

# Business Process Analysis for Single Window Development - experience of Thailand

National Workshop on  
Establishing a Single Window in Mongolia  
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# Agenda

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1. **Why** do we need “Business Process Analysis”?
2. **How** to perform “Business Process Analysis” of the *current* trade and transport related **processes**?
3. The understanding of the *current processes* provides opportunities for the next step (the creation of *future better processes*)
  - **Process Simplification**
4. **Recommendations**



# 1. Why do we need “Business Process Analysis”?

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The purpose of business process analysis is

- to understand the current processes and its attributes
  - *Who involved,*
  - *Procedures and documents required,*
  - *Related rules and regulations, and*
  - *Some quantitative indicators*  
*(e.g. number of steps, time & costs needed)*

Benefits of business process analysis

- Understanding of the current situation
- Benchmarking with other countries
- Raising issues and priorities for improvement
- A stepping stone for the creation of future better processes, e.g. **Process Simplification**

# Definition of “Business Process Analysis”

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Business Process analysis is:

- A study of existing process 1) in normal situation and 2) in situations where exception takes place in order to gain insights on
  - *Who involved*
  - *Procedures and documents required, and*
  - *Related rules and regulations*
- An approach that facilitates
  - The development of *measurable and quantitative process indicators (e.g. number of steps, time & costs needed)*
  - The prioritization of initiatives for process improvement
  - Performance improvement

# Components of “Business Process Analysis”

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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

# Process Analysis helps benchmarking our country efficiency on trading across borders

Some indicators help our policy makers to understand  
the important issues of improving our country competitiveness

Procedures and documents necessary to import and export a standardized cargo of goods for trading across border

Region or Economy	Documents for export (number)	Time for export (days)	Cost to export (US\$ per container)	Documents for import (number)	Time for import (days)	Cost to import (US\$ per container)
East Asia & Pacific	6.7	23.3	902.3	7.1	24.5	948.5
Eastern Europe & Central Asia	7.1	29.7	1,649.1	8.3	31.7	1,822.2
Latin America & Caribbean	6.9	19.7	1,229.8	7.4	22.3	1,384.3
Middle East & North Africa	6.5	23.3	1,024.4	7.6	26.7	1,204.8
OECD	4.5	10.7	1,069.1	5.1	11.4	1,132.7
South Asia	8.5	33.0	1,339.1	9.0	32.5	1,487.3
Sub-Saharan Africa	7.8	34.7	1,878.8	8.8	41.1	2,278.7

Reference - World Bank's Doing Business 2009 Report (Jun.07-May08):  
[www.doingbusiness.org](http://www.doingbusiness.org)

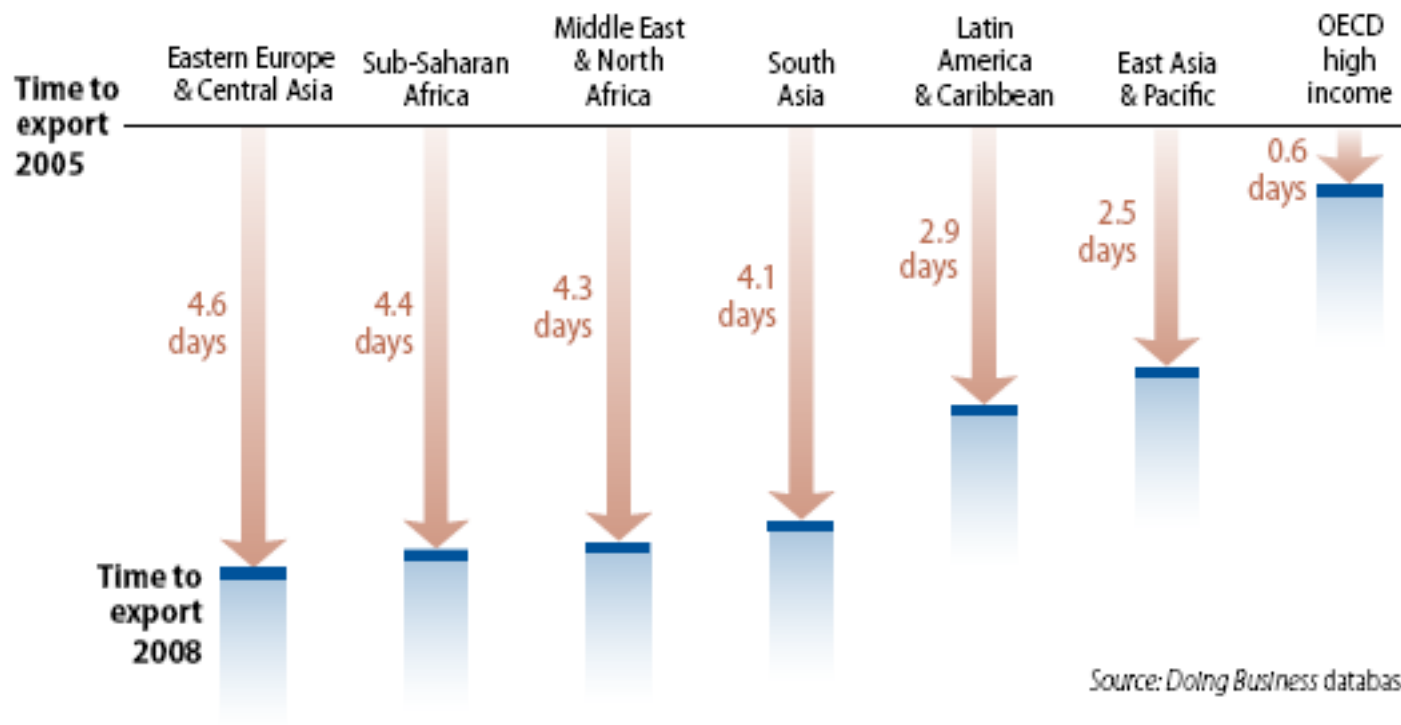
# Trading Across Borders

Less time to reach markets, more ability to expand businesses

*"Implementation the practices such as electronic data interchange, electronic filing of trade documents, data manifests online, and single window has reduced the average time to export by 3 days"*

## Speeding trade—especially in Eastern Europe & Central Asia

Reduction in the time to export (days)



Reference - World Bank's Doing Business 2009 Report: [www.doingbusiness.org](http://www.doingbusiness.org)

# Trading Across Borders

## Where is trading easy—and where not?

Easiest	RANK	Most difficult	RANK
Singapore	1	Angola	172
Hong Kong, China	2	Burkina Faso	173
Denmark	3	Azerbaijan	174
Finland	4	Central African Republic	175
Estonia	5	Congo, Rep.	176
Sweden	6	Tajikistan	177
Norway	7	Iraq	178
Panama	8	Afghanistan	179
Israel	9	Kazakhstan	180
Thailand	10	Kyrgyz Republic	181

Note: Rankings are the average of the economy rankings on the documents, time and cost required to export and import. See Data notes for details.

Source: *Doing Business* database.

### Indicators

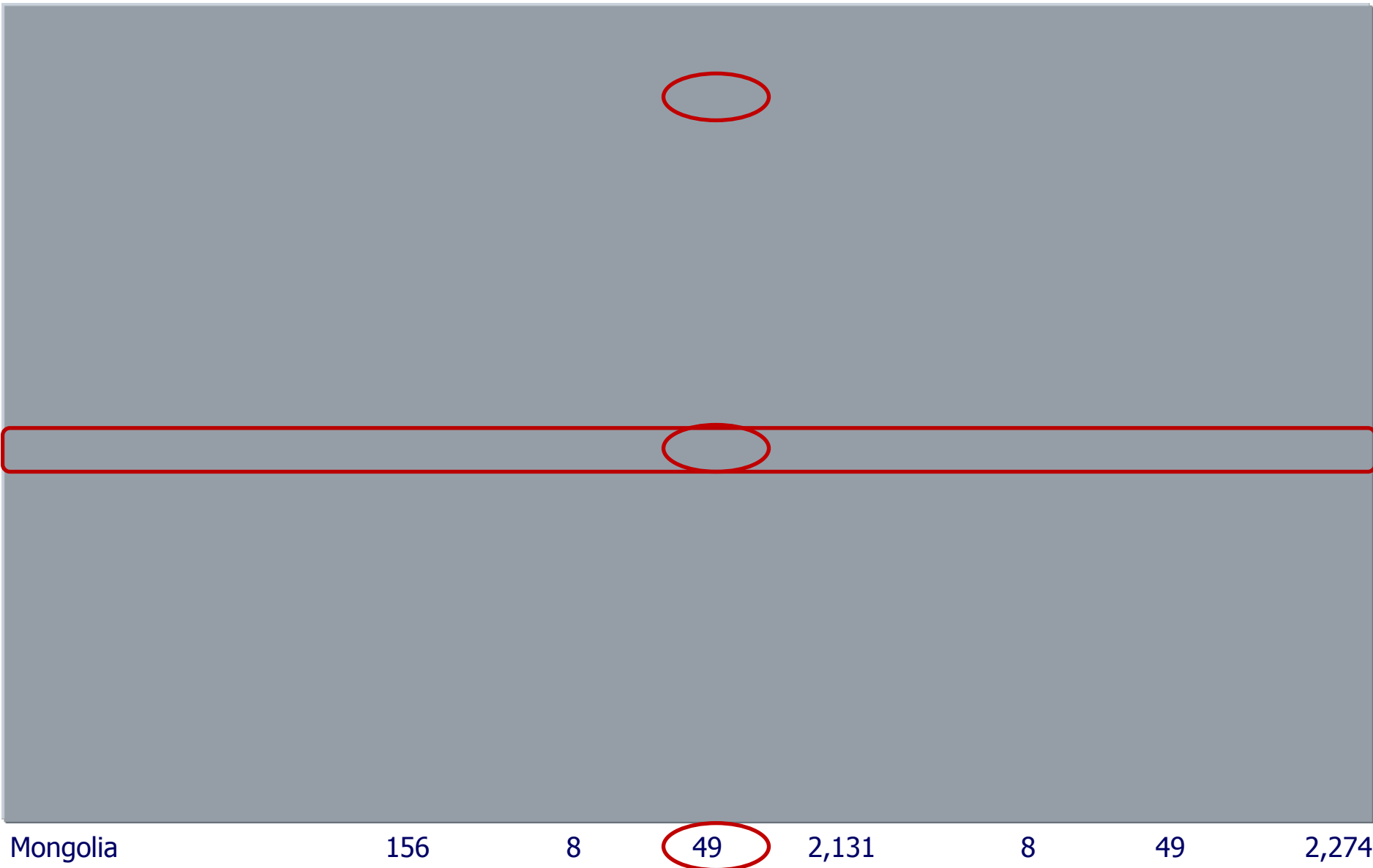
- **number of all documents** for export/import procedures
- **time** for all export/import procedures
- **cost** associated with all the export/import procedures

