



**Asia-Pacific
Economic Cooperation**

Supply Chain Visibility Feasibility Study (Phase 1)

**Sub-committee on Standards and Conformance
APEC Committee on Trade and Investment**

February 2012

APEC Project CTI 07/2011T

Produced by

Ministry of Economy, Trade and Industry
Kasumigaseki 1-3-1, Chiyoda-ku, Tokyo 1008901 Japan

For
Asia Pacific Economic Cooperation Secretariat
35 Heng Mui Keng Terrace
Singapore 119616
Tel: (65) 68919 600
Fax: (65) 68919 690
Email: info@apec.org
Website: www.apec.org

© 2012 APEC Secretariat

APEC#212-CT-01.3



Asia-Pacific
Economic Cooperation



野村総合研究所

Supply Chain Visibility Feasibility Study (Phase 1)

30th December 2011

Nomura Research Institute Ltd.
Public Management & Strategy Consulting
Department
Consulting Division

Manager **Hirofumi Tatematsu**

Marunouchi Kitaguchi Bldg.
1-6-5 Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan

Table of contents

1. Objectives of the project	2
2. Scope of questionnaire survey	5
3. The contents of the questionnaire	8
4. Result of questionnaire survey	15
1) Collection Result	15
2) Contents of the information items to be shared	16
3) Digitalization status at company system	24
4) Conditions when providing information	31
5) Information systems to provide visibility information under present conditions	37
6) Evaluation of this questionnaire	38
5. The conclusion of an analysis result	39

1. Objectives of the project

Sharing the visibility of the supply chain is an important items issue

- In the APEC region, as regional trade has increased and diversified, the volume of cargo transportation and the number of players in the transportation (e.g. manufacturers, forwarders, land and sea transporters, port operators, customs and other relevant authorities) have also increased and diversified. As there are therefore many players in the global supply chain, it has become difficult to share SCV 【Supply Chain Visibility】 among the players.
- This situation prevents transportation players from exercising efficient inventory controls. In addition, they lose the opportunity to improve their competitiveness, reduce the environmental burden, and enhance transportation security. If they could share cargo information easily and simultaneously based on interoperable systems, they could improve supply chain efficiency, reduce the environmental burden and strengthen transportation security.
- As the importance of SCV was taken up at the APEC Ministerial Meeting in 2010, sharing the visibility of the supply chain is an important items issue. It has become possible to create a mechanism to share information by the using standard specifications such as EPCIS in line with the progress of ICT. However, in the case of the global supply chain, involving various economies and entities, to share the information regarding SCV will be still difficult because it rely on the private sector and various formats have been established.

1. Objectives of the project

Objectives of the project are to understand the current situation of SCV on international ocean container transportation

- From the view of above information, this project grasped the current situation of SCV in APEC region through collection of information about the current supply chain network such as currently adopted information types, coding systems, and internal systems. The result of it will be utilized for making a recommendation that aims to realize SCV in this region.
- In this projects, we focused on international ocean container transportation which covers main portion of international logistics in APEC region. Questionnaire survey was carried out to transportation players (forwarders, land and sea transporters, port operators, shipper, consignee, customs and other relevant authorities) in major ports in APEC region.
- To achieve these objectives, Nomura Research Institute which was assigned specialists in international trade and international logistics carry out this project making use of our experience and closely communicating with the persons in charge at Japan's Ministry of Economy, Trade and Industry (METI).

1. Objectives of the project

Method of questionnaire survey

- Study Measures: Send questionnaire by internet and receive its by internet
- Term: 20/09/2011 – 30/12/2011
- Method of questionnaire survey : 3 Type of questionnaire send to below;
 - <Type 1>
 - Shipper/Consignee: Member companies of Shipper association and GS1 (Each economy)
 - International Freight Forwarder: Member companies of International Freight Forwarder Association (Each economy)
 - <Type 2>
 - Shipping company: Handling of a ocean container is a shipping company to the 15th in the world.
 - Container terminal: The terminal operator of the port where handling of a ocean container is the biggest in each economy.
 - <Type 3>
 - Customs: Requested from SCCP to the customs of each economy.

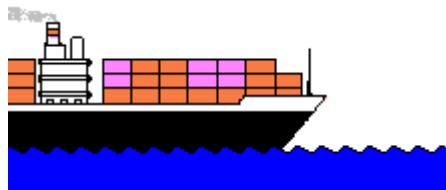
2. Scope of questionnaire survey

Vessel Schedule Data focus on not only Actual time but also Estimated time

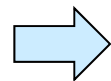
- A vessel are a Vessel name, CallSign, and IMO ship identification number have been used as a vessel identifiers . Furthermore, a voyage can be specified by a voyage number. The ID defined UN/CEFACT is used as a location identifiers of a port or a terminal. Not only Actual time but also Estimated time are needed for visibility of vessel.

Figure Vessel Schedule Data

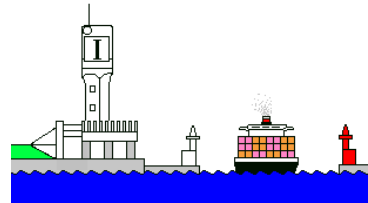
On the Ocean



V1	Vessel Name
V2	Call sign
V3	IMO ship identification number
V4	Import Voyage No.
V5	Export Voyage No.
V6	SCAC Code

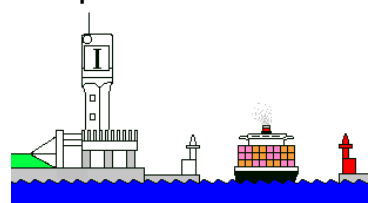


Arrival



V8	Time of	Estimated
V9	Arrival	Actual

Departure



V8	Time of	Estimated
V9	Departure	Actual



Berthing & Work start



Port & Terminal	
V7	Port, Terminal code

V10	Time of Berth	Estimated
V11		Actual
V12	Work Start Time	Estimated
V13		Actual



