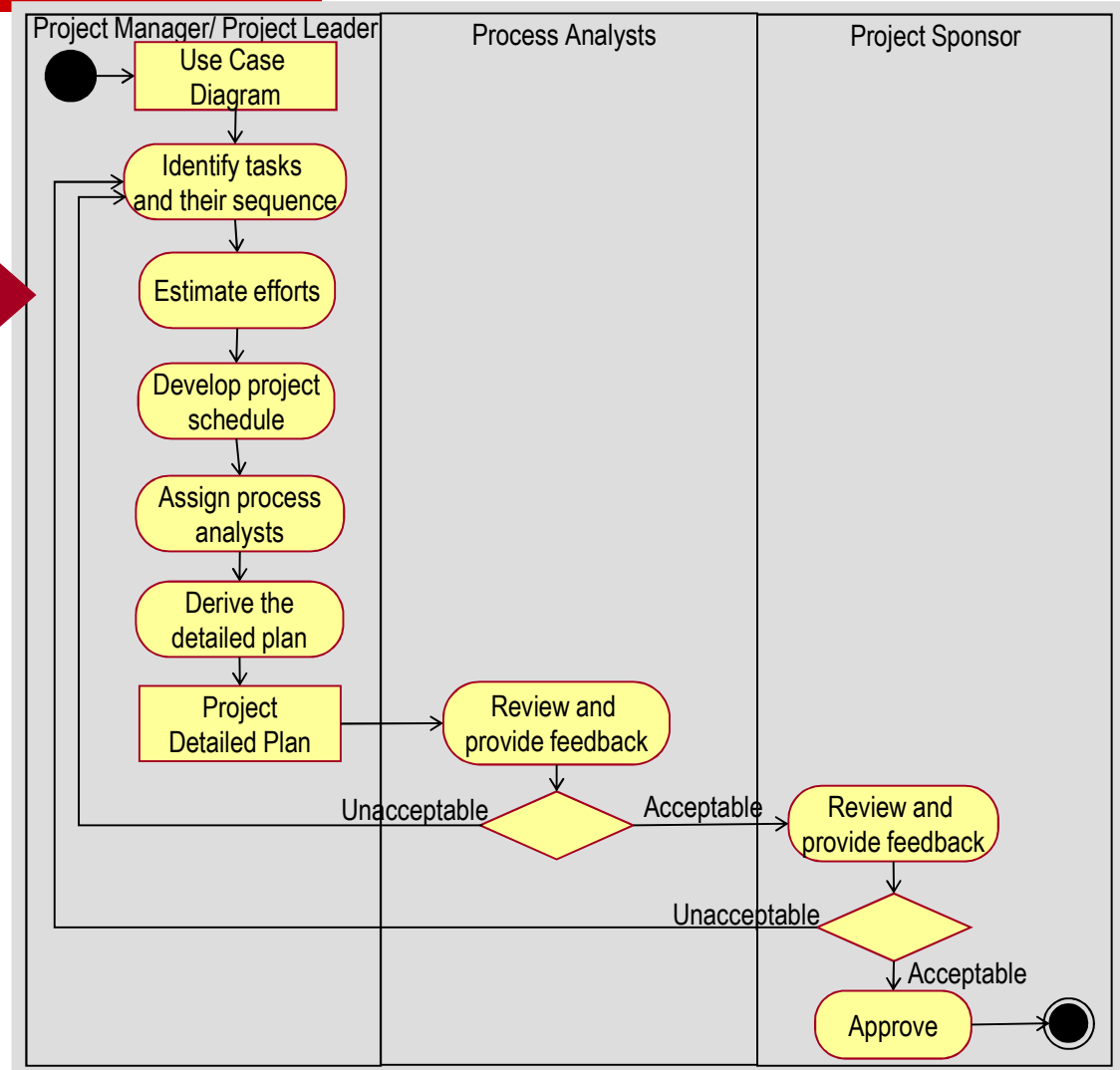
– Defining the scope of a BPA project -

- If time permits, please draw the scope of your BPA project with a **Use Case Diagram**
 - Identifying the stakeholders/agencies [**Actors**]
 - Identifying key business processes [**Use Cases**]
 - Identifying their relationships [**Which actors are associated with which Use Cases**]