Reference - World Bank's Doing Business 2009 Report: [www.doingbusiness.org](http://www.doingbusiness.org)



# Trading Across Borders

Procedures and documents necessary to export and import a standardized cargo (by ships)



# Singapore

Procedures and documents necessary to import and exports a standardized cargo of goods

Nature of Export Procedures		Duration (days)	US\$ Cost
Documents preparation		1	105
Customs clearance and technical control		1	31
Ports and terminal handling		1	180
Inland transportation and handling		2	140
<b>Totals:</b>		<b>5</b>	<b>456</b>
Nature of Import Procedures		Duration (days)	US\$ Cost
Documents preparation		1	88
Customs clearance and technical control		1	31
Ports and terminal handling		1	180
Inland transportation and handling		0	140
<b>Totals:</b>		<b>3</b>	<b>439</b>
Export documents		Import documents	
Bill of lading		Bill of lading	
Commercial invoice		Commercial invoice	
Customs export declaration		Customs import declaration	
Packing list		Packing list	

Reference - World Bank's Doing Business 2009 Report: [www.doingbusiness.org](http://www.doingbusiness.org)

# Thailand

Procedures and documents necessary to import and exports a standardized cargo of goods

Nature of Export Procedures		Duration (days)	US\$ Cost
Documents preparation		8	270
Customs clearance and technical control		1	50
Ports and terminal handling		3	85
Inland transportation and handling		2	220
<b>Totals:</b>		<b>14</b>	<b>625</b>
Nature of Import Procedures		Duration (days)	US\$ Cost
Documents preparation		8	300
Customs clearance and technical control		2	75
Ports and terminal handling		2	200
Inland transportation and handling		1	220
<b>Totals:</b>		<b>13</b>	<b>795</b>
Export documents		Import documents	
Certificate of origin		Customs import declaration	
Commercial invoice		Packing list	
Customs export declaration		Terminal handling receipts	
Terminal handling receipts			

Reference - World Bank's Doing Business 2009 Report: [www.doingbusiness.org](http://www.doingbusiness.org)

# Mongolia

Procedures and documents necessary to import and exports a standardized cargo of goods

Nature of Export Procedures		Duration (days)	US\$ Cost
Documents preparation		30	145
Customs clearance and technical control		2	126
Ports and terminal handling		2	80
Inland transportation and handling		15	1780
<b>Totals:</b>		<b>49</b>	<b>2131</b>
Nature of Import Procedures		Duration (days)	US\$ Cost
Documents preparation		30	144
Customs clearance and technical control		4	50
Ports and terminal handling		2	80
Inland transportation and handling		13	2000
<b>Totals:</b>		<b>49</b>	<b>2274</b>
Export documents		Import documents	
Bill of lading		Bill of lading	
Certificate of origin		Certificate of origin	
Commercial invoice		Commercial invoice	
Customs export declaration		Customs import declaration	
Insurance certificate		Transit document	
Packing list		Insurance certificate	
Technical standard/health certificate		Packing list	
Transit document		Technical standard/health certificate	

Reference - World Bank's Doing Business 2009 Report: [www.doingbusiness.org](http://www.doingbusiness.org)

# Economic Impacts

*because of the delay on trading across borders*

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- Each *additional day of delay* (e.g. because of trade logistics procedures) *reduces trade* by at least *1%*

Ref: “**Trading on Time**,” Simeon Djankov, Caroline Freund, and Cong S. Pham, World Bank (2007).

- “**Direct and Indirect Cost** from import/export-related procedures and required documents is about *1-15% of product cost.*”

Ref: “*Quantitative Assessment of the Benefits of Trade Facilitation*,” OECD (2003).

