

## Business Process Analysis for Business Process Simplification and Automation - Practicum Worksheet -

**Workshop on Launch of the Implementation Master Plan for  
Mongolia's Single Electronic Window  
December 15 - 17, 2009, Ulaanbaatar, Mongolia**

# Business Process Analysis for Business Process Simplification and Automation

## Part 0 Reference for Business Process Analysis

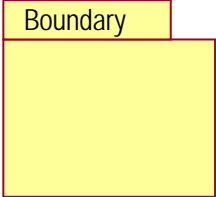
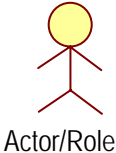
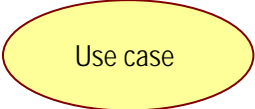



# BPA Activities in a Nutshell

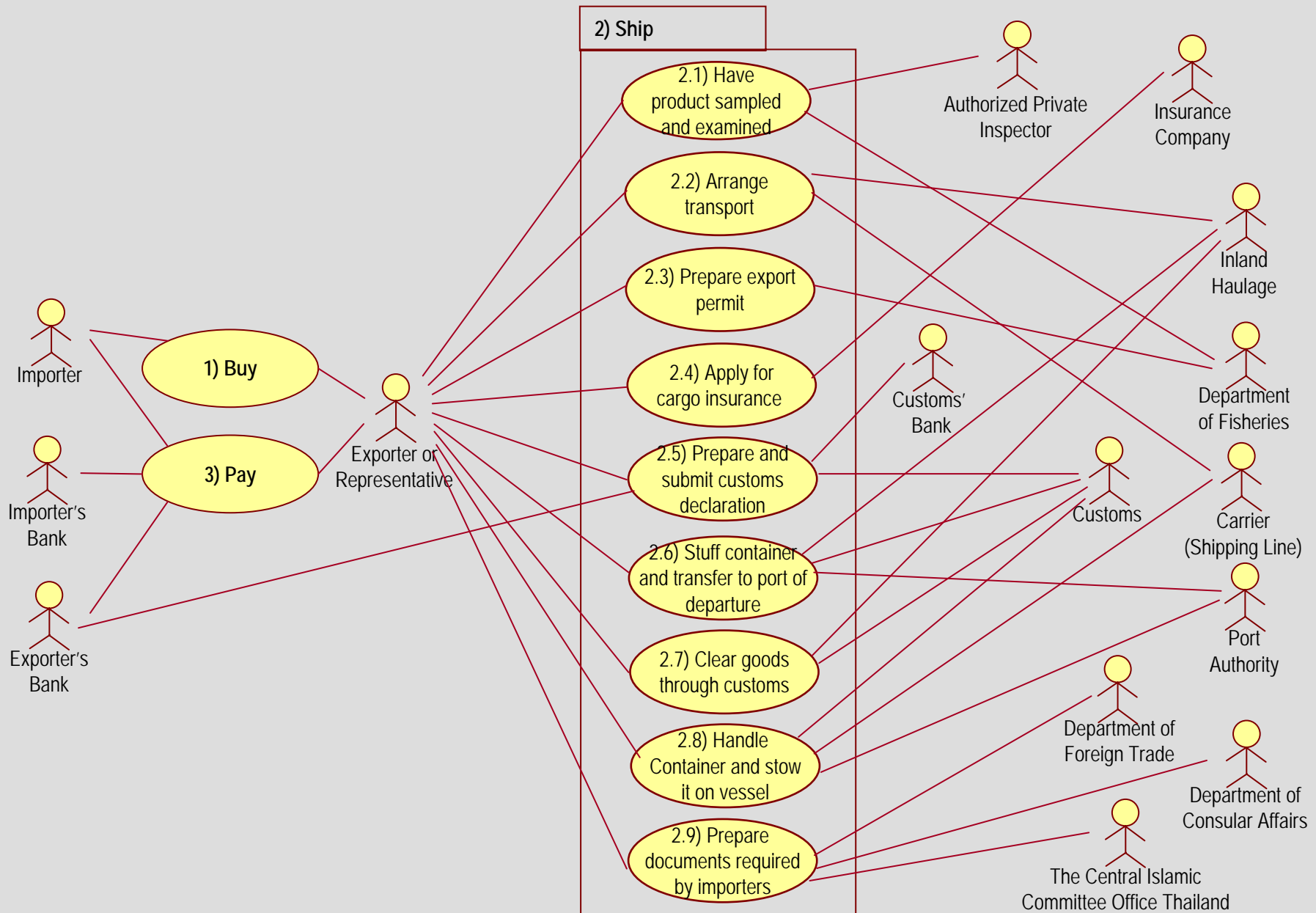
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1. **Scope setting** – Specify a scope of processes to be analyzed
  - e.g. import and/or export processes of a specified product, through a certain mode of transportation (trucks, trains, ships or airplanes)
2. **Process definition** – Define and document a sequence of steps in actual practices and their attributes
  - *Who involved (stakeholders/actors)*
  - *Procedures and documents required (input to/output from),*
  - *Related rules and regulations*
3. **Problem analysis** – Develop measurable and quantitative process indicator (*e.g. the number of steps, time and costs required to fulfill those processes*), locate bottlenecks and examine what causes them
4. **Recommendation development** – Determine how to eliminate each bottleneck and prioritize improvement actions