1.2 Planning a BPA Project

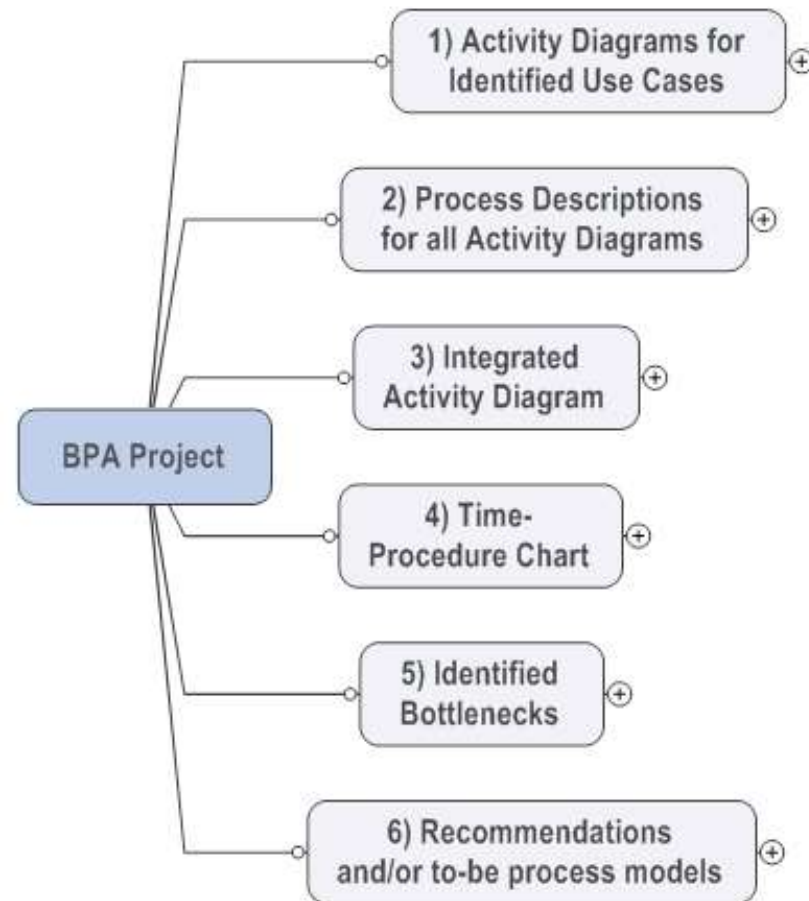


Objective – To develop a detailed work plan that helps guide and manage the implementation of a BPA project



