Session 9.1 – BPA
# Capturing and Modeling the As-Is Process

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# Conducting a BPA Project: in Three (3) Main Phases

I. **Scope setting/Planning** – Specify a scope of processes to be analyzed

  ▸ e.g. import and/or export processes of a specified product,
    through a certain mode of transportation (trucks, trains, ships or airplanes)…

  ▸ e.g. planning staffs, tasks, time schedule, other resources to conduct this BPA project

II. **Data collection and process documentation** – Acquire information and document a sequence of steps in actual practices & their attributes, e.g.

  ▸ Who involved (stakeholders/actors)

  ▸ Procedures and documents required (input to/output forms)

  ▸ Related rules and regulations

  ▸ Quantitative indicators, eg. no.of steps, time, cost, time, distance, …

III. **Process analysis** – Locate bottlenecks, examine what causes them, and develop measurable and quantitative process indicators (e.g. the number of steps, time and costs required to fulfill those processes)

  Recommendation development – Determine how to eliminate each bottleneck, propose and prioritize improvement actions

Acquiring Background Information
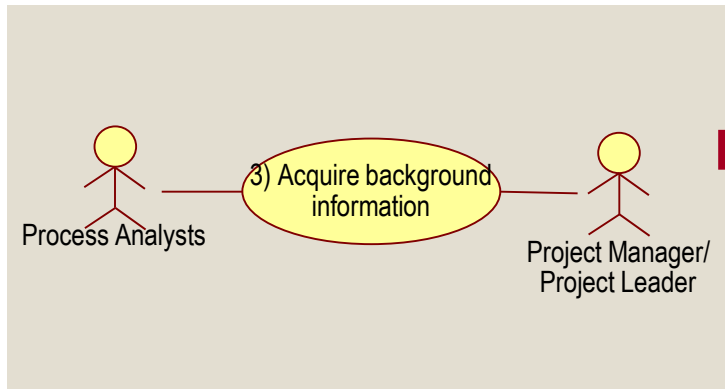
Objective – **To acquire as much as possible first hand information about existing business processes in the scope of investigation including:**

- **Related laws and regulations**
- **Sequence of activities required to complete each business process**
- **Related forms and documents**
- **Contact details of potential interviewees**
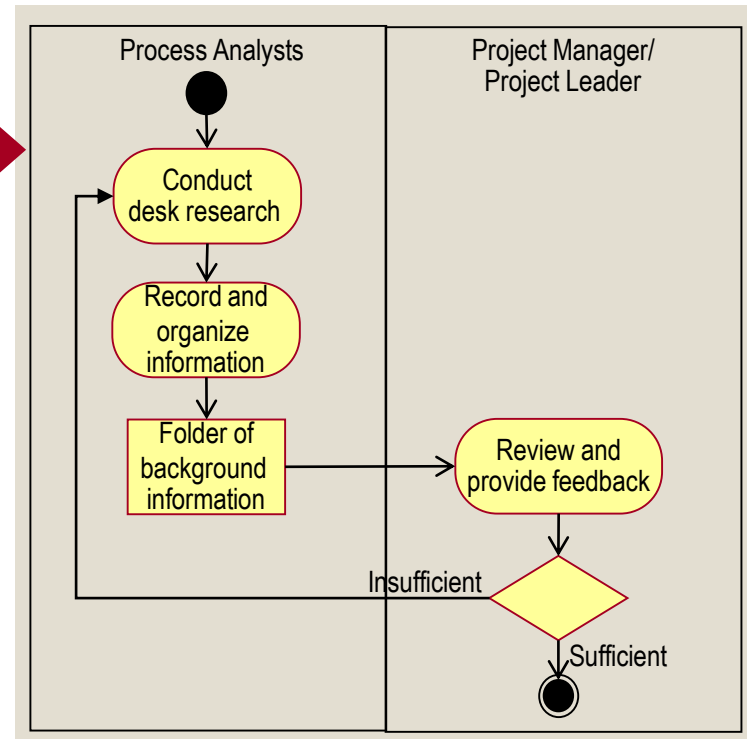
Conducting Interviews and Documenting Captured Data
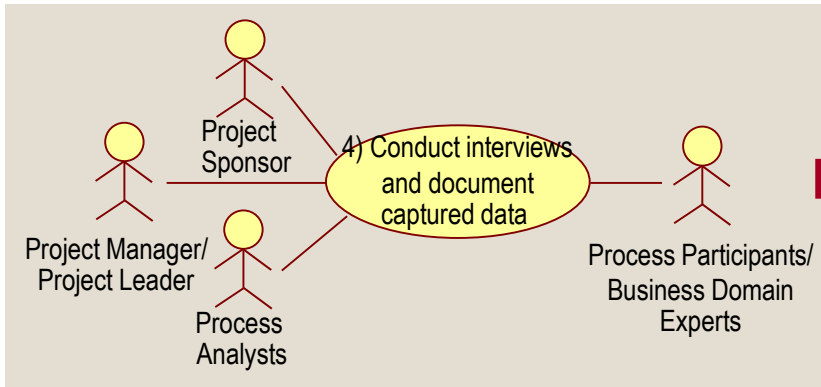
Objective – **To capture and document in-depth knowledge about existing business processes in the scope of investigation in:**