Container Yard & Gate



V16	Discharging Permission
V17	CY Open
V18	CY Cut

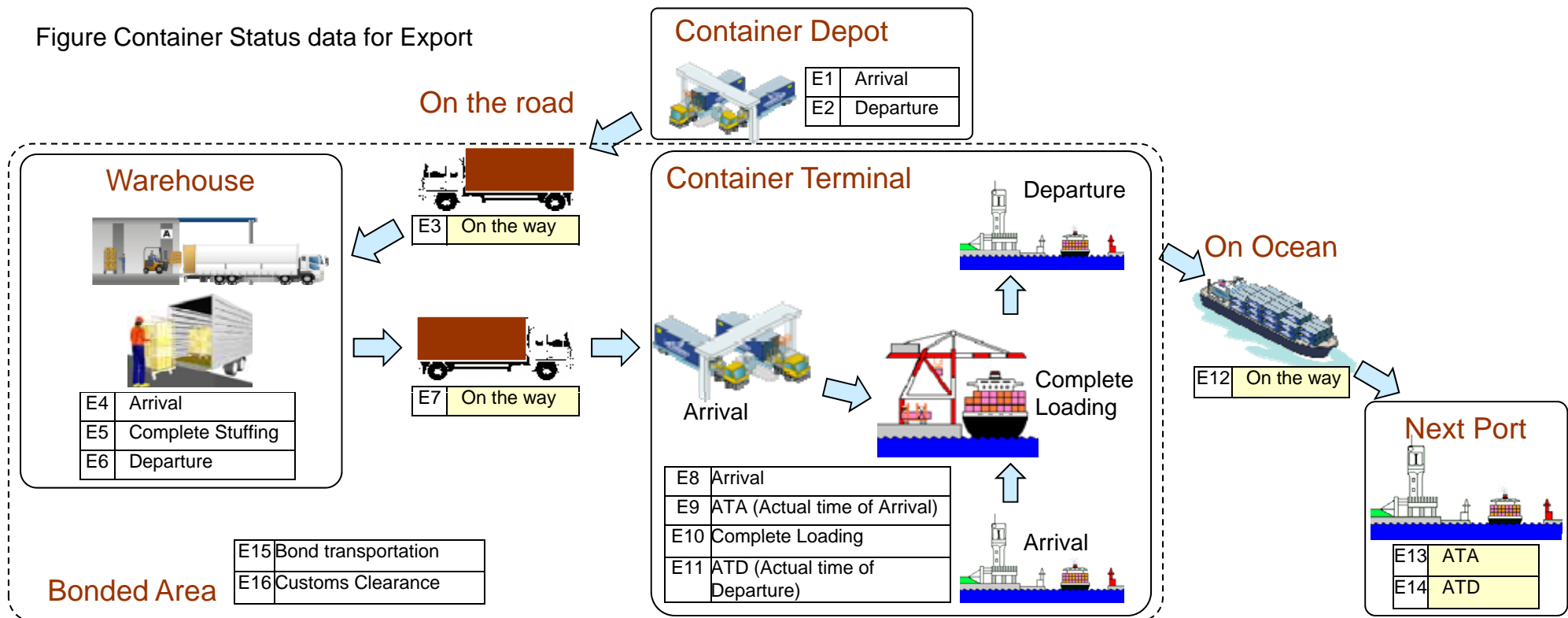


2. Scope of questionnaire survey

Container Status data for Export process

- The identifier of a container is container number. In addition it needs a booking number to specify container. Container movement for Export starts from Container Depot, Containers move to warehouse to be stuffed cargo, and arrive Container Terminal. They are loaded on completely to vessel at Container Terminal. Finally vessel departs Container Terminal for Next port.

Figure Container Status data for Export

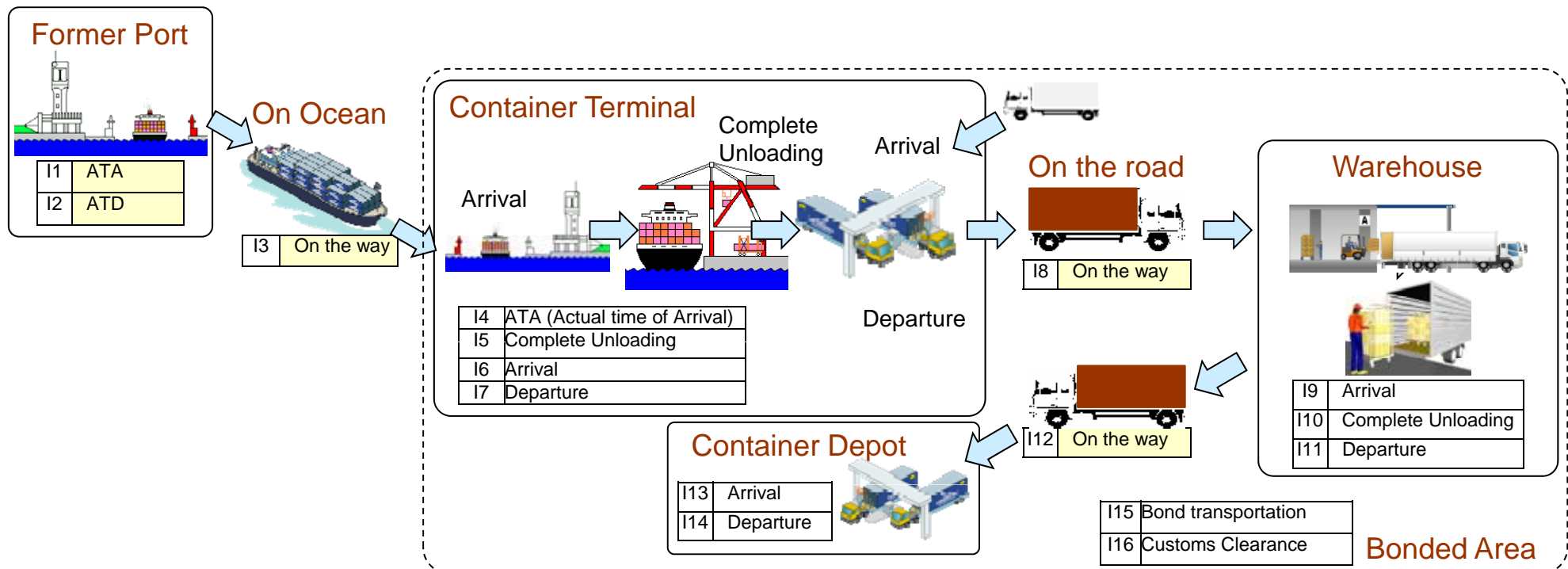


2. Scope of questionnaire survey

Container Status data for Import process

- The identifier of a container is container number. In addition it needs a bill of lading number to specify container. Container movement for Import starts from unloading containers from vessel at Container Terminal, and finished at Container Depot.

Figure Container Status data for Import



3. The contents of the questionnaire

Contact information & Contents of the information items to be shared: Vessel schedule data

- Contact information for the person completing this form and a description of your company

Table Contact information

Person completing form	Name			
	Company name			
	Department			
	Address			
	Type of industry			
	Email address			
	Tel. No.			
	Fax. No.			
	The port which you use with a ocean container			
	Cargo volume in Port (TEU par year)		Export	
		Import		Main goods

- Contents of the information items to be shared: Vessel schedule data

- Utilizable information
- Real time nature of the information
- Search condition
- Procedure for practical use of data
- The result expected

Table Contents of the information items to be shared
Vessel schedule data

#	Data elements	Utilizable information	Data donor	Real-time nature	Search condition	Practical method of data use	Expected result
V1	Vessel Name	These data elements are query key codes for below data.	Shipping company, Container Terminal				
V2	Call sign						
V3	IMO ship identification number						
V4	Import Voyage No.						
V5	Export Voyage No.						
V6	SCAC Code						
V7	Port, Terminal code						
V8	Time of Arrival	Estimated	Shipping company, Container Terminal				
V9		Actual					
V10	Time of Berth	Estimated					
V11		Actual					
V12	Work Start Time	Estimated					
V13		Actual					
V14	Time of Departure	Estimated					
V15		Actual					
V16	Discharging Permission						
V17	CY Open						
V18	CY Cut						

3. The contents of the questionnaire

Contents of the information items to be shared Container Status data for Export and Import

■ Contents of the information items to be shared: Container Status data for Export and Import

- Utilizable information
- Real time of the information
- Search condition
- Procedure for practical use of data
- The result expected

Table Contents of the information items to be shared
Container Status data for Export