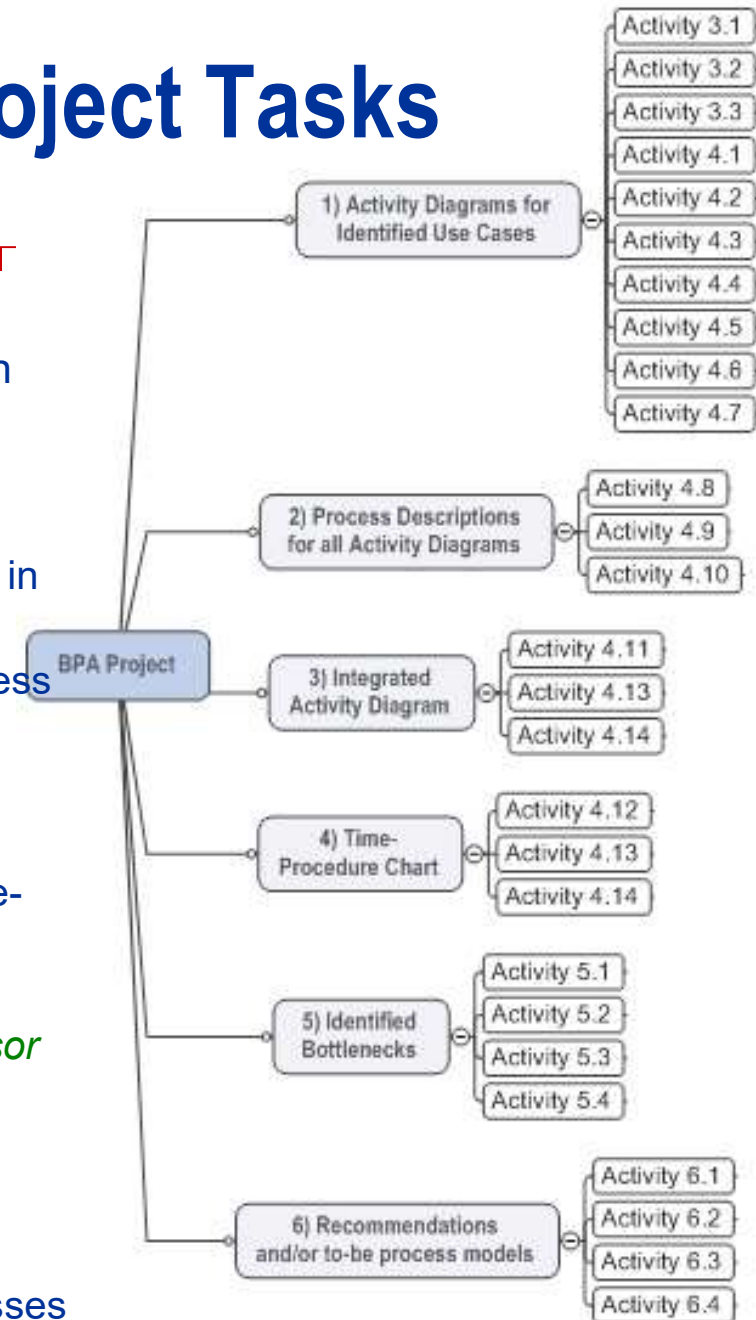
Identifying BPA Project Tasks

- Develop a work breakdown structure for a BPA project
 - A work breakdown structure is an output-oriented description of project tasks. It typically starts with outputs. The work components of outputs are then broken down into tasks necessary to achieve them.