- **Activity diagrams**
- **Written process descriptions**
- **Integrated activity diagram that represents an interconnected view of all involved business processes**
- **Time-procedure chart**

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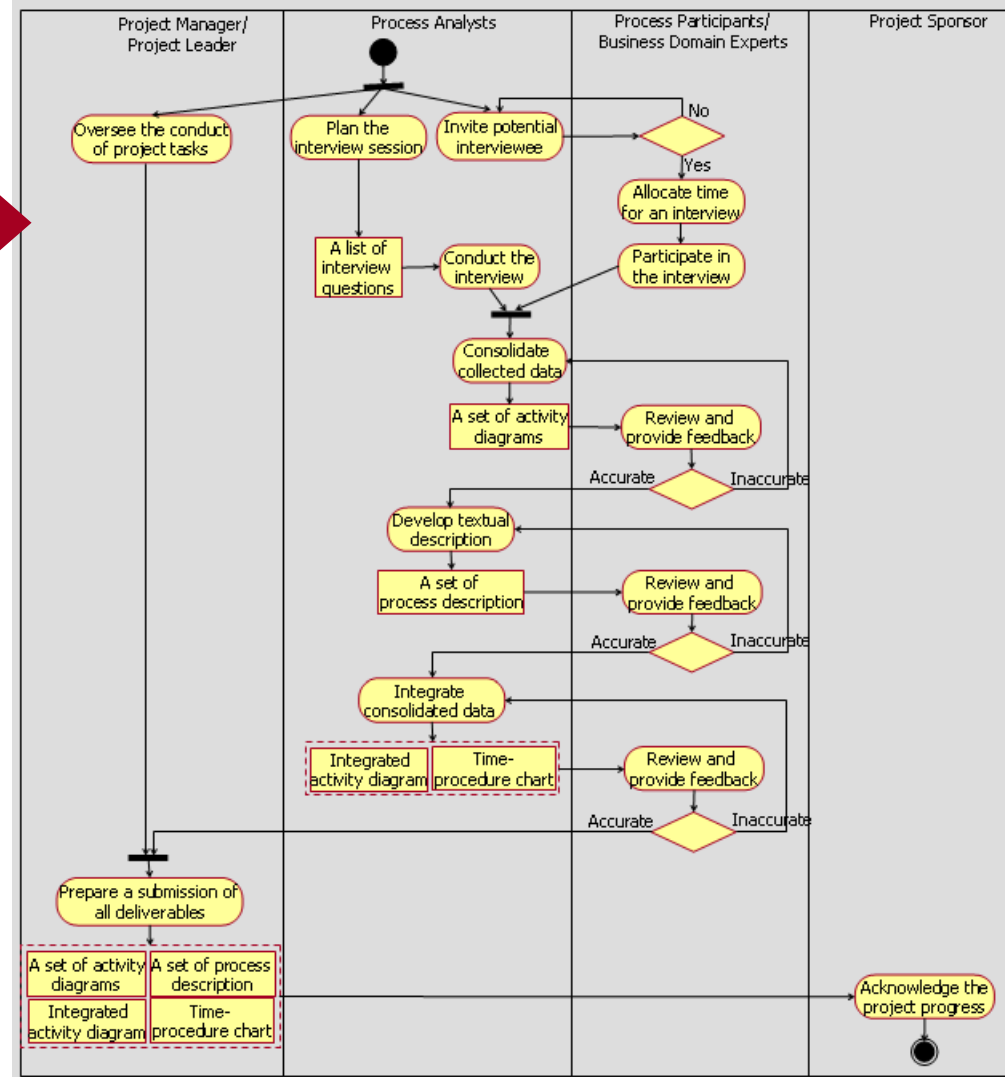
Inviting Potential Interviewees