#	Where	Why	What	Utilizable information	Data provider	Real-time nature	Search condition	Practical method of data use	Expected result
E1	Varpool	Arrival	Truck		Trucking company, Vanpool operator				
E2	Varpool	Departure	Container		Trucking company, Vanpool operator, Shipping company				
E3	On the road (Latitude longitude)	On the way	Container		Trucking company				
E4	Warehouse (Stuffing)	Arrival	Container		Trucking company, Stuffing company				
E5	Warehouse (Stuffing)	Complete Stuffing	Container		Trucking company, Stuffing company				
E6	Warehouse (Stuffing)	Departure	Container		Trucking company, Stuffing company				
E7	On the road (Latitude longitude)	On the way	Container		Trucking company				
E8	Container Terminal	Arrival	Container		Trucking company, Container terminal, Shipping company				
E9	Container Terminal	ATA (Actual time of Arrival)	Vessel		Container terminal, Shipping company				
E10	Container Terminal	Complete Loading	Container		Container terminal, Shipping company				
E11	Container Terminal	ATD (Actual time of Departure)	Vessel		Container terminal, Shipping company				
E12	On Ocean (Latitude longitude)	On the way	Vessel		Shipping company				
E13	Next Port	ATA	Vessel		Container terminal, Shipping company				
E14	Next Port	ATD	Vessel		Container terminal, Shipping company				
E15	Bonded Area	Bond transportation	Container		Customs, Container terminal				
E16	Bonded Area	Customs Clearance	Container		Customs, Container terminal				

Table Contents of the information items to be shared
Container Status data for Import

#	Where	Why	What	Utilizable information	Data provider	Real-time nature	Search condition	Practical method of data use	Expected result
I1	Former Port	ATA	Vessel		Container terminal, Shipping company				
I2	Former Port	ATD	Vessel		Container terminal, Shipping company				
I3	On Ocean (Latitude longitude)	On the way	Vessel		Shipping company				
I4	Container Terminal	ATA (Actual time of Arrival)	Vessel		Container terminal, Shipping company				
I5	Container Terminal	Complete Unloading	Container		Container terminal, Shipping company				
I6	Container Terminal	Arrival	Truck		Trucking company, Container terminal, Shipping company				
I7	Container Terminal	Departure	Container		Trucking company, Container terminal, Shipping company				
I8	On the road (Latitude longitude)	On the way	Container		Trucking company				
I9	Warehouse (Unloading)	Arrival	Container		Trucking company, Unstuffing company				
I10	Warehouse (Unloading)	Complete Unloading	Container		Trucking company, Unstuffing company				
I11	Warehouse (Unloading)	Departure	Container		Trucking company, Unstuffing company				
I12	On the road (Latitude longitude)	On the way	Container		Trucking company				
I13	Varpool	Arrival	Container		Trucking company, Vanpool operator, Shipping company				
I14	Varpool	Departure	Truck		Trucking company, Vanpool operator				
I15	Bonded Area	Bond transportation	Container		Customs, Container terminal				
I16	Bonded Area	Customs Clearance	Container		Customs, Container terminal				

3. The contents of the questionnaire

Other required information items and Digitalization status (Vessel schedule data)

■ Other required information items which User want to acquire

- Required information items
- The type of data (selection)
- The reason the data is required.

■ Digitalization status at your company system & real-time: Vessel schedule data

- Digitalization
- real-time

Table Other required information items

	Required information items	Type of data	Reason required
1			
2			
3			
4			
5			

Table Digitalization status at your company system & real-time: Vessel schedule data

#	Data elements	Digitalization	Real-time nature
V1	Vessel Name		
V2	Call sign		
V3	IMO ship identification number		
V4	Import Voyage No.		
V5	Export Voyage No.		
V6	SCAC Code		
V7	Port, Terminal code		
V8	Time of Arrival	Estimated	
V9		Actual	
V10	Time of Berth	Estimated	
V11		Actual	
V12	Work Start Time	Estimated	
V13		Actual	
V14	Time of Departure	Estimated	
V15		Actual	
V16	Discharging Permission		
V17	CY Open		
V18	CY Cut		

3. The contents of the questionnaire

Digitalization status (Container Status data for Export and Import)

■ Digitalization status at your company system & real-time: Container Status data for Export and Import

- Digitalization
- real-time

Table Digitalization status at your company system & real-time: Container Status data for Export

#	Where	Why	What	Digitalization	Real-time nature
E1	Vanpool	Arrival	Truck		
E2	Vanpool	Departure	Container		
E3	On the road (Latitude	On the way	Container		
E4	Warehouse (Stuffing)	Arrival	Container		
E5	Warehouse (Stuffing)	Complete Stuffing	Container		
E6	Warehouse (Stuffing)	Departure	Container		
E7	On the road (Latitude longitude)	On the way	Container		
E8	Container Terminal	Arrival	Container		
E9	Container Terminal	ATA (Actual time of	Vessel		
E10	Container Terminal	Complete Loading	Container		
E11	Container Terminal	ATD (Actual time of	Vessel		
E12	On Ocean (Latitude longitude)	On the way	Vessel		
E13	Next Port	ATA	Vessel		
E14	Next Port	ATD	Vessel		
E15	Bonded Area	Bond transportation	Container		
E16	Bonded Area	Customs Clearance	Container		

Table Digitalization status at your company system & real-time: Container Status data for Import

#	Where	Why	What	Digitalization	Real-time nature
I1	Former Port	ATA	Vessel		
I2	Former Port	ATD	Vessel		
I3	On Ocean (Latitude longitude)	On the way	Vessel		
I4	Container Terminal	ATA (Actual time of	Vessel		
I5	Container Terminal	Complete Unloading	Container		
I6	Container Terminal	Arrival	Truck		
I7	Container Terminal	Departure	Container		
I8	On the road (Latitude longitude)	On the way	Container		
I9	Warehouse (Unloading)	Arrival	Container		
I10	Warehouse (Unloading)	Complete Unloading	Container		
I11	Warehouse (Unloading)	Departure	Container		
I12	On the road (Latitude	On the way	Container		
I13	Vanpool	Arrival	Container		
I14	Vanpool	Departure	Truck		
I15	Bonded Area	Bond transportation	Container		
I16	Bonded Area	Customs Clearance	Container		

3. The contents of the questionnaire

Conditions when information is provided and present conditions of Information systems

■ Conditions when information is provided.

- Appropriate as access authority to the storage database.
- The key code when searching for data

■ Conditions when providing information.

- Please enter any conditions you have in addition to those in your responses above when providing information overseas.

Table Conditions when providing information

	Access authority to data	Search key for data
1) Vessel Schedule Data		
2) Port to Port		
3) Door to Door (the port to remove)		

Table Other conditions when providing information

The conditions which offer information (Especially offer to overseas)	
--	--

■ Information systems to provide visibility information under present conditions

- This question concerns the information systems for providing visibility information at the port concerned. Example) Customs clearance system and port community system. Summary of information systems to provide visibility information

Table Information systems to provide visibility information under present conditions

	System1	System2	System3
System name			
System provider			
System purpose			
System conditions of use			
Cost of use			

3. The contents of the questionnaire

Present conditions for shared status data of Information systems

■ Information systems to provide visibility information under present conditions

- This question concerns the information systems for providing visibility information at the port concerned. Example) Customs clearance system and port community system. Container Status data for Export and Import.
 - Data elements offered and Search key

Table Information systems to provide visibility information under present conditions Container Status data for Export