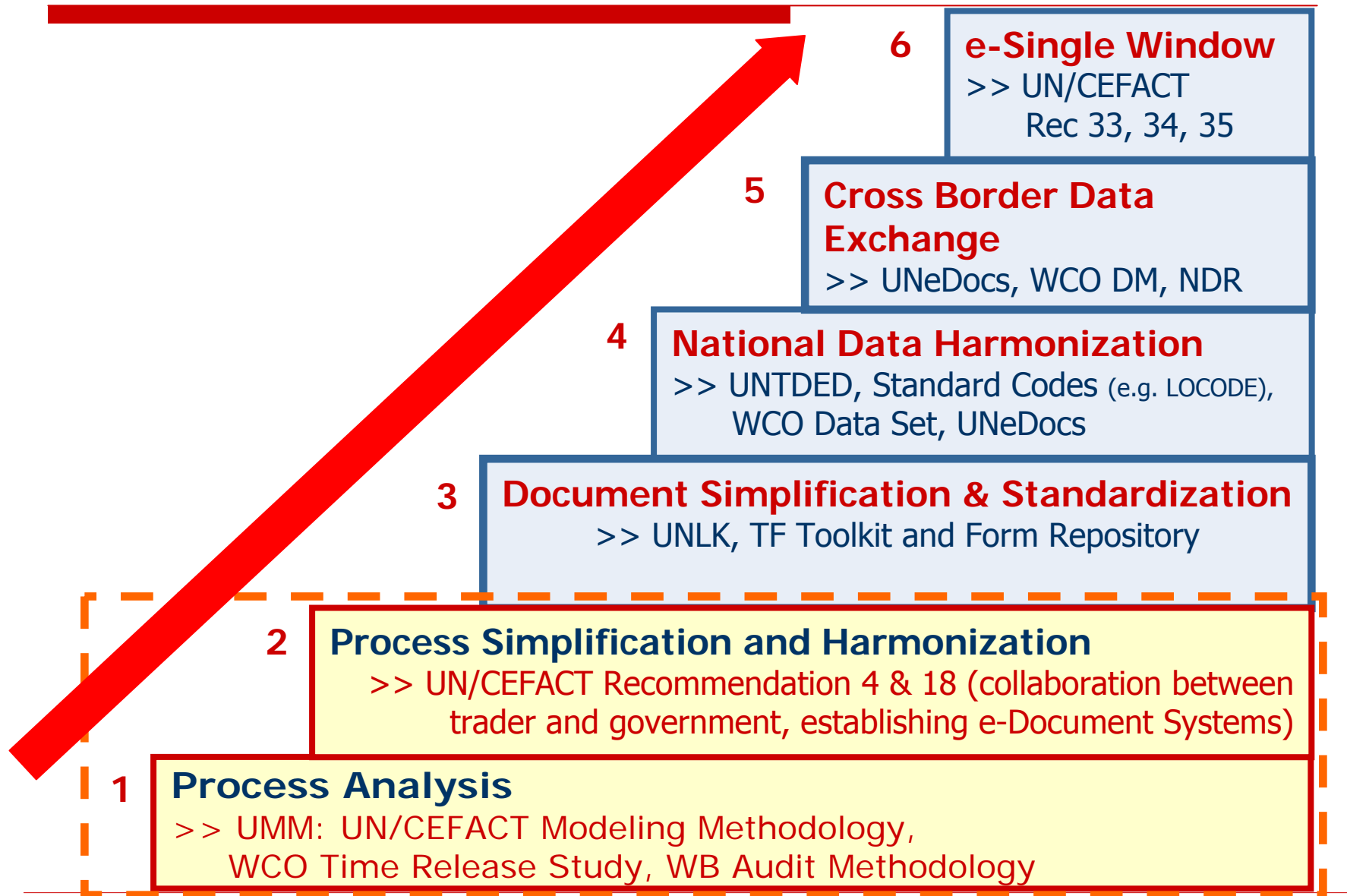
# Agenda

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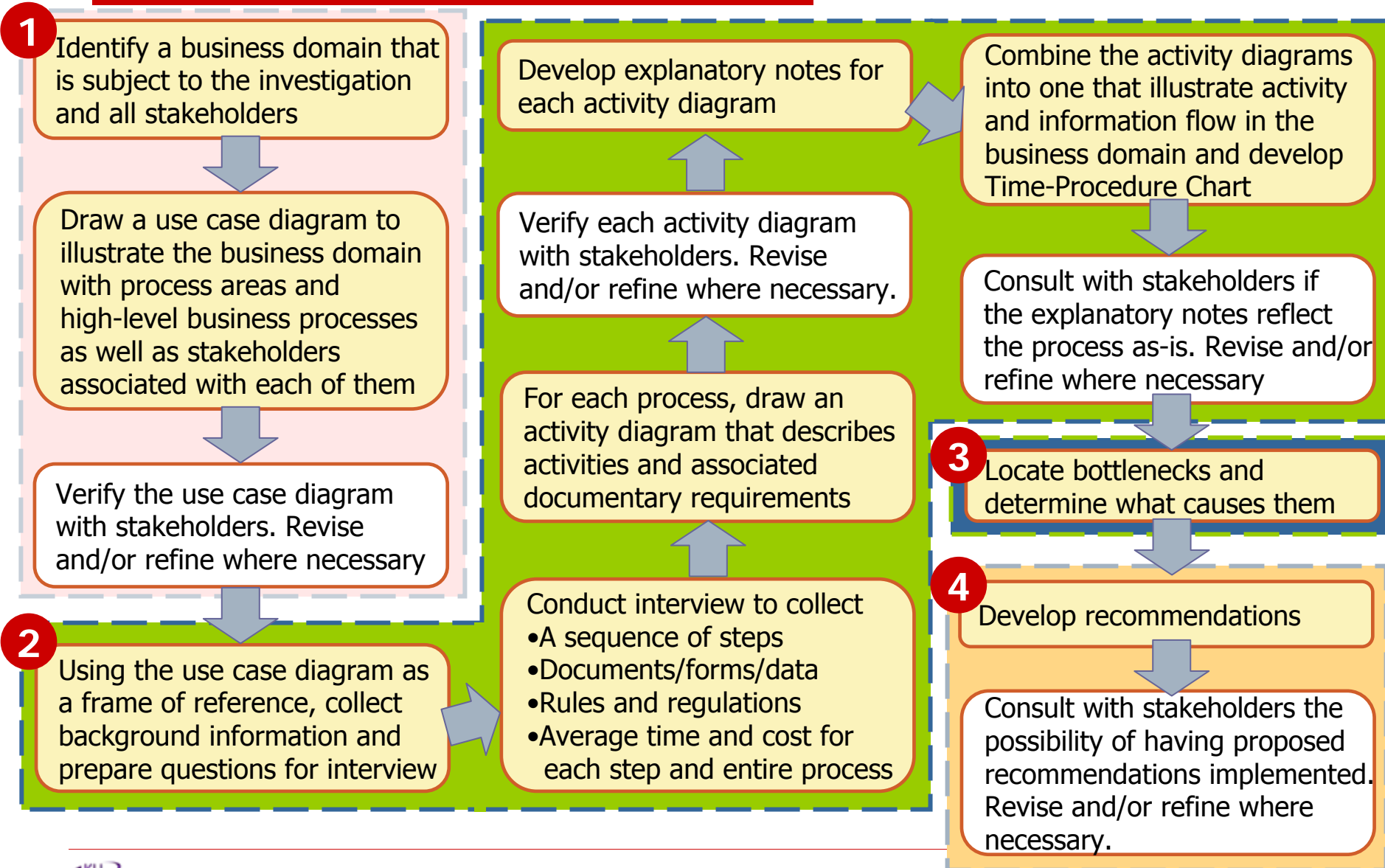
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# Step by Step towards e-Single Window

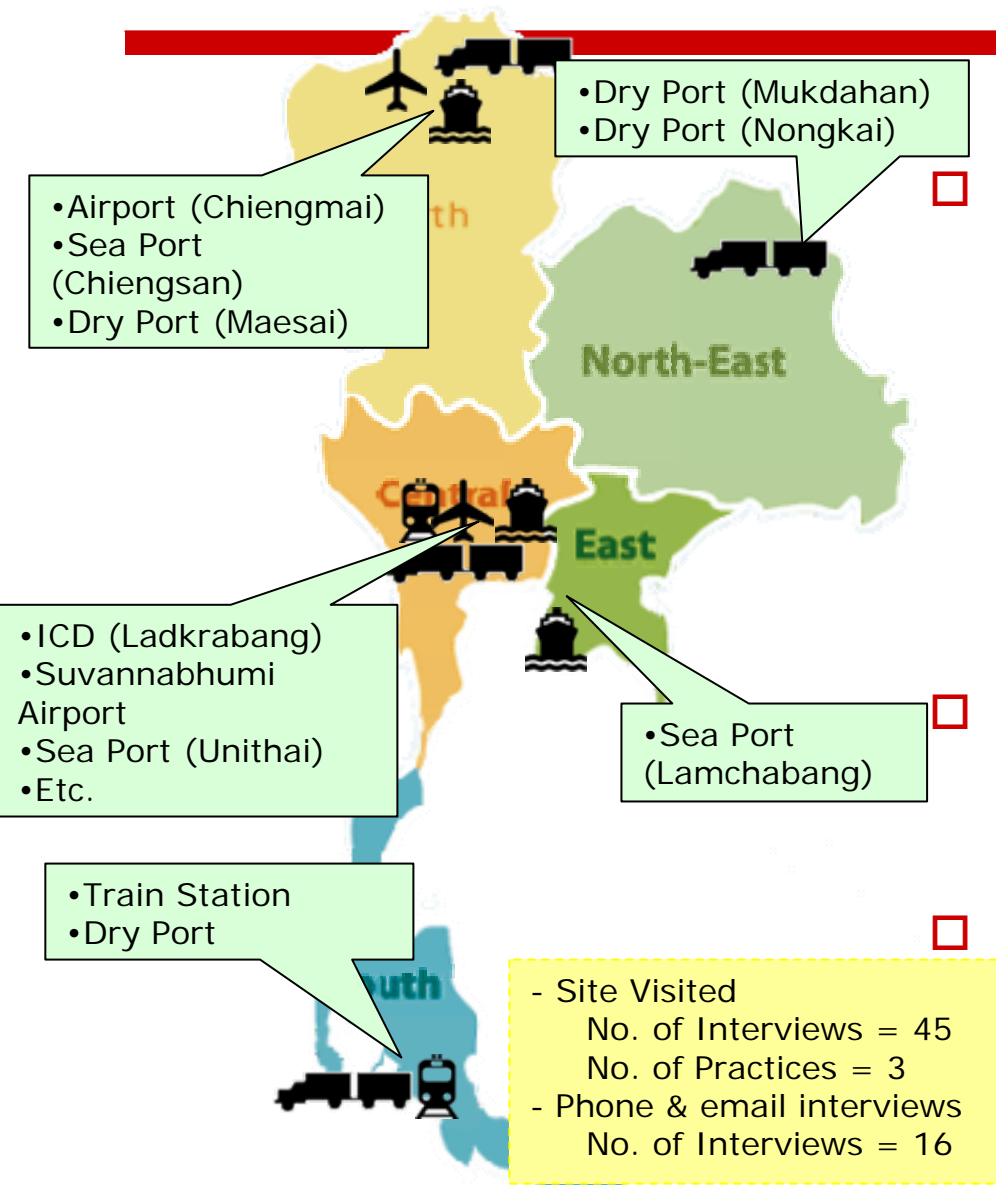


# Steps for Process Analysis and Simplification





# 1. Define Project Scope



## Scope Example

Regulatory and business requirements related to the operation and management of port before, upon, and after the movement of containerized *import and export ordinary cargoes* through all modes of transportations (*road, rail, air, and sea*)