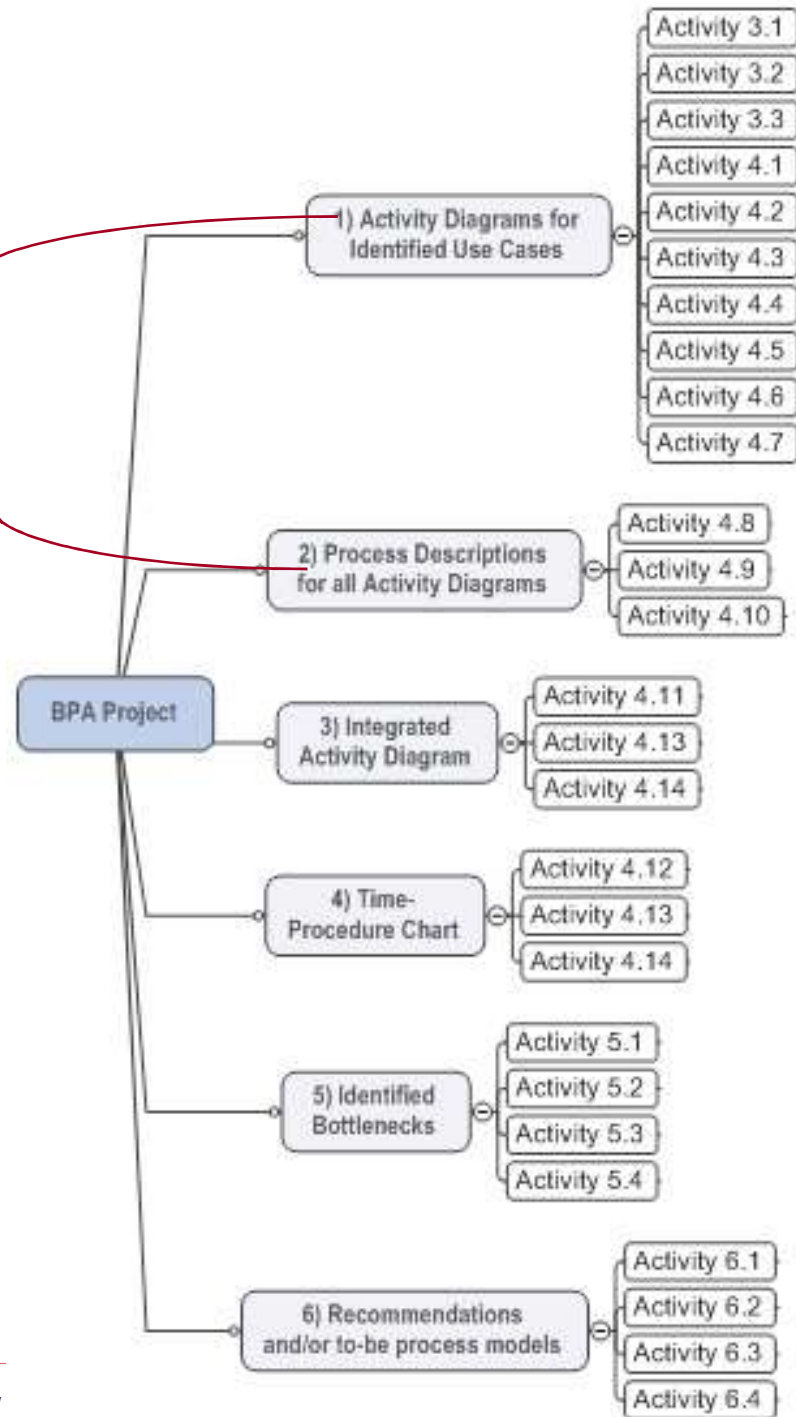


Identifying BPA Project Tasks

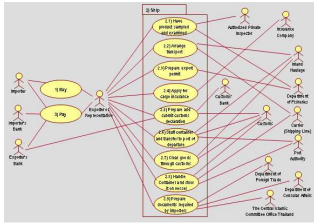
- Use the **Business Process Analysis Guide to Capture and Simplify Trade Procedures**, as an input for identifying BPA tasks for each output
 - Activity 3.1 – 3.3 and Activity 4.1 – 4.7 for the modeling of activity diagrams describing core business processes represented by use cases in the use case diagram
 - Activity 4.8 – 4.10 for the development of process description for all activity diagrams
 - Activity 4.11 – 4.14 for the development of an integrated activity diagram
 - Activity 4.12 – 4.14 for the development of time-procedure chart
 - *Activity 4.15 – 4.16 for the consolidation and submission of output no. 1 – 4 to project sponsor for perusal*
 - Activity 5.1 – 5.4 for the identification of bottlenecks
 - Activity 6.1 – 6.4 for the development of recommendations and/or new business processes



The number of key business processes and stakeholders involved in each business process must be taken into account when estimate time required for elaborating them into activity diagrams.



Small activities may be grouped into one prior to the estimation of efforts for a BPA project.



Use Case Diagram as an Input for Estimating Time Required to Complete Tasks to Product Output 1 and 2



Source: Case Study – Thailand's Export of Frozen Shrimp

Estimating Efforts for a BPA Project

$$\text{Task Estimate (PERT*)} = \frac{\text{Optimistic Time} + (4 * \text{Most Likely Time}) + \text{Pessimistic Time}}{6}$$