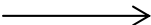
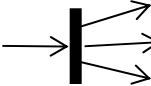
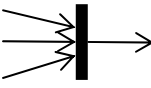
# UML Notations for Use Case Diagram

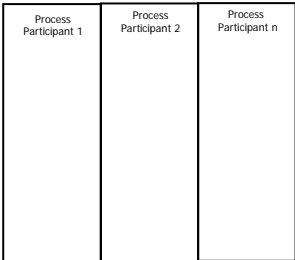

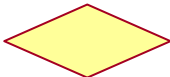
Notation	Description
	<p>Subject Boundary</p> <ul style="list-style-type: none"><li>□ Represents a process area</li><li>□ Includes the name of a subject boundary on top</li></ul>
	<p>Actor</p> <ul style="list-style-type: none"><li>□ Represents a role in a particular business process</li><li>□ Is labeled with a role name</li></ul>
	<p>Use Case</p> <ul style="list-style-type: none"><li>□ Represents a business process</li><li>□ Is labeled with a descriptive verb-noun phrase</li></ul>
	<p>Relationship Association</p> <ul style="list-style-type: none"><li>□ Link actors with business processes that they participate in</li></ul>

# Sample Use Case Diagram: Thailand's Export of Frozen Shrimp

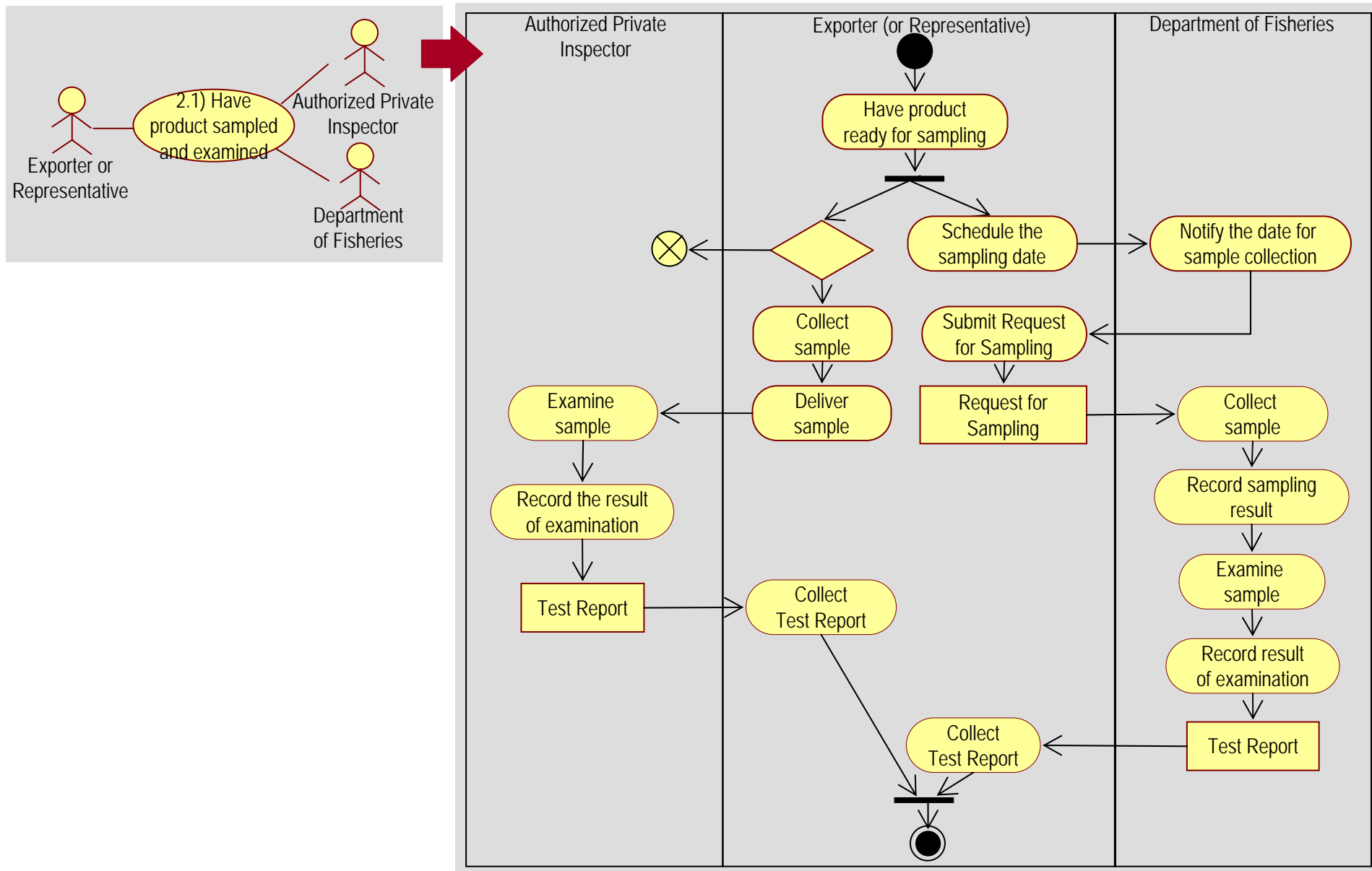