#	Where	Why	What	Data elements offered	Search key
E1	Vanpool	Arrival	Truck		
E2	Vanpool	Departure	Container		
E3	On the road (Latitude	On the way	Container		
E4	Warehouse (Stuffing)	Arrival	Container		
E5	Warehouse (Stuffing)	Complete Stuffing	Container		
E6	Warehouse (Stuffing)	Departure	Container		
E7	On the road (Latitude longitude)	On the way	Container		
E8	Container Terminal	Arrival	Container		
E9	Container Terminal	ATA (Actual time of	Vessel		
E10	Container Terminal	Complete Loading	Container		
E11	Container Terminal	ATD (Actual time of	Vessel		
E12	On Ocean (Latitude longitude)	On the way	Vessel		
E13	Next Port	ATA	Vessel		
E14	Next Port	ATD	Vessel		
E15	Bonded Area	Bond transportation	Container		
E16	Bonded Area	Customs Clearance	Container		

Table Information systems to provide visibility information under present conditions Container Status data for Import

#	Where	Why	What	Data elements offered	Search key
I1	Former Port	ATA	Vessel		
I2	Former Port	ATD	Vessel		
I3	On Ocean (Latitude longitude)	On the way	Vessel		
I4	Container Terminal	ATA (Actual time of	Vessel		
I5	Container Terminal	Complete Unloading	Container		
I6	Container Terminal	Arrival	Truck		
I7	Container Terminal	Departure	Container		
I8	On the road (Latitude longitude)	On the way	Container		
I9	Warehouse (Unloading)	Arrival	Container		
I10	Warehouse (Unloading)	Complete Unloading	Container		
I11	Warehouse (Unloading)	Departure	Container		
I12	On the road (Latitude	On the way	Container		
I13	Vanpool	Arrival	Container		
I14	Vanpool	Departure	Truck		
I15	Bonded Area	Bond transportation	Container		
I16	Bonded Area	Customs Clearance	Container		

3. The contents of the questionnaire

Evaluation of this questionnaire and Open response

■ Evaluation of this questionnaire

- Please answer the following concerning this questionnaire.

■ Open response

- Please feel free to provide any opinions you might have concerning this questionnaire.

Table Evaluation of this questionnaire

		Questionnaire contents	Ease of use	Significant nature of visibility information
Choose one	(Good) [5]			
	[4]			
	[3]			
	[2]			
	(Poor) [1]			

Table Open response

Open response	
---------------	--

4. Result of questionnaire survey 1) Collection Result

Collection Result

- As for the collection result of the questionnaire, a Shipper /Forwarder will be 23 affairs, transportation will be 20 affairs, and the customs has become one affair.
- The reply was obtained from nine economies of APEC.

Table Collection Result

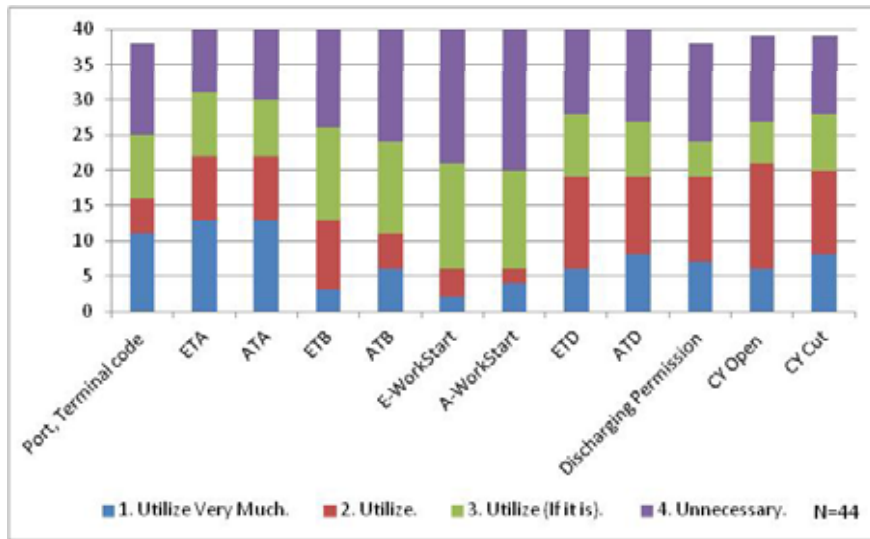


4. Result of questionnaire survey 2) Contents of the information items to be shared

More than 50% Shipper/Consignee and Forwarder want to share ATA, ETA, ATD and ETD of Vessel Schedule Data

- ATA, ETA, ATD and ETD are quite important items for Shipper/Consignee and Forwarder. CY cut and Discharging Permission are also important items to share at Vessel Schedule Data.

Figure Contents of the information items to be shared
Vessel Schedule Data: All



ATA: Actual Time of Arrival
 ATD : Actual Time of Departure
 ATB: Actual Time of Berthing
 A-WorkStart: Actual Time of Work Start

ETA: Estimated Time of Arrival
 ETD : Estimated Time of Departure
 ETB: Estimated Time of Berthing
 E-WorkStart: Estimated Time of Work Start

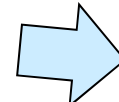
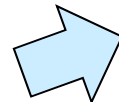


Figure Contents of the information items to be shared
Vessel Schedule Data: Shipper/Consignee and Forwarder

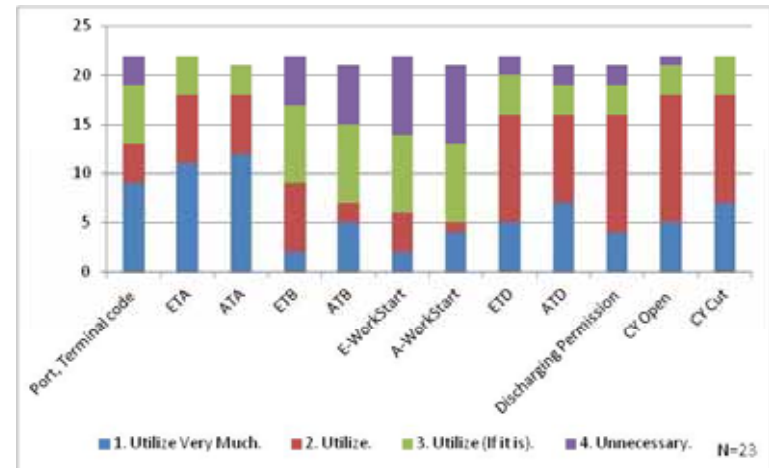
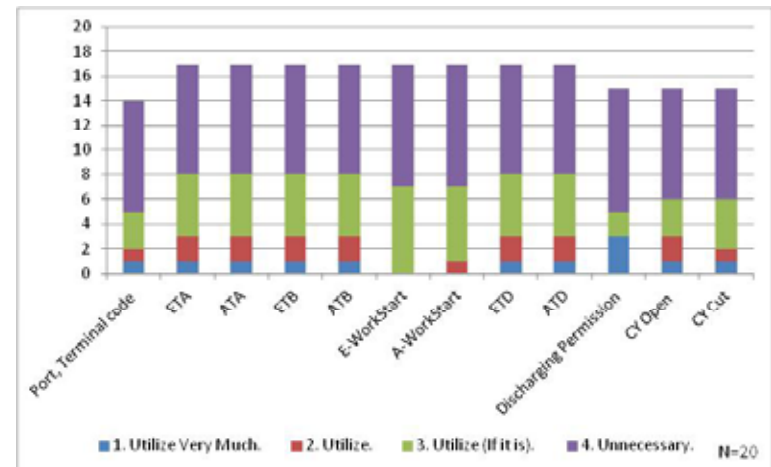