- Carrier scheduling for port use
- Cargo handling

## Import

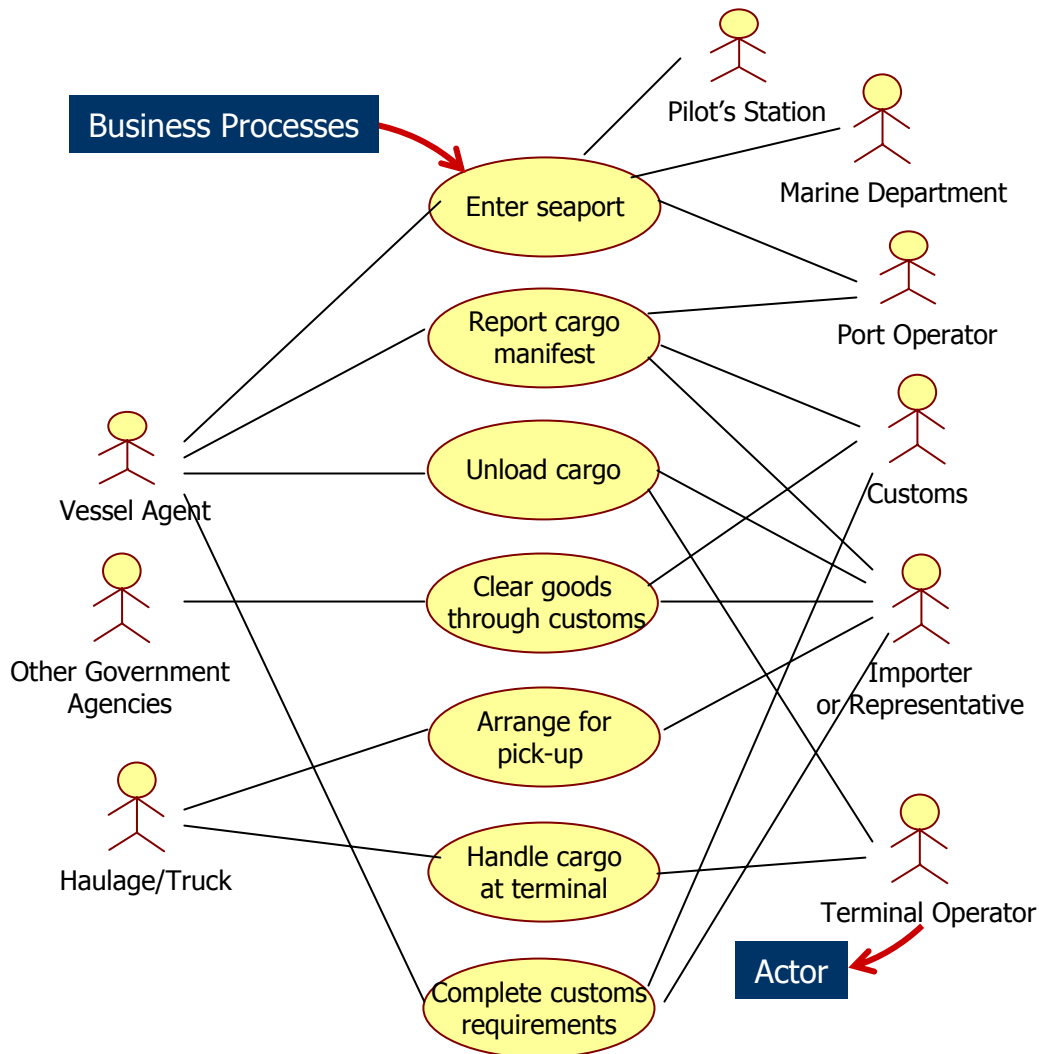
- **Starting point:** when a carrier enters port
- **Ending point:** when cargo is picked up and transferred to an importer

## Export

- **Starting point:** when cargo arrives port
- **Ending point:** when cargo is on board and ready to be transferred to the country of importer

# 1. Setting Scope for Implementation:

## Importation by Sea



Draw a **use case diagram** to illustrate the business domain with process areas and high-level business processes as well as stakeholders associated with each of them

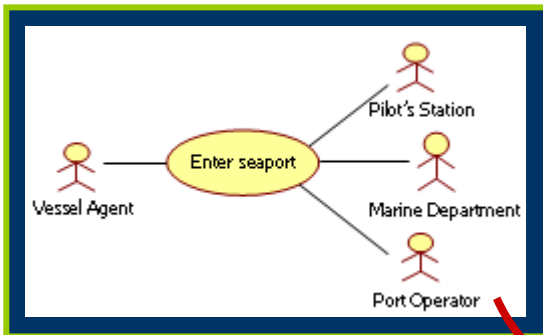
**Examples:** Capturing the Stakeholders who're involved in Importation by Air

- Vessel Agent
- Pilot's Station
- Marine Department
- Port Operator
- Customs
- Other Government Agencies
- Importer or Representative
- Terminal Operator
- Haulage/Truck

## 2. Process Definition

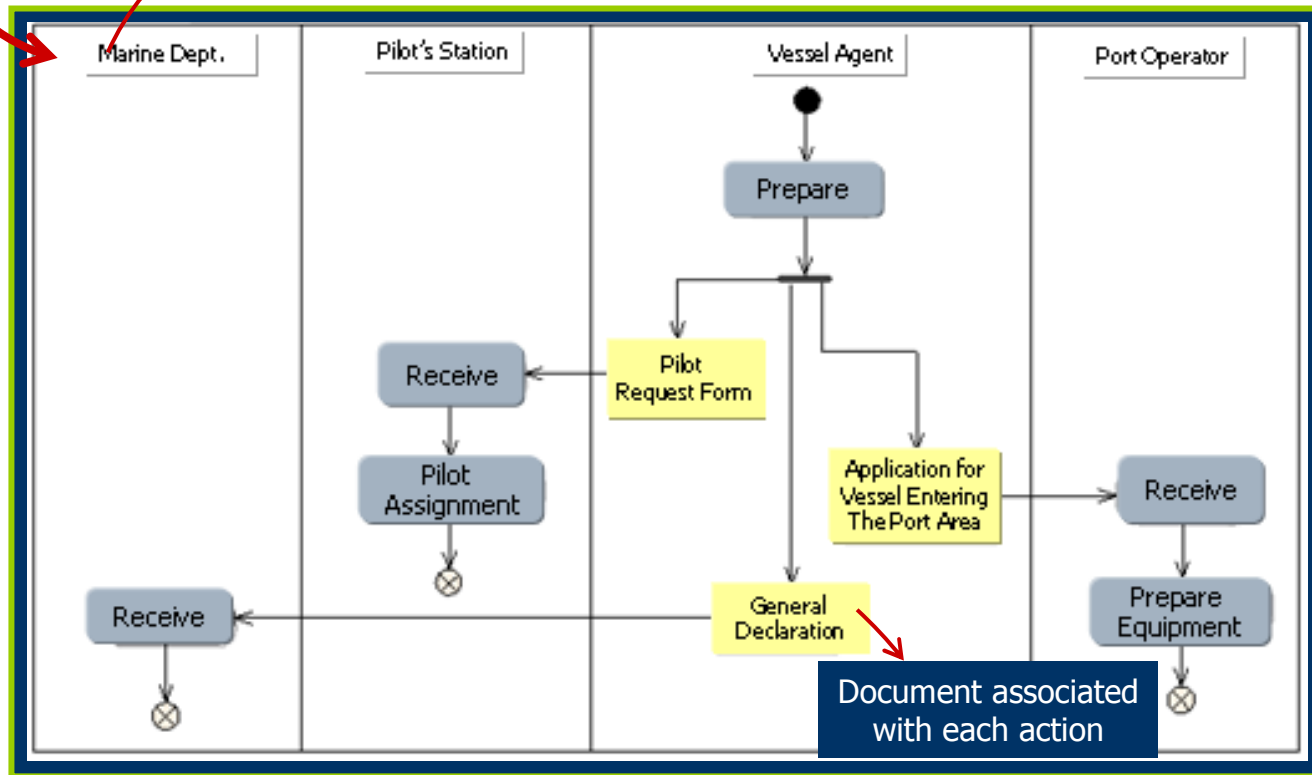
### A Vessel Entering the Seaport (existing)

For each process, draw an **activity diagram** that describes activities and associated documentary requirements