Potential interviewees – Process participants or business domain experts who are in charge in carrying out activities required to complete a particular business process and dealing with respective procedures and formalities associated with that business process on a daily basis

❖ Give self-introduction

❖ Inform potential interviewees about:

▶ Purpose of the interview

▶ Contribution of the information to be captured during the interview on the project

▶ Final outputs of the project

▶ Expected project outcome and impact

Sample Interview Questions (1)

Business Process related questions:

❖ Who (and How many people) are involved in this business process?

❖ What are necessary activities that an exporter/an importer has to take in order to acquire a particular document?

❖ What are supplementary documents that an exporter/an importer has to submit along with the application form when a particular document is requested?

❖ How can an exporter/importer submit the application form, how to collect the requested document (manually or electronically)?

❖ Are copies of documents accepted in lieu of original documents?

❖ Is there any fee that an exporter/an importer has to pay in order to acquire the document? If so, how much?

❖ What are the laws or regulations associated with these procedural and documentary requirements?

❖ Which business processes can be carried out in parallel?

❖ Which business process has to be carried out simultaneously after another business process ?

Sample Interview Questions (2)

Information-Flow related questions:

❖ With which other actor in the business do you need to communicate?

❖ What kind of data do you exchange?

❖ What kind of information do you send to which actor?

Time related questions:

❖ How much time including waiting time in average hours or days does it take to complete this entire business process from the beginning to the end? What is the maximum and minimum time?

❖ How many actual man-hours does it require to complete this particular activity in this business process?

Cost related questions:

❖ How much in average does it cost to complete this particular activity in this business process or to process one document?

Suggestions for Improvement:

❖ What are problems/ bottlenecks you encounter in procedures and regulations to import or export?

❖ What are improvements that you would like to see in the near future?
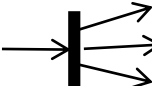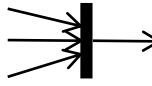
Conducting the Interview

- ❖ 1 – 2 Process analysts per an interview session
- ❖ Obtain permission from the interviewee prior to recording the interview.
- ❖ Keep the interview free-flowing and conversational, yet within a basic structured framework
- ❖ Seek interviewees' opinions and observations on bottlenecks and issues that should be improved, why, and how to improve them.
- ❖ Write down everything
- ❖ Summarize key points to confirm with interviewees to correct our own understanding
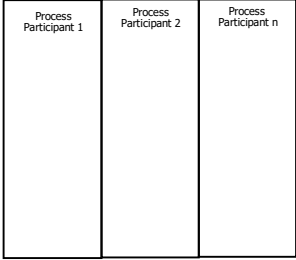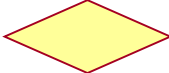- ❖ Respect time schedule

Drawing an Activity Diagram for each Use Case

Based on information from the interview,

- ❖ Prepare swimlanes for parties involved in a business process
- ❖ List activities and decision points involved in the business process in a sequential order and categorize them according to the party who carry them out
- ❖ For each decision points,
  provide conditional statement for each transition
- ❖ If applicable, list documents required as inputs to each activity and categorize them according to the party who provide the documents
- ❖ If applicable, list documents that are outputs of each activity
- ❖ Create a starting point, an ending point, and connections for all activities and documents