Figure Contents of the information items to be shared
Vessel Schedule Data: Shipping company and Container terminal

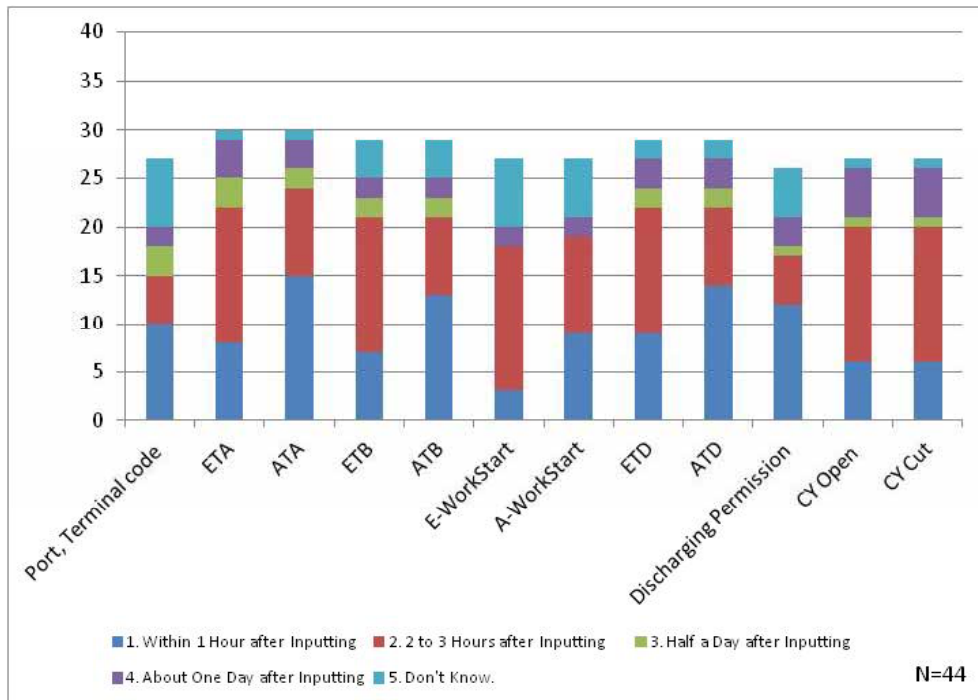


4. Result of questionnaire survey 2) Contents of the information items to be shared

Actual time of vessel has more necessary than Estimated Time

- Actual time of vessel arrival, departure and berthing has more necessary than Estimated Time of those in real time at Vessel Schedule Data.

Figure Contents of the information items to be shared real-time of Vessel Schedule Data: All



ATA: Actual Time of Arrival ETA: Estimated Time of Arrival
 ATD: Actual Time of Departure ETD: Estimated Time of Departure
 ATB: Actual Time of Berthing ETB: Estimated Time of Berthing
 A-WorkStart: Actual Time of Work Start E-WorkStart: Estimated Time of Work Start

Figure Contents of the information items to be shared real-time of Vessel Schedule Data: Shipper/Consignee and Forwarder

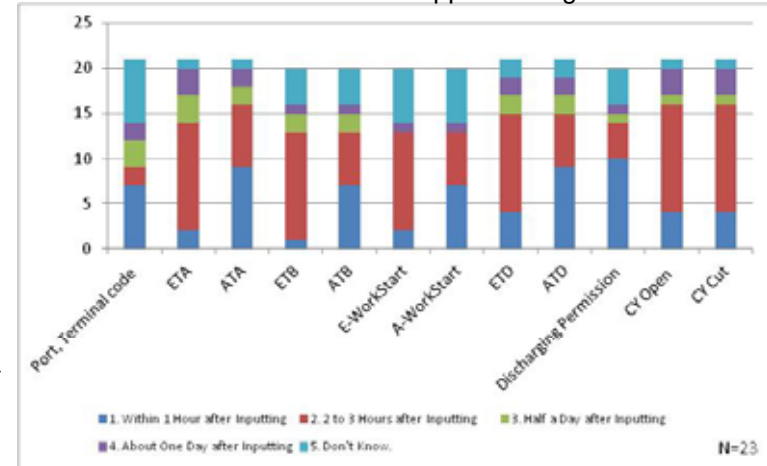
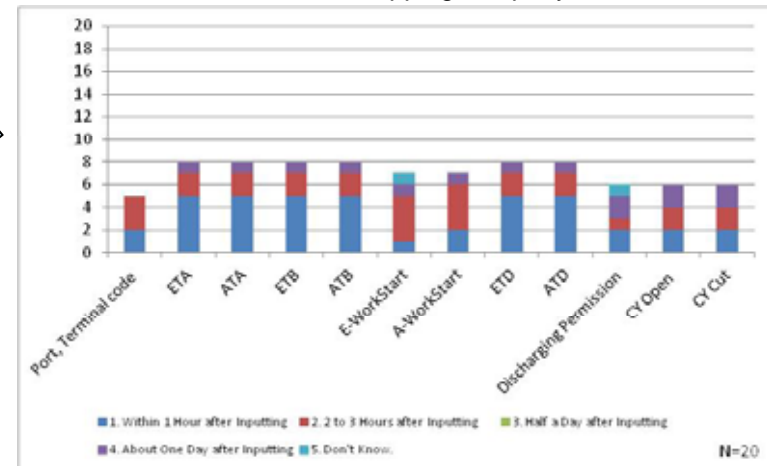


Figure Contents of the information items to be shared real-time of Vessel Schedule Data: Shipping company and Container terminal

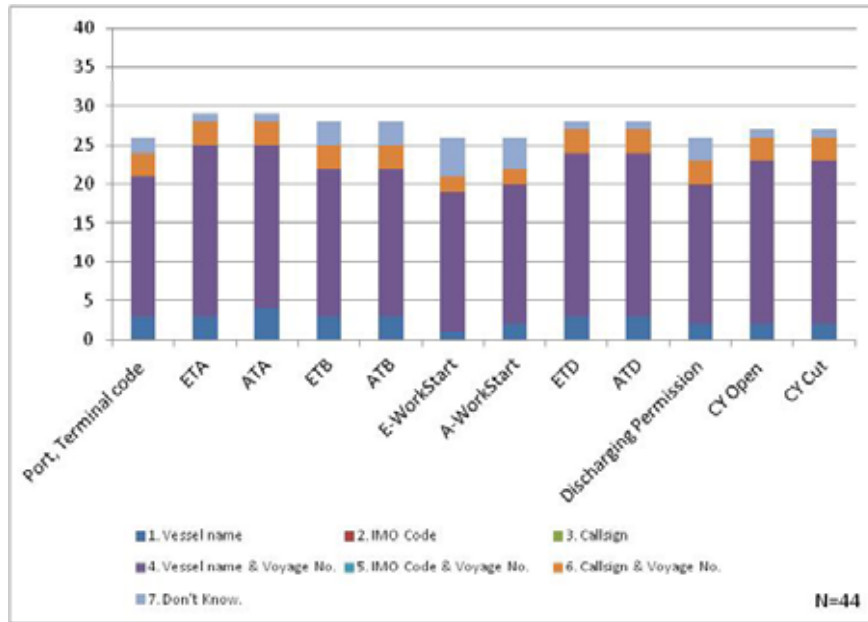


4. Result of questionnaire survey 2) Contents of the information items to be shared

Vessel name & Voyage Number is most useful query key for Shipper/Consignee and Forwarder to search for their containers

- Vessel name & Voyage Number is most useful query key for Shipper/Consignee and Forwarder to search for their containers at Vessel Schedule Data.