# UML Notations for Activity Diagram

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

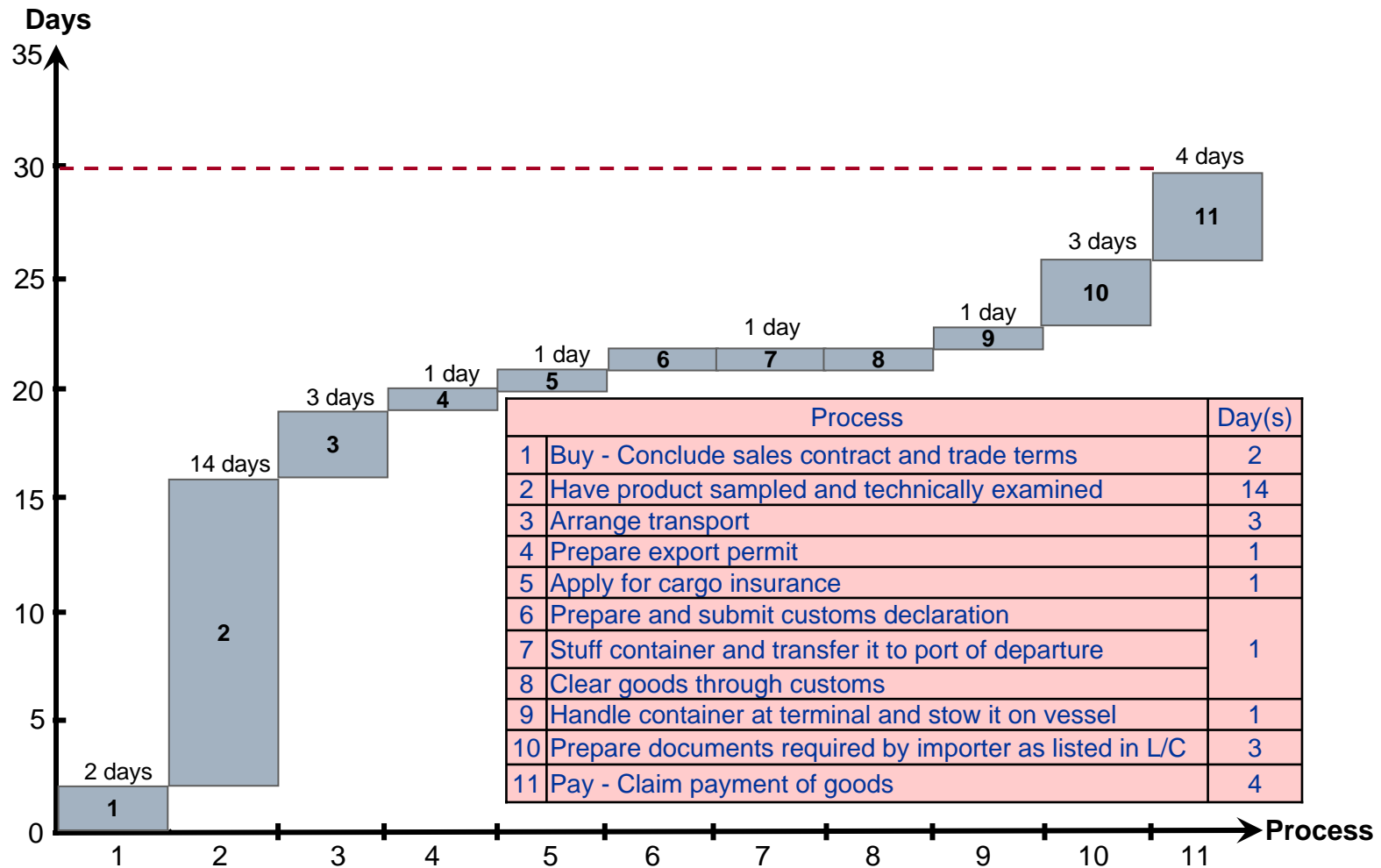
Notation	Description
	Swimlane □ Is used to break up individual actions to individuals/ agencies that are responsible for executing their actions □ Is labeled with the name of the responsible individual or agency
	Activity □ Represents a non-decomposable piece of behavior □ Is labeled with a name that 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

# Sample Activity Diagram: Thailand's Export of Frozen Shrimp



# Drawing a Time-Procedure Chart\*

\*World Bank's Doing Business Project





# Business Process Analysis for Business Process Simplification and Automation

## Part 1

### Defining the Scope of a BPA Project

Objective – To establish a frame of reference for detailed business process modeling work

# Scope of a BPA Project

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## Business domain of interest