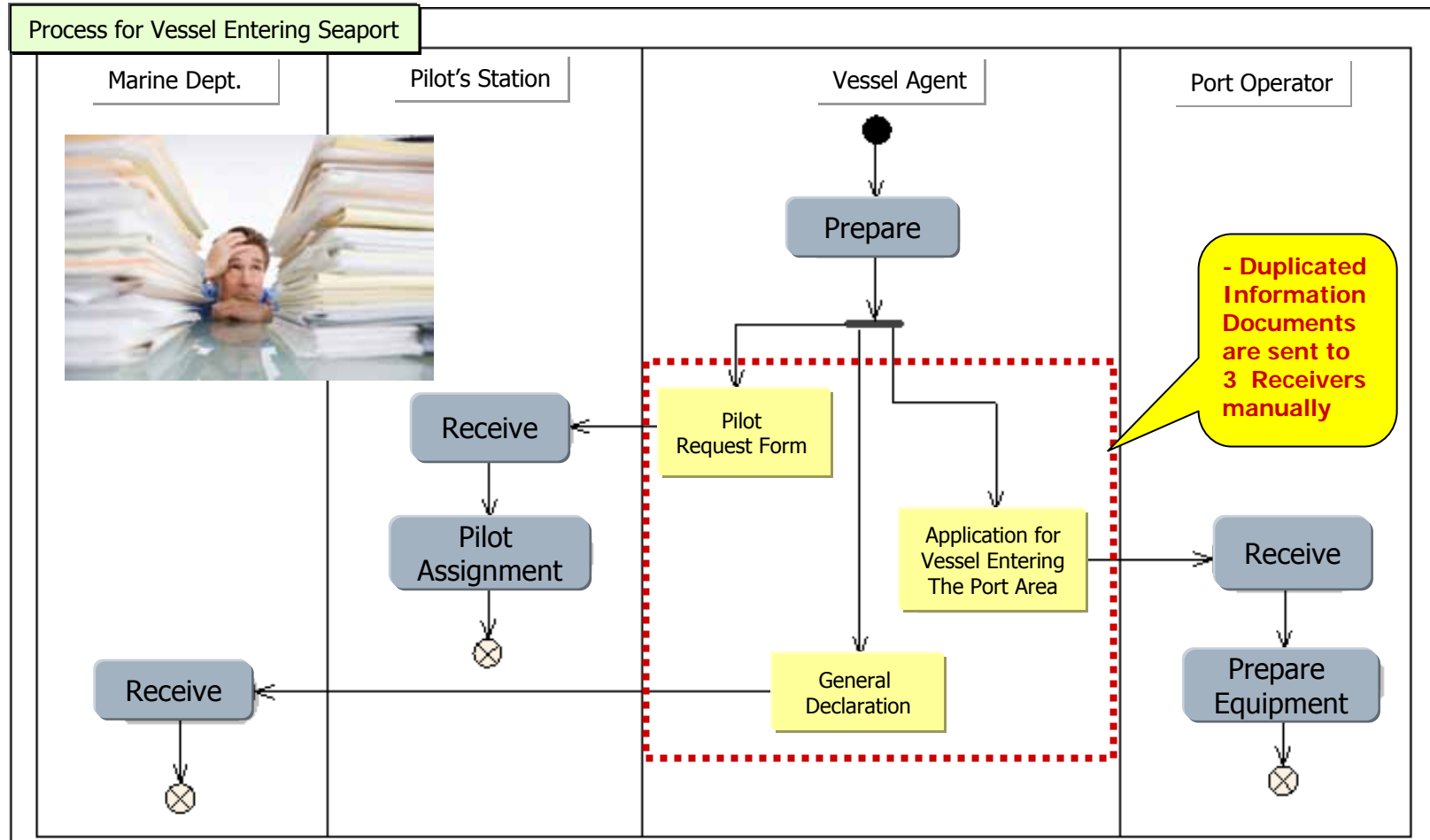
**Swimlane** shows a boundary of activities to be carried out by a responsible actor.

Sequence of actions carried out to achieve a specific goal



# 3. Problem Analysis:

## A Vessel Entering the Seaport (existing)



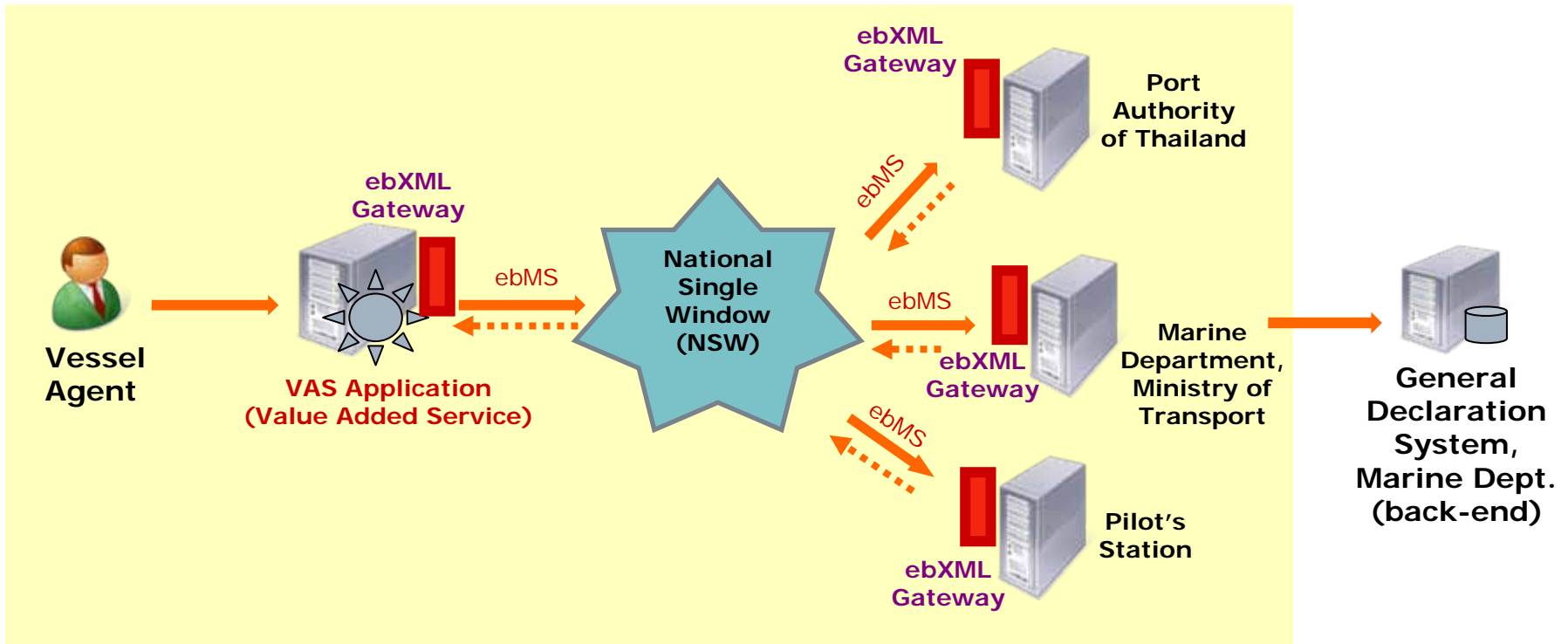
### Problems :

- Duplicated Information
- High Cost and Time for sending and receiving documents
- Data Inconsistency

# 4. Recommendation Development:

## Automation of Vessel Entering the Seaport Process

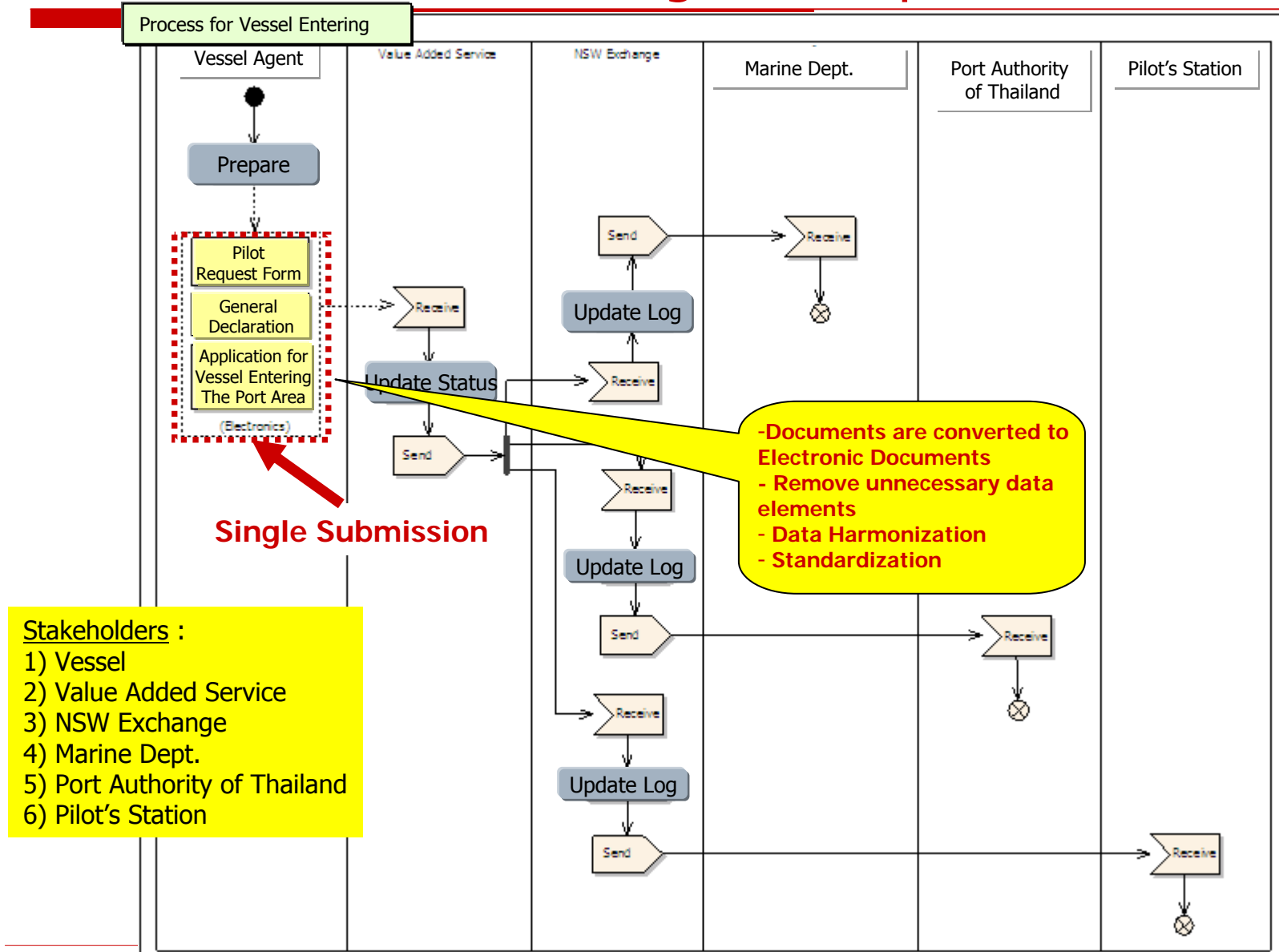
(e.g. reducing the number of steps, or number of documents, ...establishing a system that supports e-document submission, and e-document exchange between agencies)