Figure Contents of the information items to be shared
Search condition of Vessel Schedule Data: All



ATA: Actual Time of Arrival
 ATD : Actual Time of Departure
 ATB: Actual Time of Berthing
 A-WorkStart: Actual Time of Work Start

ETA: Estimated Time of Arrival
 ETD : Estimated Time of Departure
 ETB: Estimated Time of Berthing
 E-WorkStart: Estimated Time of Work Start

Figure Contents of the information items to be shared
Search condition of Vessel Schedule Data: Shipper/Consignee and Forwarder

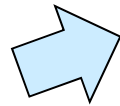
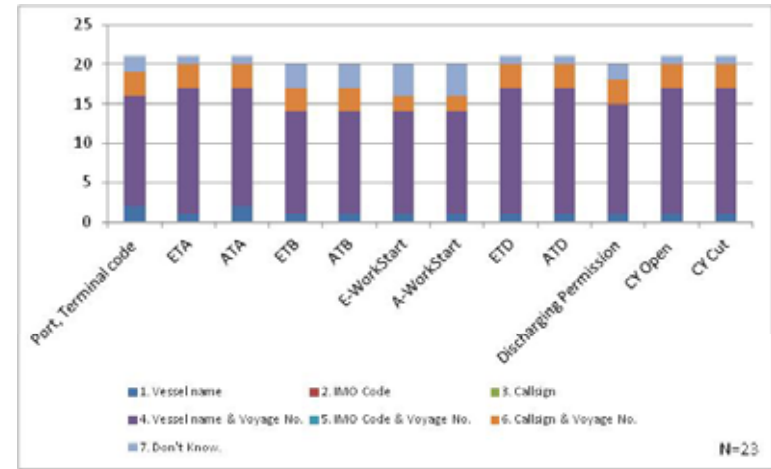
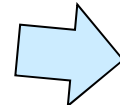
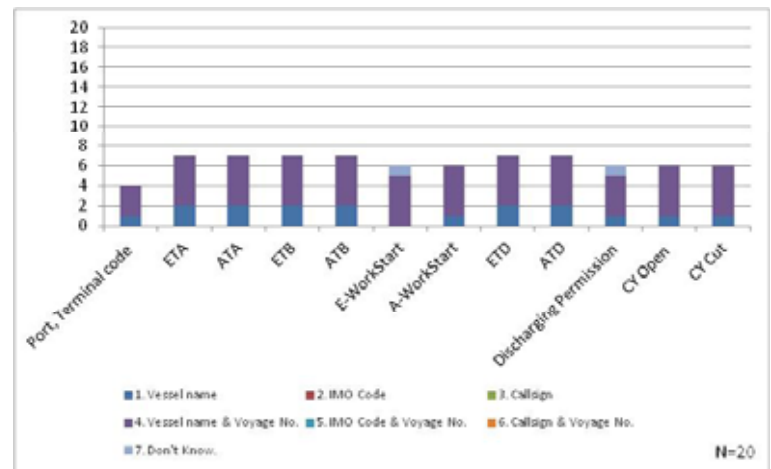


Figure Contents of the information items to be shared
Search condition of Vessel Schedule Data: Shipping company and Container terminal



4. Result of questionnaire survey 2) Contents of the information items to be shared

The container arrival to a container terminal and a warehouse are important items

- The container arrival to a container terminal and a warehouse are important items for Shipper/Consignee and Forwarder at Export process.

Figure Contents of the information items to be shared
Container status of Export: All

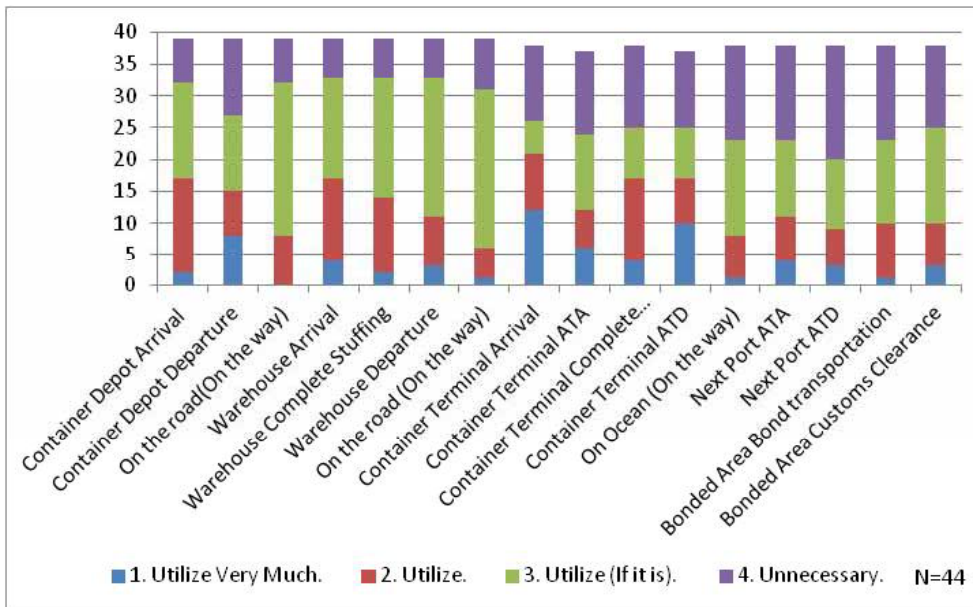


Figure Contents of the information items to be shared
Container status of Export : Shipper/Consignee and Forwarder

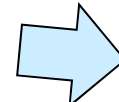
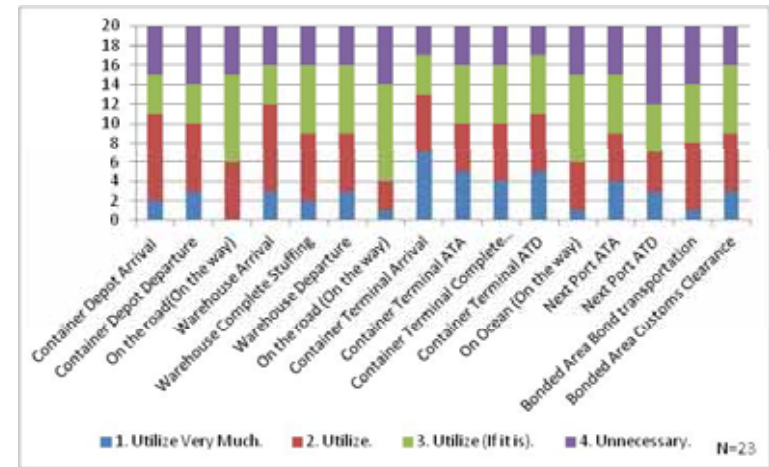
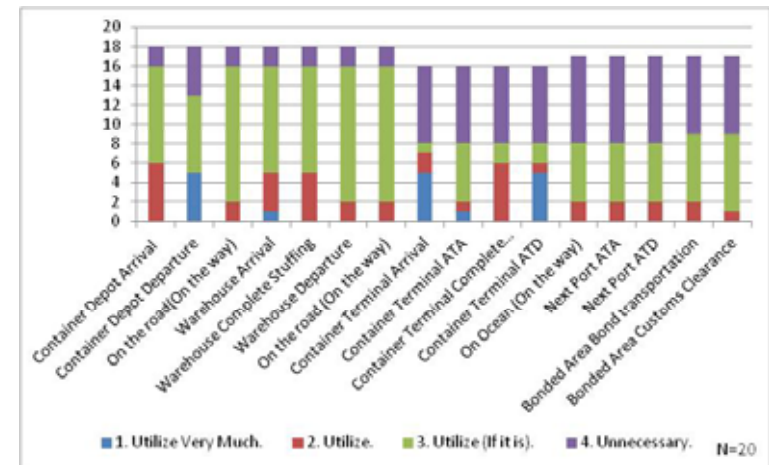


Figure Contents of the information items to be shared
Container status of Export : Shipping company and Container terminal



4. Result of questionnaire survey 2) Contents of the information items to be shared

The arrival to a container terminal, the departure and the arrival from/to Container Depot of container has the necessity of real time

- The arrival to the container terminal, the departure and the arrival from/to Container Depot of container has the necessity of real time at Export process.