| Task/Activity (Shrimp Case) | Predecessor | Optimistic Time (day) | Most-Likely Time (day) | Pessimistic Time (day) | Estimated Time (day) |
|-----------------------------|------------------------------|-----------------------|------------------------|------------------------|----------------------|
| A 3.1-3.3 | None | 5 | 8 | 10 | 7.83 |
| A 4.1-4.2 | A 3.1-3.3 | 2 | 4 | 5 | 3.83 |
| A 4.3 | A 3.1-3.3 | 2 | 3 | 5 | 3.16 |
| A 4.4 | A 4.1-4.2, A 4.3 | 3 | 5 | 10 | 5.5 |
| A 4.5 | A 4.4 | 3 | 4 | 10 | 4.83 |
| A 4.6 | A 4.5 | 5 | 8 | 10 | 7.83 |
| A 4.7 | A 4.6 | 1 | 1 | 2 | 1.16 |
| A 4.8 | A 4.7 | 3 | 4 | 10 | 4.83 |
| A 4.9 | A 4.8 | 5 | 8 | 10 | 7.83 |
| A 4.10 | A 4.9 | 1 | 1 | 2 | 1.16 |
| A 4.11 | A 4.10 | 2 | 4 | 5 | 3.83 |
| A 4.12 | A 4.10 | 1 | 1 | 2 | 1.16 |
| A 4.13 | A 4.11, A 4.12 | 5 | 8 | 10 | 7.83 |
| A 4.14 | A 4.11, A 4.12 | 1 | 1 | 2 | 1.16 |
| A 4.15 | A 4.7, A 4.10, A 4.14 | 1 | 1 | 2 | 1.16 |
| A 4.16 | A 4.15 | 1 | 1 | 5 | 1.66 |

* Project Evaluation and Review Technique

Developing Project Schedule

| Task/Activity (Shrimp Case) | Predecessor | Estimated Time (day) | Week 1 | | | | | Week 2 | | | | | Week 3 | | | | | Week 4 | | | | | Week 5 | | | | | Week 6 | | | | | Week 7 | | | | |
|--------------------------------|------------------------------|-------------------------|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|--------|---|---|---|---|
| | | | M | T | W | T | F | M | T | W | T | F | M | T | W | T | F | M | T | W | T | F | M | T | W | T | F | M | T | W | T | F | M | T | W | T | F |
| A 3.1-3.3 | None | 7.83 | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.1-4.2 | A 3.1-3.3 | 3.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.3 | A 3.1-3.3 | 3.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.4 | A 4.1-4.2, A 4.3 | 5.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.5 | A 4.4 | 4.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.6 | A 4.5 | 7.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.7 | A 4.6 | 1.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.8 | A 4.7 | 4.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.9 | A 4.8 | 7.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.10 | A 4.9 | 1.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.11 | A 4.10 | 3.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.12 | A 4.10 | 1.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.13 | A 4.11, A 4.12 | 7.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.14 | A 4.11, A 4.12 | 1.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.15 | A 4.7, A 4.10, A 4.14 | 1.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A 4.16 | A 4.15 | 1.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Assigning Process Analysts

- ❑ **Technology skills:** The basic knowledge of UML notations, especially in use case diagrams and activity diagrams is desirable. Related work experience is complementary.
- ❑ **Business/ organization skills:** It is important that the selected process analysts know or have an access to the individuals of the business domain under investigation. It is also very useful if they have knowledge of a particular organization or industry associated with the targeted business domain.
- ❑ **Interpersonal/ communication skills:** Process analysts' ability to effectively communicate and interact with other project members is mostly crucial to project success. They should have the ability to create and sustain reasonably good relationships with project stakeholders and especially Process Participants/Business Domain Experts.
- ❑ **Analytical skills:** Process analysts should be able to capture relevant information from verbal expression and written documents, and then formalize them in various types of BPA output.

Group Exercise – Planning your BPA project.

Discussing within your small group.

- More detailed & more precise scope of your BPA project with a Use Case Diagram, e.g.
 - Identify all stakeholders/agencies involved **[actors]**
 - Identify all key business processes **[use cases]**
 - Identify their **relationships** [which actors are associated with which actors]
- Who is or who should be **the right sponsor?**
- **A Draft Plan**, including
 - Identify necessary **tasks**, e.g. **data collection, process description, validation/verification of the findings, improvement recommendations – all tasks for each use case/activity diagram, etc.**
 - Identify those **who should be involved**
 - Roughly **estimate** the **timeline/schedule**, needed **budget**, ...
 - How we are going to **utilize** and **escalate** the **outcomes of this BPA project?**