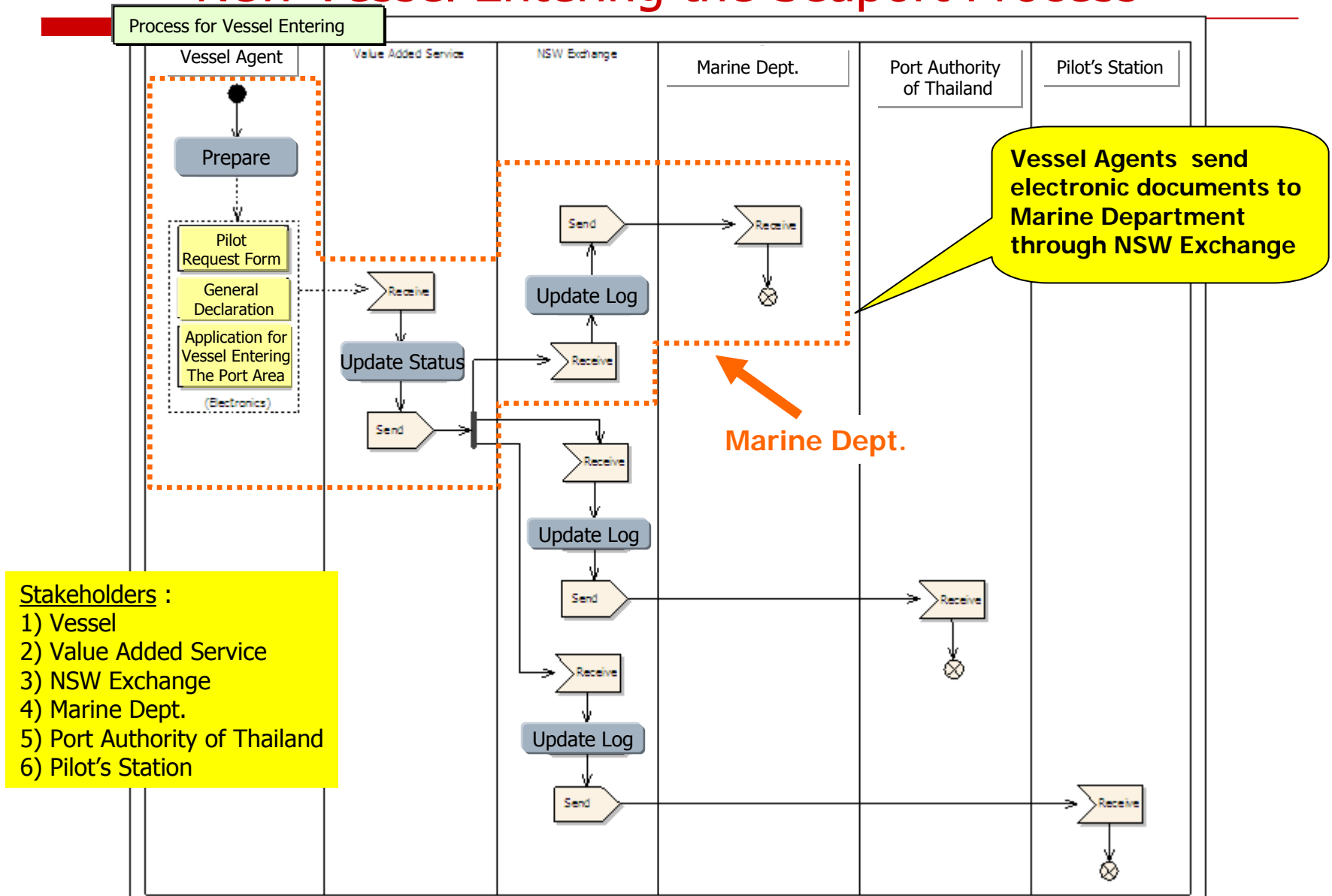
Business to Government (B2G) – *One to Many*

- Government to Government (G2G) Data Exchange
- Automatic e-Document Workflow
- National Single Window Exchange

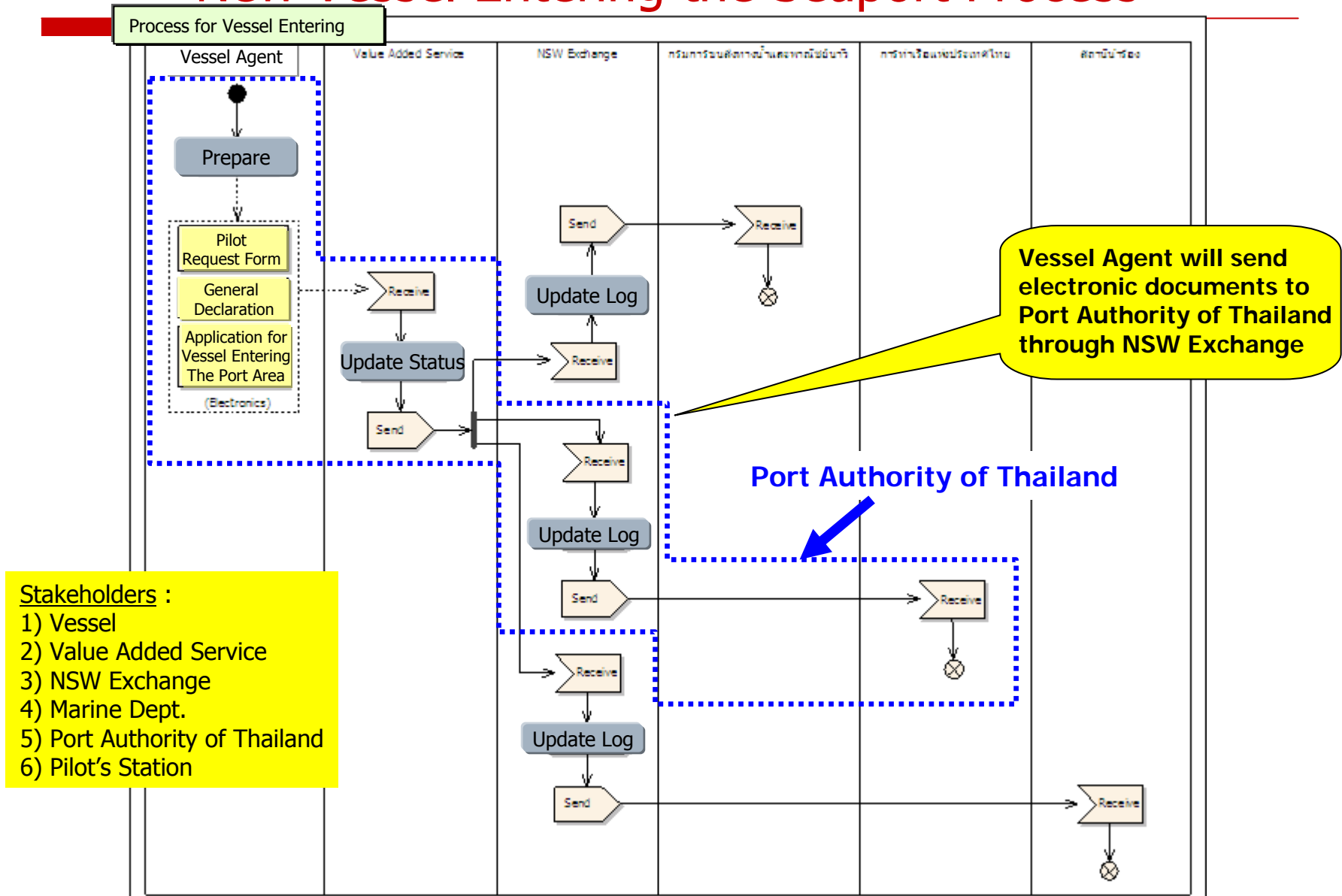
# 4. Process Simplification: New Vessel Entering the Seaport Process