Figure Contents of the information items to be shared real-time of Container status of Export : All

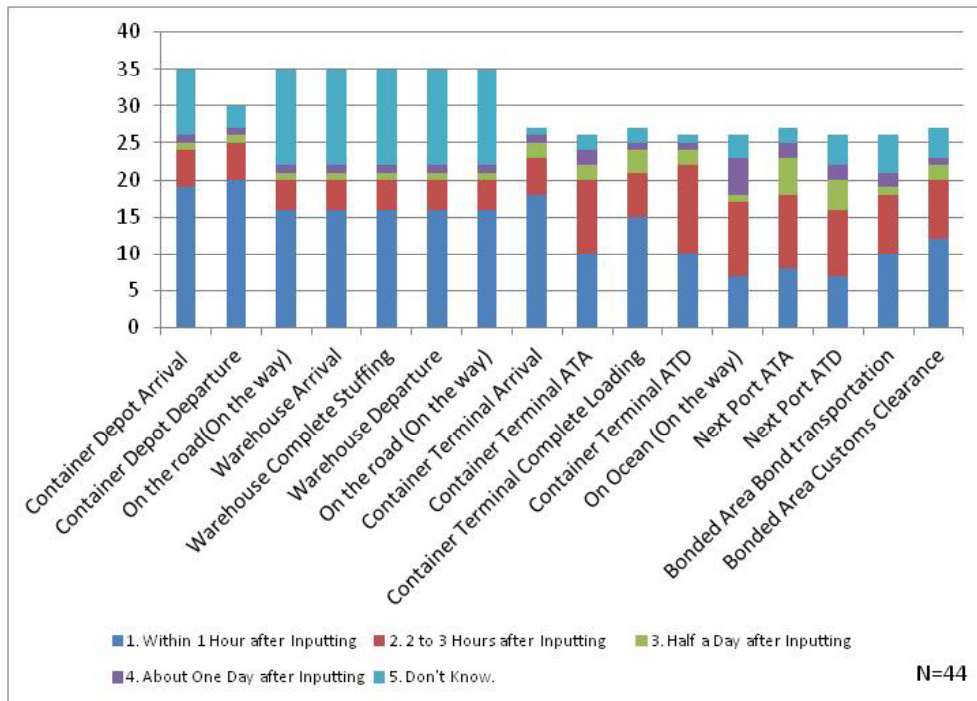


Figure Contents of the information items to be shared: real-time Container status of Export : Shipper/Consignee and Forwarder

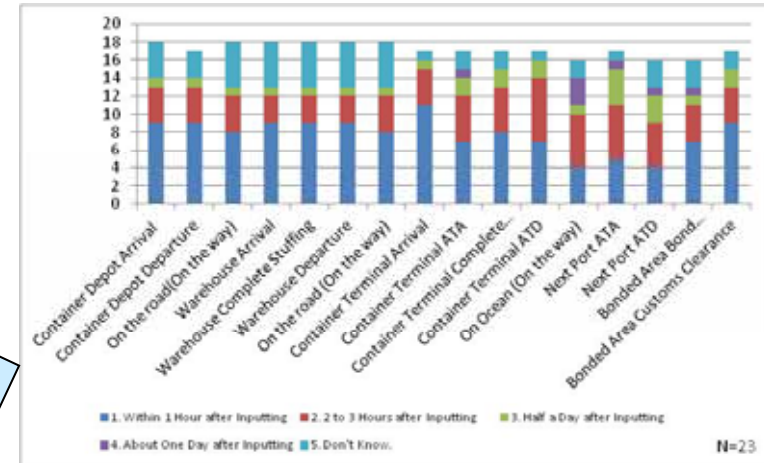
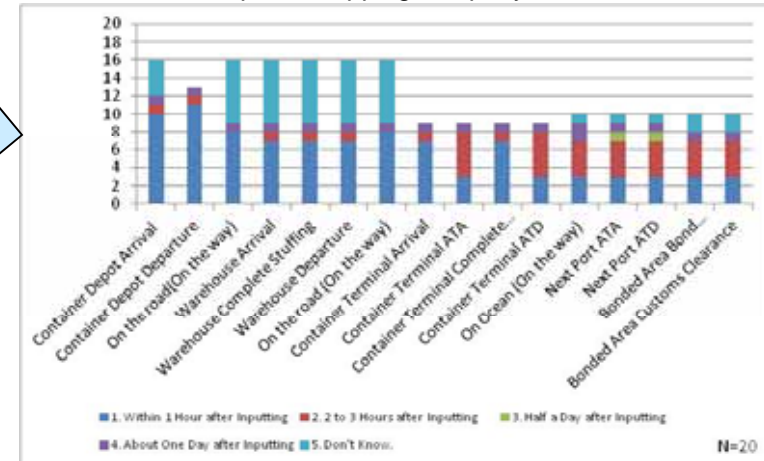


Figure Contents of the information items to be shared: real-time Container status of Export : Shipping company and Container terminal



4. Result of questionnaire survey 2) Contents of the information items to be shared

Booking No. & Container Number are most useful query key for Shipper/Consignee and Forwarder to search their containers

- Booking No. & Container Number is most useful query key for Shipper/Consignee and Forwarder to search their containers at Export process.

Figure Contents of the information items to be shared
Search condition of Container status of Export : All