UML Notations for Activity Diagram

Notation	Description
●	**Initial State** ☐ Represents the beginning of a set of activities
◉	**Final Activity State** ☐ Indicates the completion of the business process
⊗	**Final Flow State** ☐ Indicates that further activities cannot be pursued
⟶	**Transition Line** ☐ Indicates a sequential flow of actions and information in an activity diagram
⊢➤	**Fork (Splitting of Control)** ☐ Visualizes a set of parallel or concurrent flow of actions
➤⊢	**Join (Synchronization of Control)** ☐ Indicates the end of parallel or concurrent flow of activities
▭	**Object** ☐ Represents a document or information that flows from one activity to another activity (labeled with the name of a document)

| Notation	Description
Process Participant 1 | Process Participant 2 | Process Participant n	**Swimlane** ☐ Is used to break up individual actions to individuals/ agencies that are responsible for executing their actions ☐ Is labeled with the name of the responsible individual or agency
⬭	**Activity** ☐ Represents a non-decomposable piece of behavior ☐ Is labeled with a name that 1) begins with a verb and ends with a noun; and 2) is short yet contain enough information for readers to comprehend
◇	**Decision** ☐ Represents the point where a decision has to be made given specific conditions ☐ Attached with labels addressing the condition on each transition line that comes out of an activities and connects to a decision point or vice versa
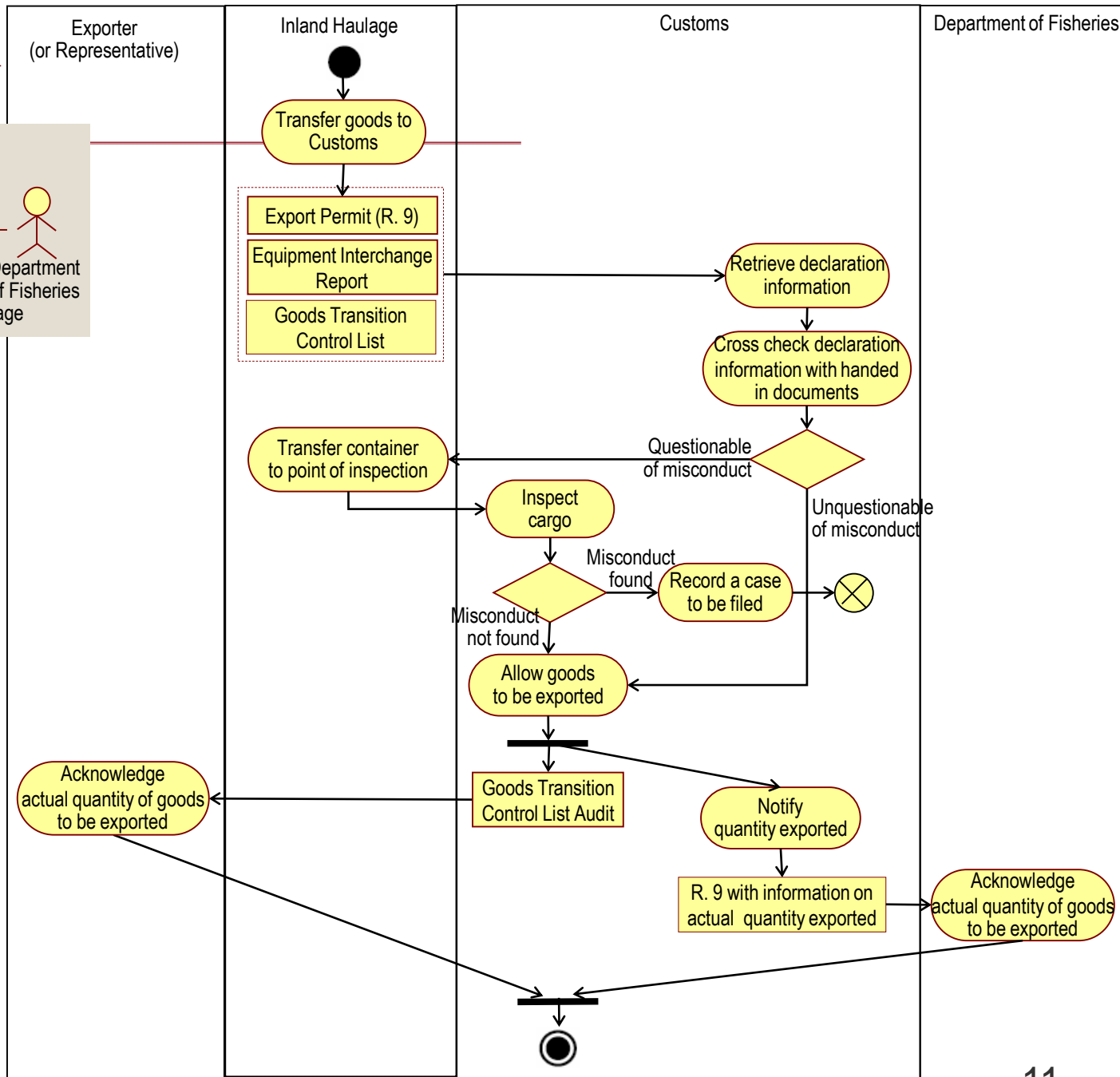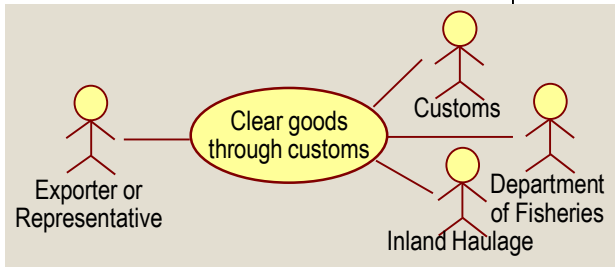
Writing Process Description for each Activity Diagram