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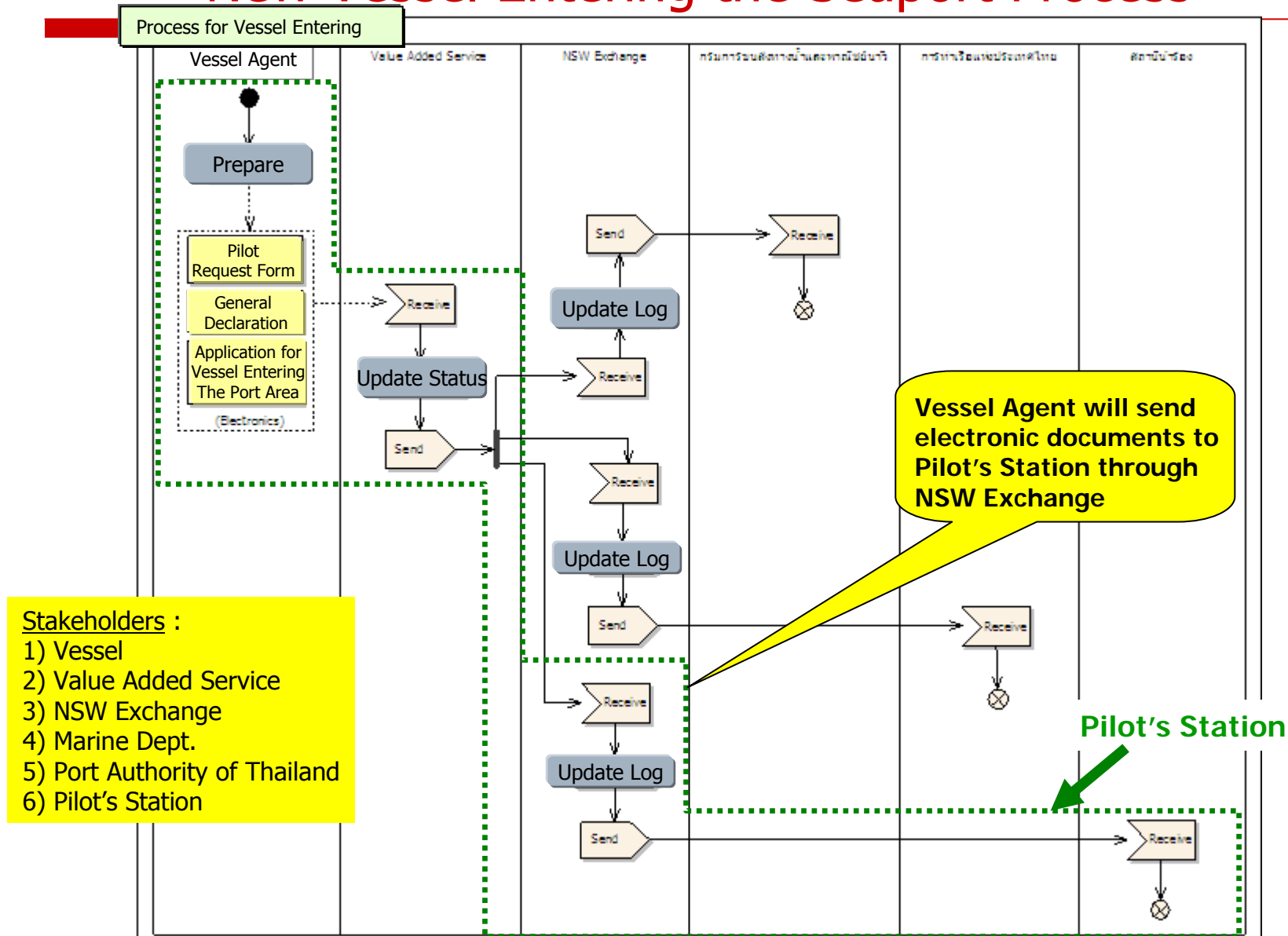


# 4. Process Simplification: New Vessel Entering the Seaport Process



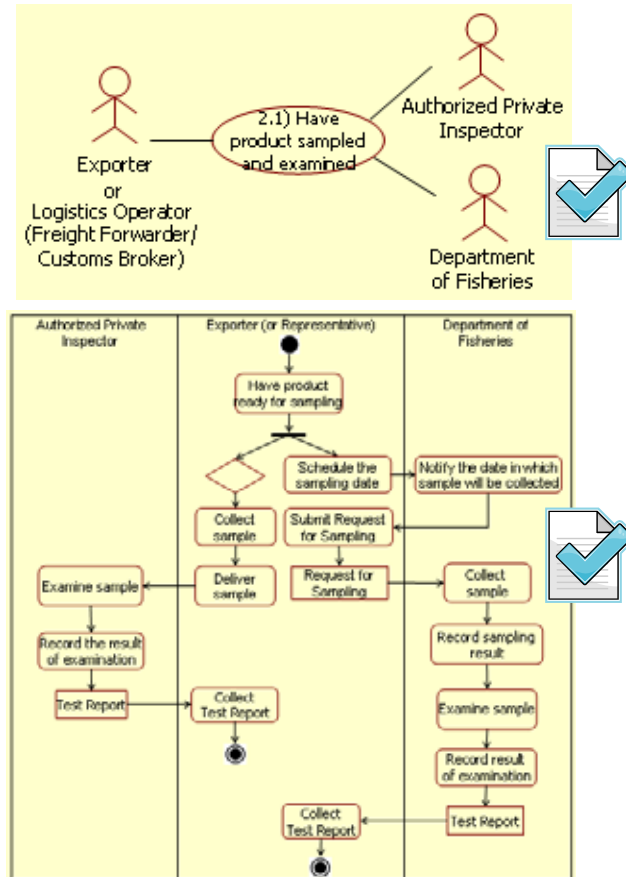


# 4. Process Simplification: New Vessel Entering the Seaport Process



# Verification and Validation

*e.g. through several rounds peer reviews of experts, practitioners and stakeholders*



**Reviewing and Approving**



# Summary of a study: Number of Steps Export\*

Transport Mode	No. of Actions (Existing)	Expected No. of Actions (Future)	Expected No. of reduced Actions	Expected No. of reduced Actions (%)
Export by Ship	54	47	7	12.96
Export by Airplane	85	65	20	23.53
Export by Truck	35	16	19	54.29
Export by Train	49	18	31	63.27
Export from ICD	79	57	22	27.85

\* A process analysis study commissioned by Thailand Ministry of Transport, 2008 including the study of relevant rules, regulations and normal practices.

\* Remark : No. of Actions = No. of Manual Actions of Business Process for Export

# Summary of a study: Usage Time for Export

Transport Mode	Existing Usage Time (day)	Expected Usage Time (day)	Expected Reduced Time (day)	Expected Reduced Time (%)
Export by Ship	22	15	7	31.82
Export by Airplane	12	9	3	25.00
Export by Truck	12	7	5	41.67
Export from ICD	11	9	2	18.18

## \*\* Criteria

- Reduce time for Traveling, Sending and Receiving Documents by humans
- Reduce time for Preparing Documents for next step
- Reduce time for Making Payment
- Reduce time for Searching Information
- Reduce time for Verifying Information

# Summary of a study: Number of Steps for Import

Transport Mode	No. of Actions (Existing)	Expected No. of Actions (Future)	Expected No. of reduced Actions	Expected No. of reduced Actions (%)
Import by Ship	<b>68</b>	<b>34</b>	<b>34</b>	<b>50.00</b>
Import by Airplane	<b>96</b>	<b>45</b>	<b>51</b>	<b>53.13</b>
Import by Truck	<b>17</b>	<b>13</b>	<b>4</b>	<b>23.53</b>
Import by Train	<b>53</b>	<b>25</b>	<b>28</b>	<b>52.83</b>
Import by ICD	<b>73</b>	<b>46</b>	<b>27</b>	<b>36.99</b>

\* Remark : No. of Actions = No. of Manual Actions of Business Process for Export