- ☐ Within an organization e.g., in-house software development
- ☐ Across organizations e.g., customs clearance, issuance of permit for crocodile skin import, frozen shrimp export

## Strategic importance

- ☐ Public sentiment
- ☐ Legislative priorities
- ☐ Economic rationale e.g., strategic export product, perceived threats in the international trade

## Coverage

- ☐ The stage of the international supply chain under investigation i.e., “Buy”, “Ship”, or “Pay”
- ☐ 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)

# Tips

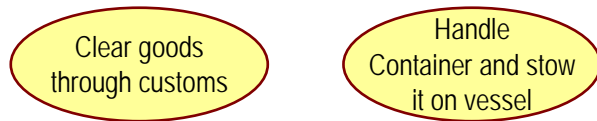
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- ❑ Be precise on the scope of the BPA
  - Specify the environment and conditions in which the business domain of interest operates at the early phase of the BPA project
  
- ❑ Break the project into sub-projects if the scope is relatively large
  - 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
  
- ❑ 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.

# Drawing a Use Case Diagram (1)

Based on the outcome of desk research,

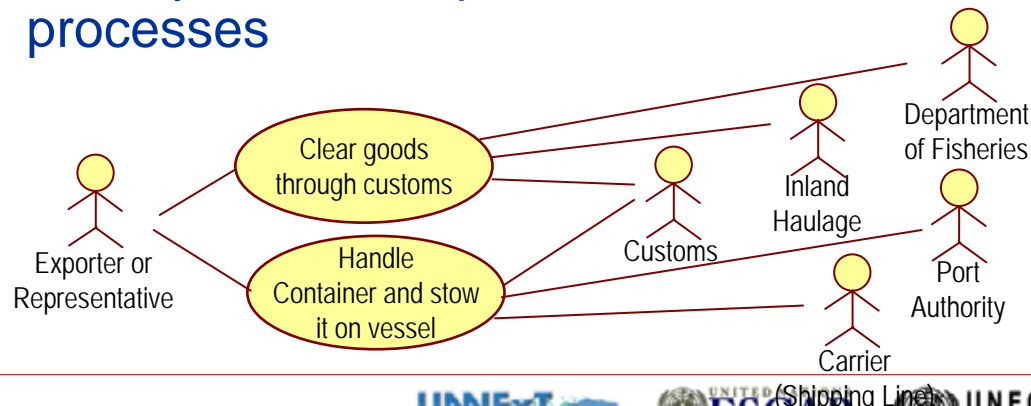
- Identify key business processes and name it using a descriptive verb-noun phrase



- Identify stakeholders



- Identify relationships between stakeholders and key business processes



# Exercise: Draw a Use Case Diagram

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# Business Process Analysis for Business Process Simplification and Automation

## Part 2

### Conducting Business Process Modeling to Define Process

# Acquiring Background Information, Conducting Interviews and Documenting Captured Data

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Objective – To gain as much as possible firsthand 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

Objective – To capture and document in-depth knowledge about existing business processes in the scope of investigation in:

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

# Sample Interview Questions (1)

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## **Business Process Analysis:**

- ☐ 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 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 business process “A”?



# Sample Interview Questions (2)

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## Information Flow Analysis:

- ☐ 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 Analysis:

- ☐ 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 Analysis:

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

## Suggestions for Improvement:

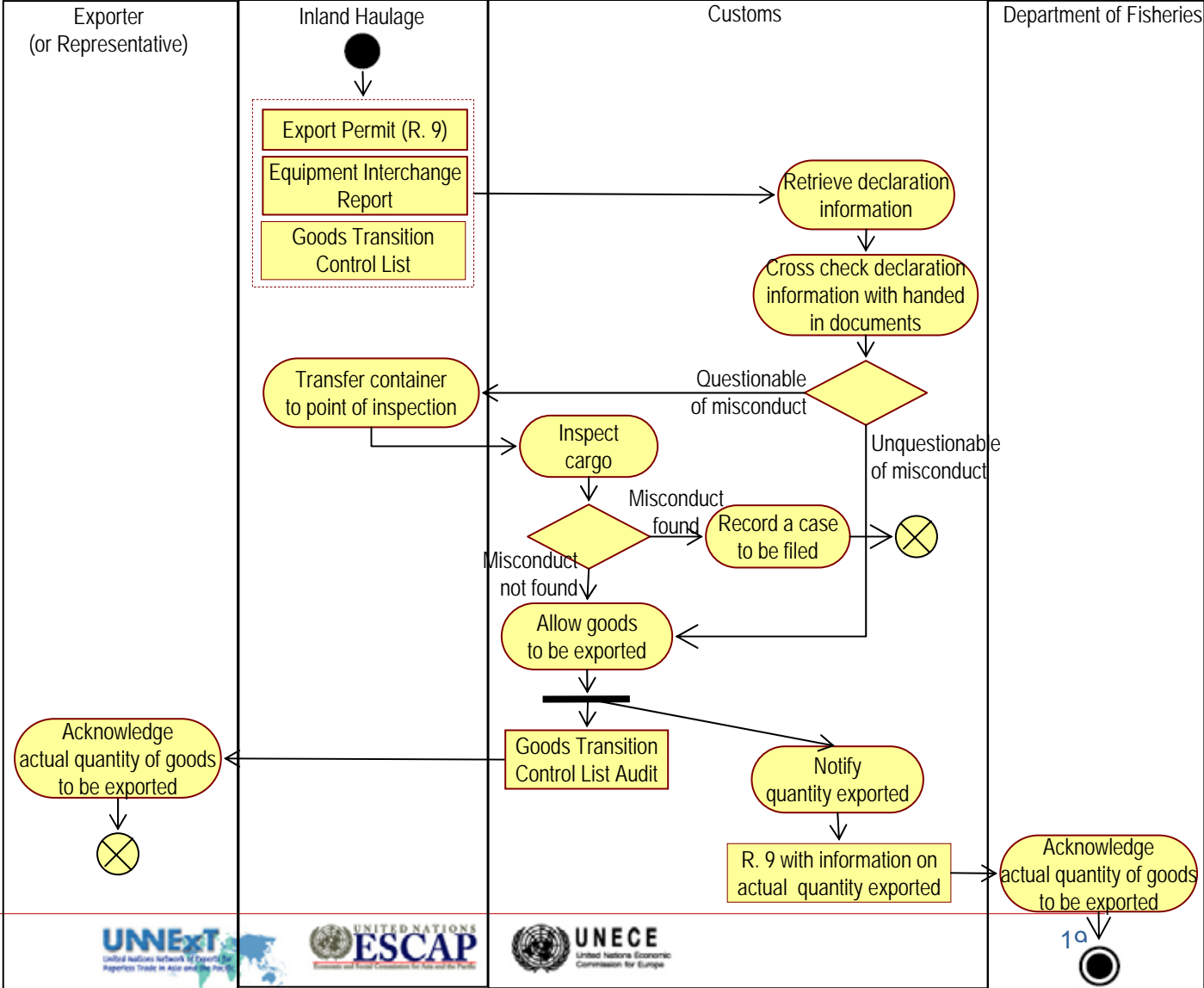
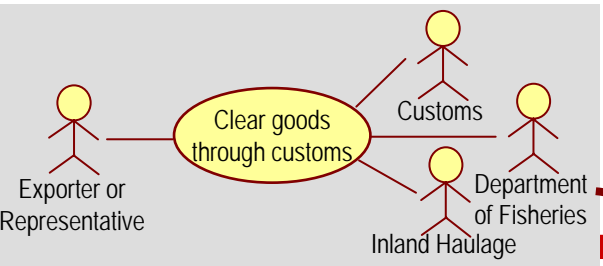
- ☐ What are problems/ bottlenecks you encounter in procedures and regulations to import or export?
- ☐ What are improvements that you would like to see in the near future?

# Drawing an Activity Diagram for each Use Case

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Based on a use case diagram and 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



# Writing Process Description for each Activity Diagram

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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 required to complete the process and/or durations for each involved transaction.

# Exercise: Draw Activity Diagrams

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# Exercise: Draw Time-Procedure Chart