Process description has to include the following elements:

- ❖ The name of a process area which this particular business process belongs to
- ❖ The name of a business process
- ❖ Related rules and regulations
- ❖ The name of responsible parties
- ❖ Input and criteria to enter/begin the business process
- ❖ Procedures and associated documentary requirements to complete the process
- ❖ Output and criteria to exit the business process
- ❖ The average time & cost required to complete the process and/or durations for each involved transaction
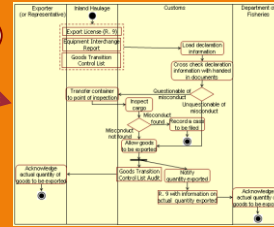
Integrating a set of Activity Diagrams

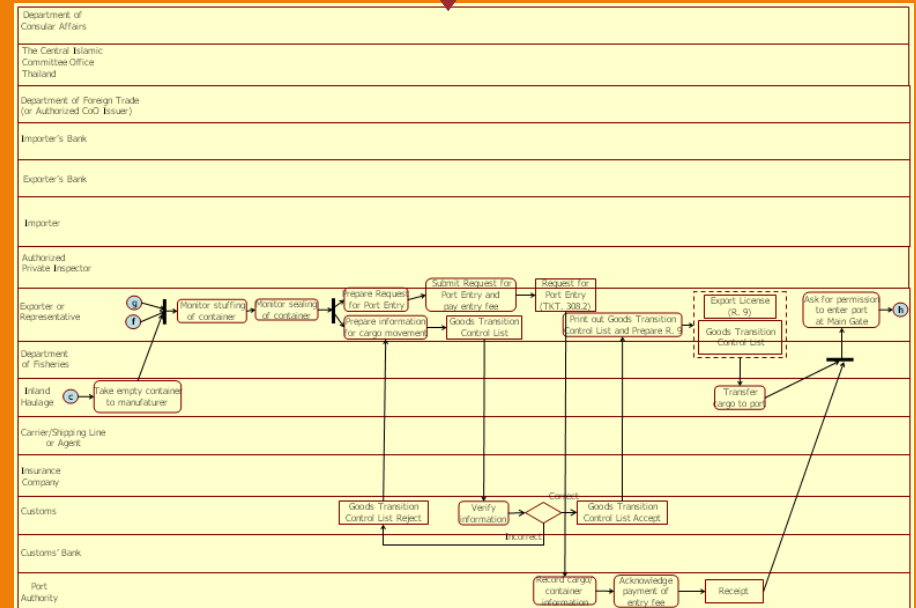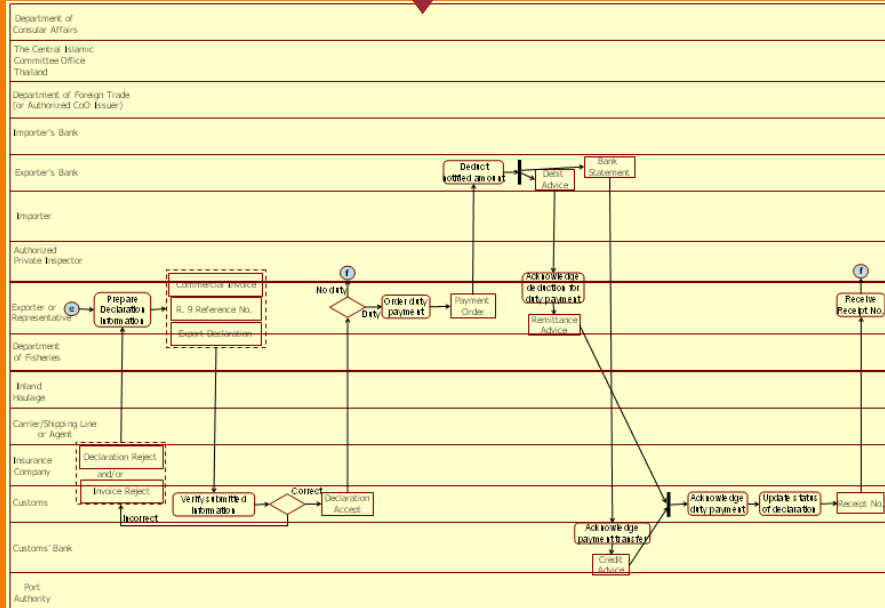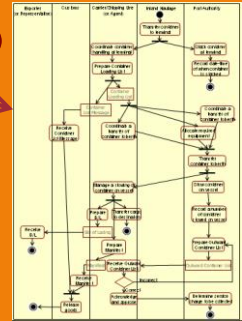2.5) Prepare and submit customs declaration
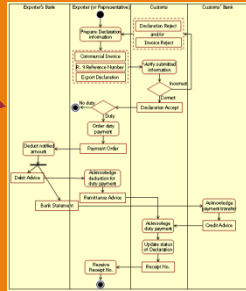
2.6) Stuff container and transfer to port of departure