# Summary of a study: Usage Time for Import

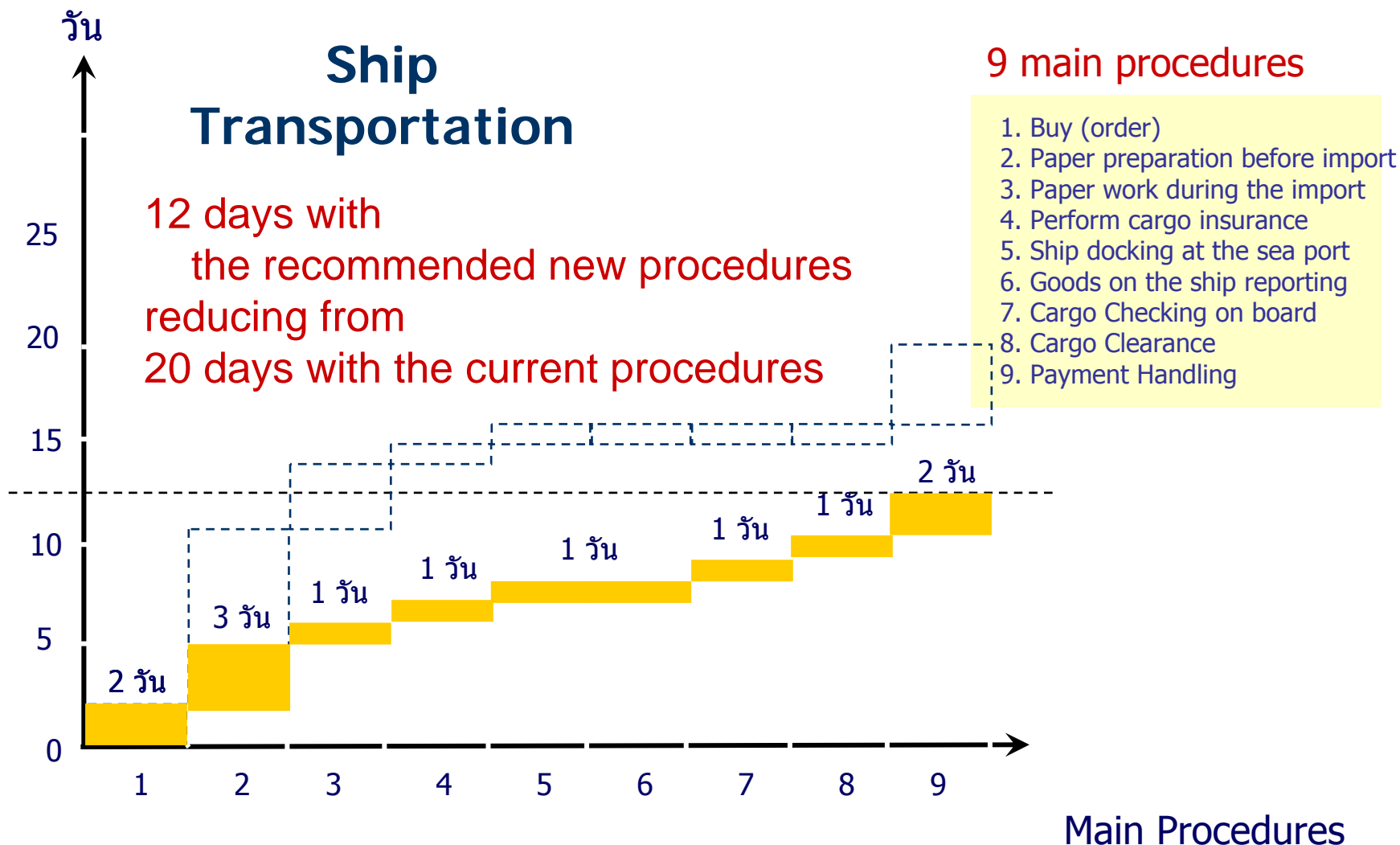
Transport Mode	Existing Usage Time (day)	Expected Usage Time (day)	Expected Reduced Time (day)	Expected Reduced Time (%)
Import by Ship	20	12	8	40.00
Import by Airplane	10	8	2	20.00
Import by Truck	10	7	3	30.00
Import by Train	11	9	2	18.18

**\*\* Criteria (following UN/CEFACT Recommendation No 18, and other)**

- Reduce time for Traveling, Sending and Receiving Documents by humans
- Reduce time for Preparing Documents for next step
- Reduce time for Making Payment
- Reduce time for Searching Information
- Reduce time for Verifying Information

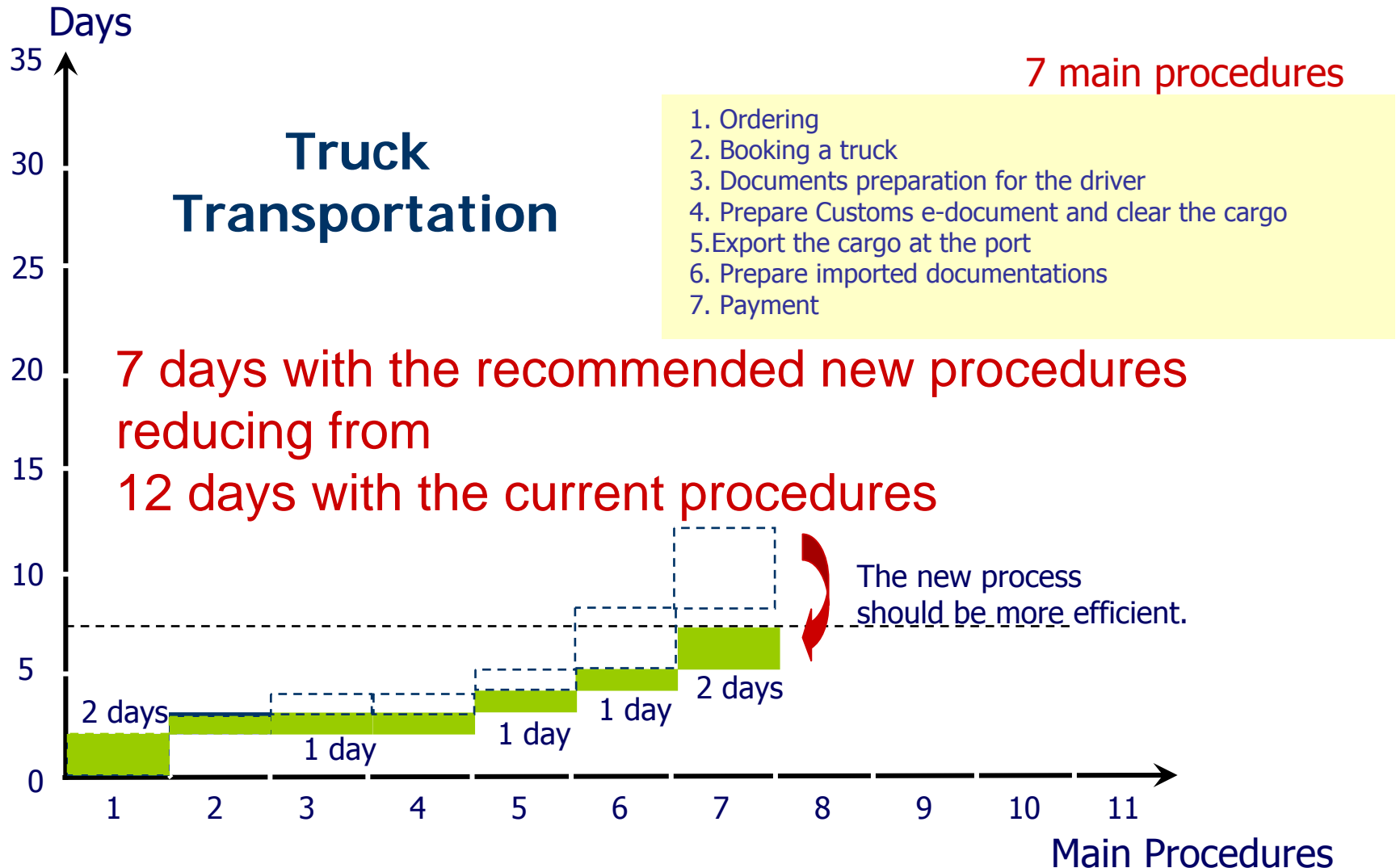
# Time and Procedure Chart

illustrating number of days and main procedures needed for exporting through trucks across a border



# Time and Procedure Chart

Illustrating number of days and main procedures needed for exporting through trucks across a border





# Benefits from Business Process Analysis & Simplification

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- ❑ Understanding of our own current situations
- ❑ Benchmarking with oneself or other better practices
- ❑ Raising issues and priorities for further improvement
- ❑ Guiding IT Development for related government agencies and business sectors, and also National Single Window Development
- ❑ Providing an expectation or impact of the new process recommendations and its IT-supported systems
- ❑ Guiding elimination of duplicated data

# Recommendations

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## The concept

- ❑ Assessing the current situations of our own organization (processes and documents required for import/export goods across the border),
- ❑ And always looking for opportunities to improve
- ❑ Securing resources and team for this exercise

# Recommendations

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## The practices

- Business Process Analysis & Simplification should be an important exercise on a regular basis (e.g. annually)
- Process Analysis Components should be considered
  - Process Scope Setting
  - Process Definition
  - Process Analysis
  - Process Improvement/Recommendations
- Visualizing those processes with diagrams (pictures), e.g. Activity Diagram using UML notations, tables showing indicators, time-procedure chart
- Verification and Validation of the process analysis results is very crucial for correction and completeness
- Using UN/CEFACT Recommendation 18 and other for Process Improvement/Simplification Measures

# Thank you for your attention

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