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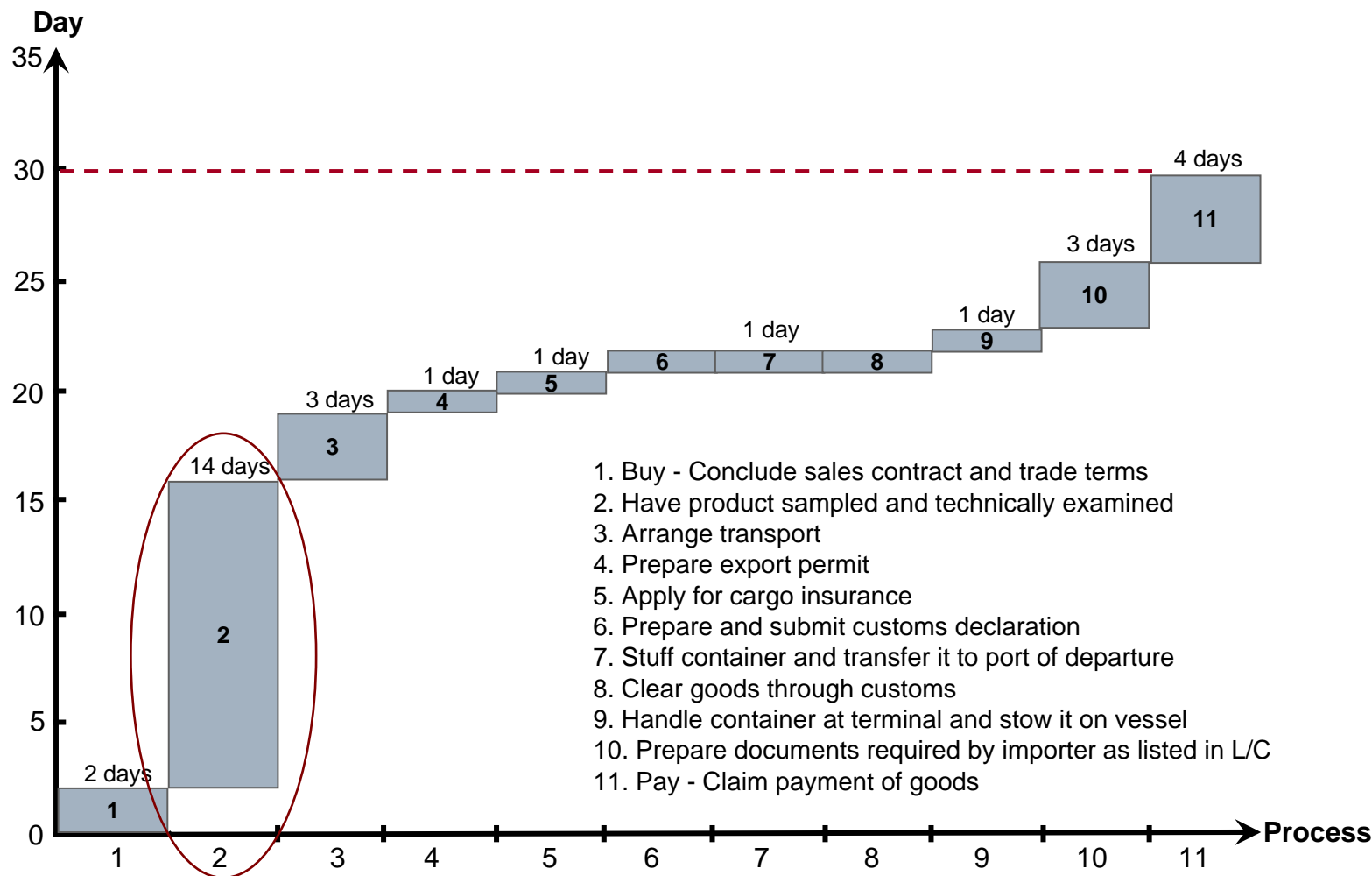
# Business Process Analysis for Business Process Simplification and Automation

## Part 3

### Conducting Business Process Analysis

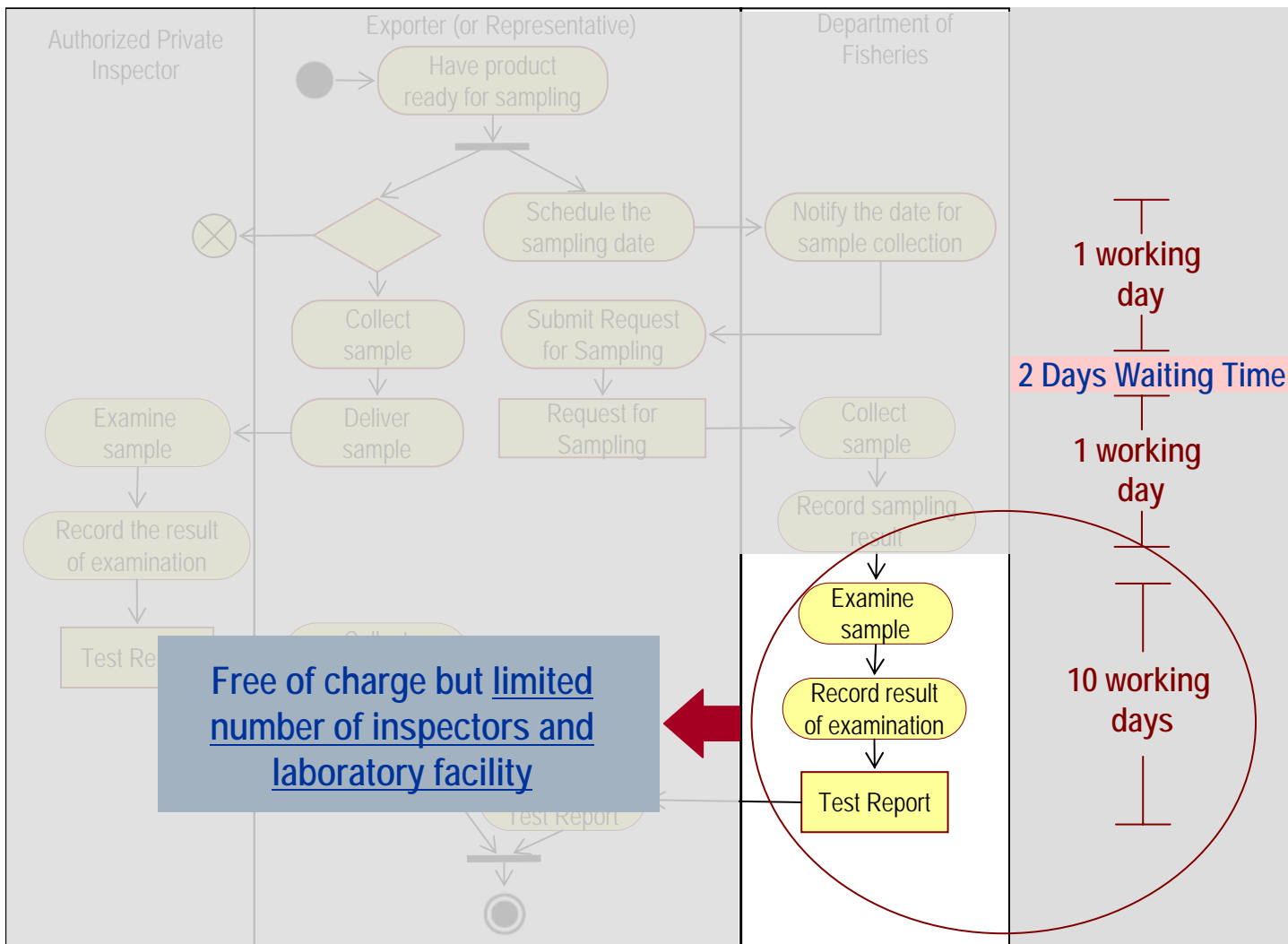
Objective – To identify the bottlenecks, redundancies, and non-value-added activities in procedural and documentary requirements of the “as-is” business processes described in the activity diagrams, process descriptions, and time-procedure chart.