2.7) Clear goods through customs

2.8) Handle container at terminal and stow it on vessel

Drawing a Time-Procedure Chart*

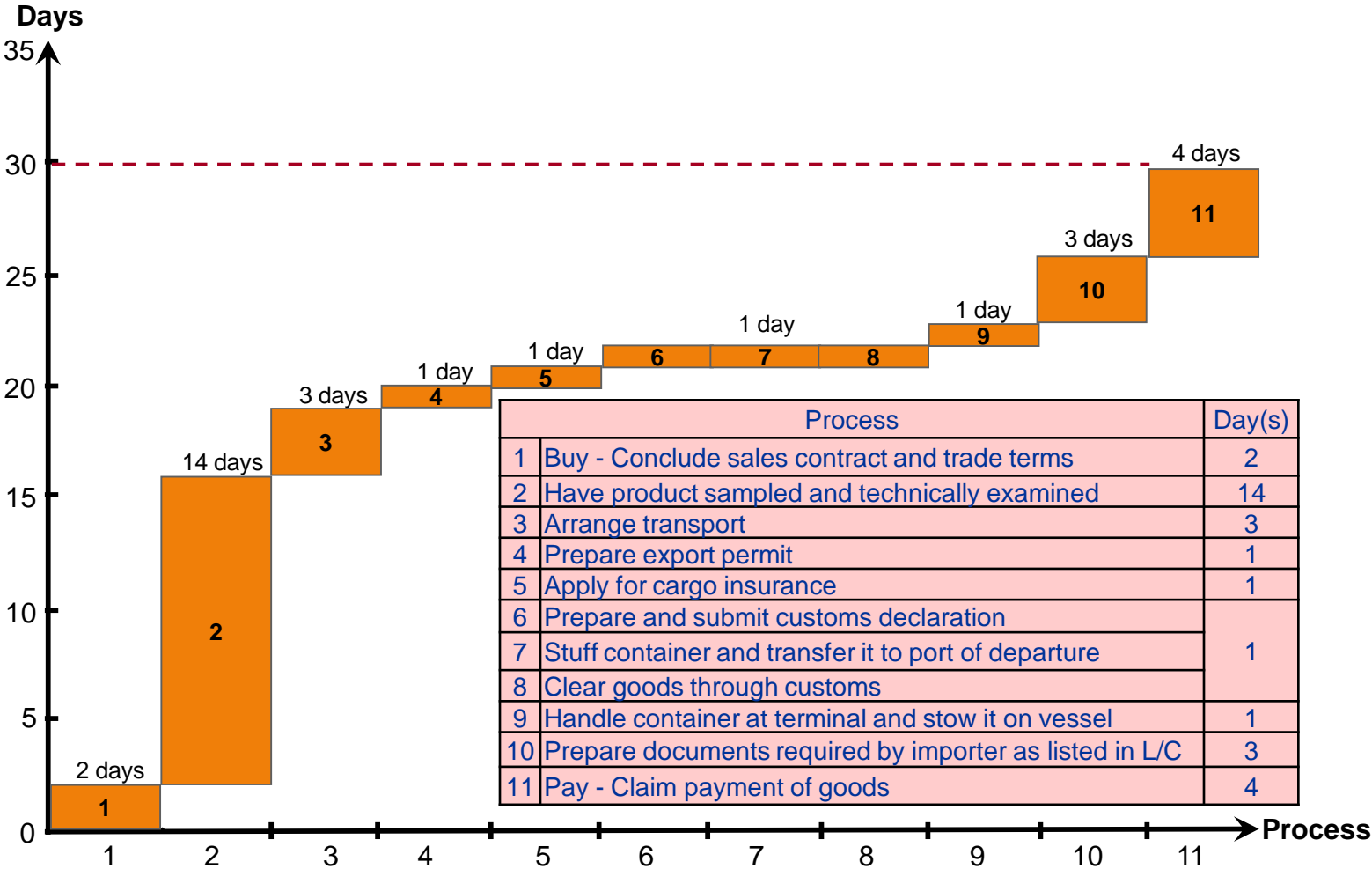|	Process	Day(s)
1	Buy - Conclude sales contract and trade terms	2
2	Have product sampled and technically examined	14
3	Arrange transport	3
4	Prepare export permit	1
5	Apply for cargo insurance	1
6	Prepare and submit customs declaration	
7	Stuff container and transfer it to port of departure	1
8	Clear goods through customs	
9	Handle container at terminal and stow it on vessel	1
10	Prepare documents required by importer as listed in L/C	3
11	Pay - Claim payment of goods	4

In a nutshell,

- **Preparation for an interview** – desk research
- **Iterative and incremental activities** of business process capturing & modelling
- **Onsite observation**
- **Verification(correctness) & Validation(completeness)** of those business process modeling outputs by relevant stakeholders
- **Revision and refinement of outputs** until they reflect what actually happens
- **Critical thinking**
- **Interpersonal skills**

– Group Discussion–
Capturing the As-Is Process

Breaking into small groups

❖ Collect necessary information and draw at least one activity diagram, and along with related quantitative data (numbers of steps, number of physical visits, number of signature, time and cost needed, etc.) for capturing the detailed procedures and document requirements for a selected Use Case.

▸ Data collection through the Internet, or from any accessible reference materials

▸ Data collection from interviewing with domain experts

▸ Visualize those procedures with an activity diagram

▸ Try to verbally describe that activity diagram (if time permitted, descript it in writing (process description)

▸ Collect related sampled documents both blank forms and filled-in forms