# Case 1: Thailand's Export Process of Frozen Shrimp

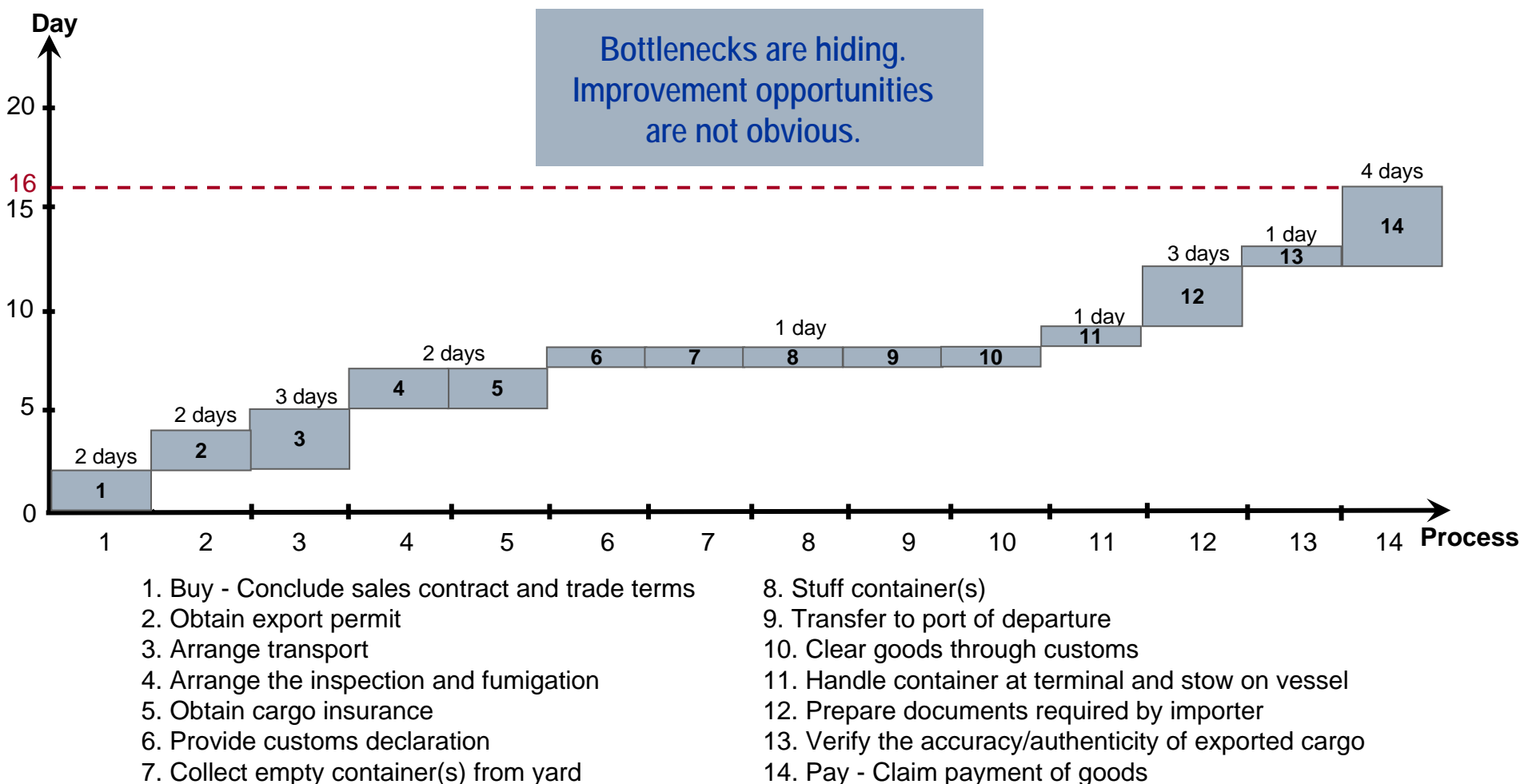




# Case 1: Thailand's Export Process of Frozen Shrimp

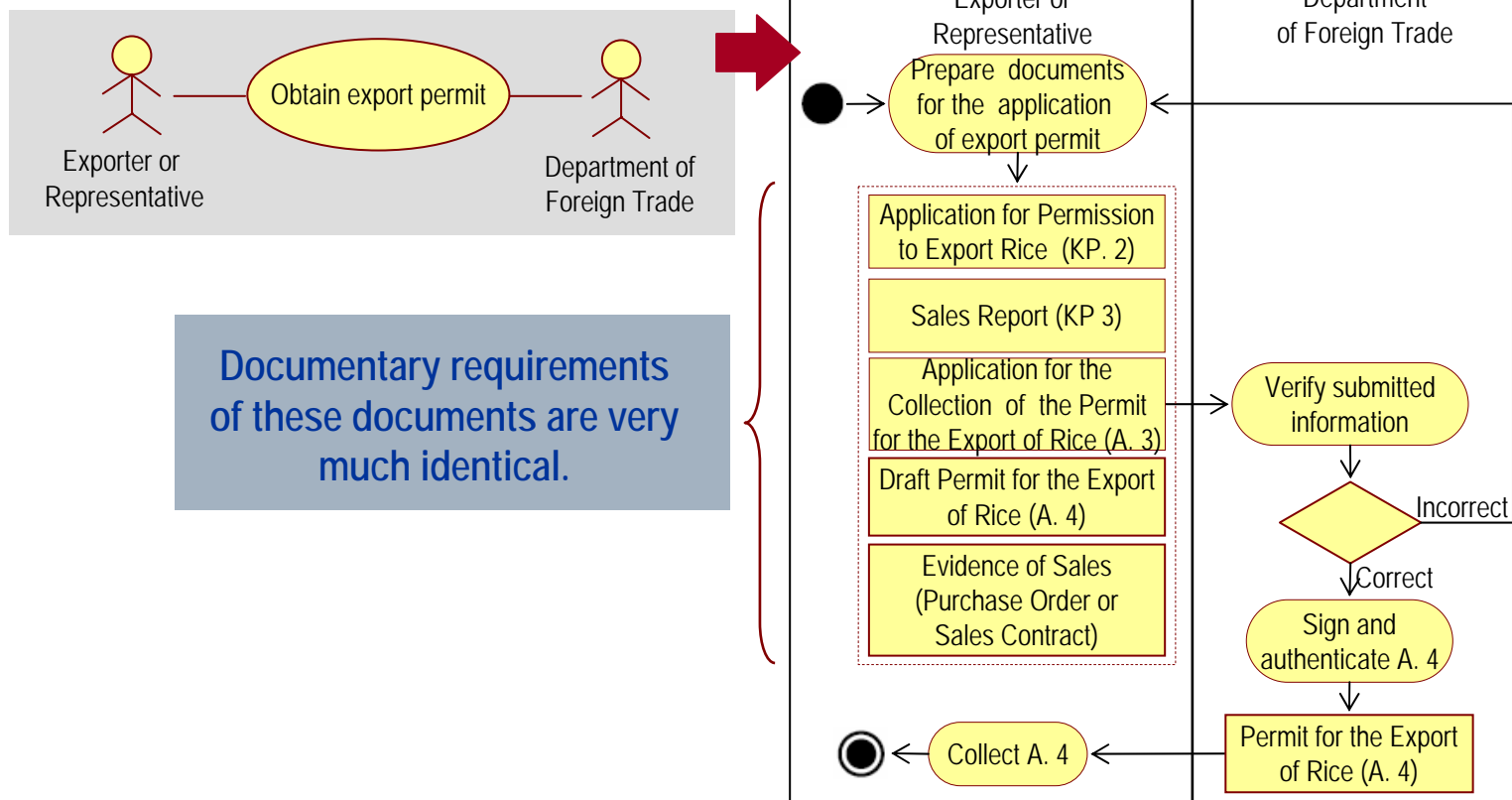


# Case 2: Thailand's Export Process of Jasmine Rice



# Case 2: Thailand's Export Process of Jasmine Rice

- Review each activity diagram, its accompanied process description, and relevant forms and documents
- Look for redundancies and non-value-added activities in procedural and documentary requirements



# Exercise: Identify Bottlenecks and Redundancies

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# Business Process Analysis for Business Process Simplification and Automation

## Part 4

### Develop Recommendations on Trade Facilitation Measures

Objective – To develop recommendations that help remove bottlenecks and inefficiencies in procedural and documentary requirements



# Developing and Proposing Recommendations for Improvement

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- ❑ Merge some procedures
- ❑ Eliminate redundant procedures and unnecessary documentary requirements
- ❑ Automate procedures and promote the sharing of trade and transport data among relevant stakeholders
- ❑ Modify related laws and regulations to facilitate the operation of the newly designed business processes

# Exercise: Design the “To-Be” Business Process

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