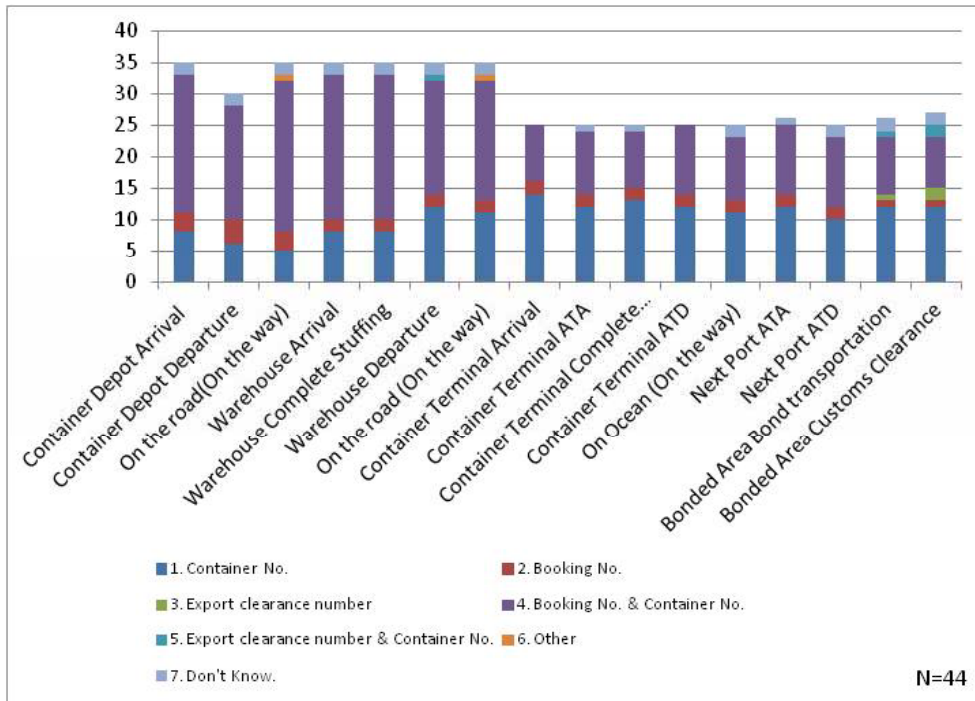


Figure Contents of the information items to be shared: Search condition
Container status of Export : Shipper/Consignee and Forwarder

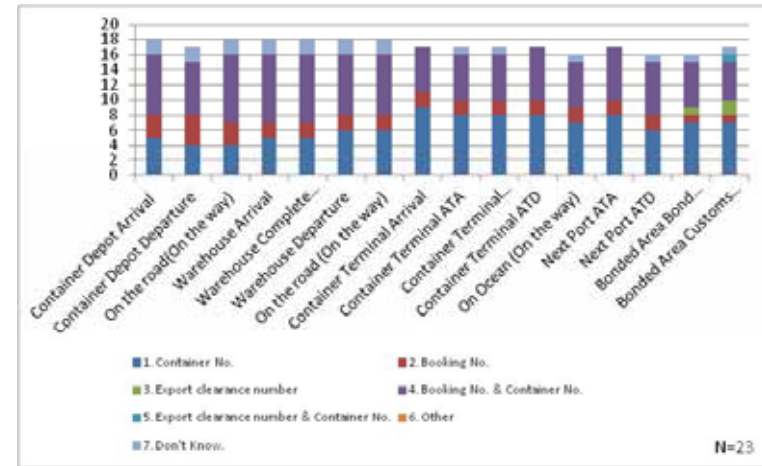
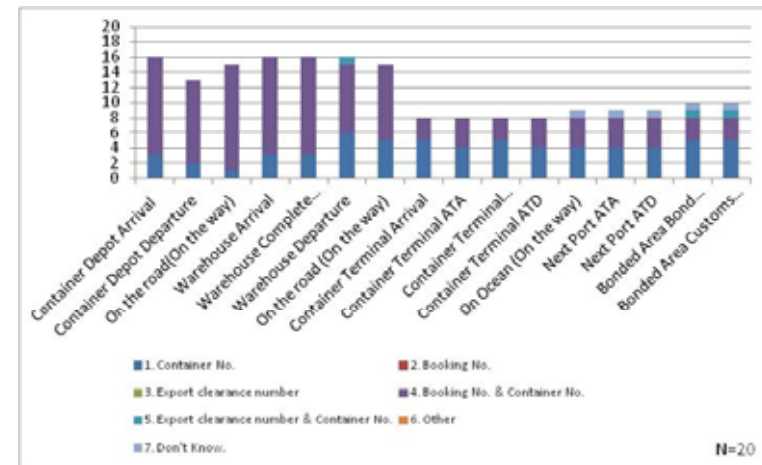


Figure Contents of the information items to be shared: Search condition
Container status of Export : Shipping company and Container terminal



4. Result of questionnaire survey 2) Contents of the information items to be shared

Complete unloading from vessel, the arrival and the departure to/from Container Terminal of container are important items

- Complete unloading from vessel, the arrival and the departure to/from Container Terminal of container are important items for Shipper/Consignee and Forwarder at Import process.

Figure Contents of the information items to be shared
Container status of Import: All

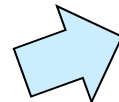
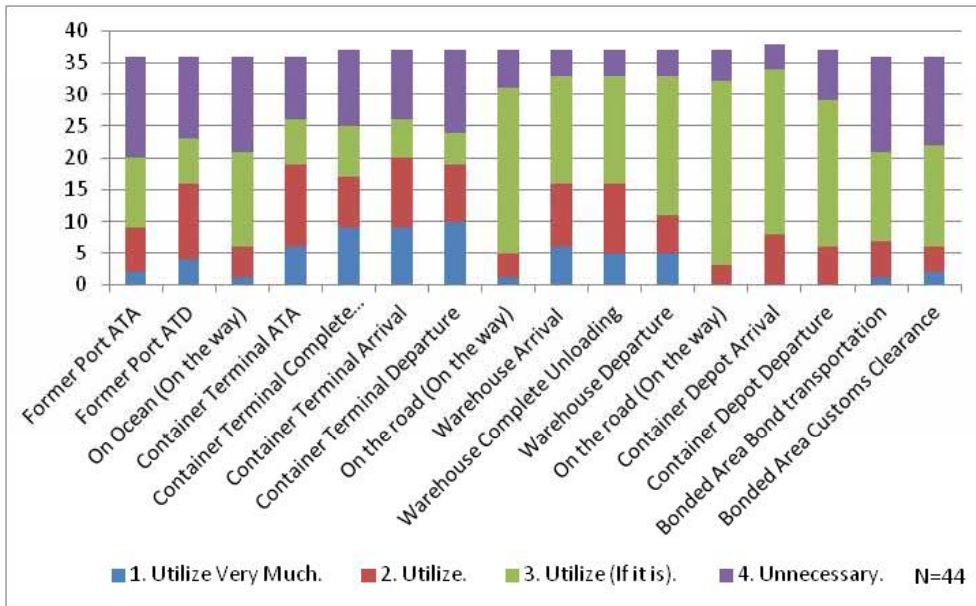


Figure Contents of the information items to be shared
Container status of Import : Shipper/Consignee and Forwarder

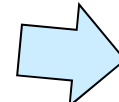
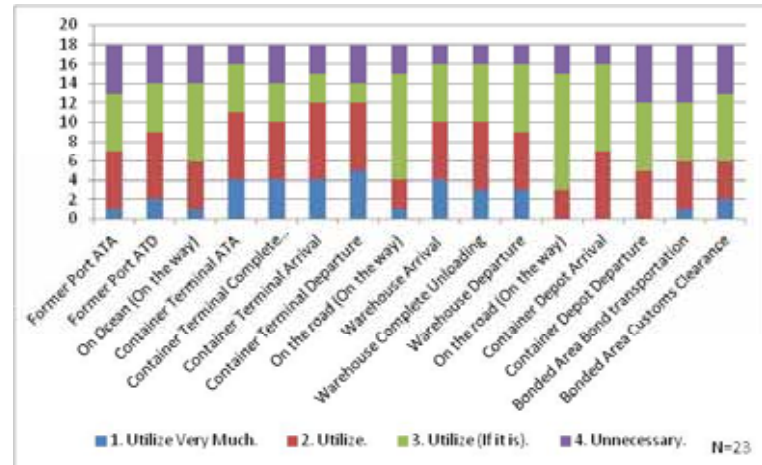
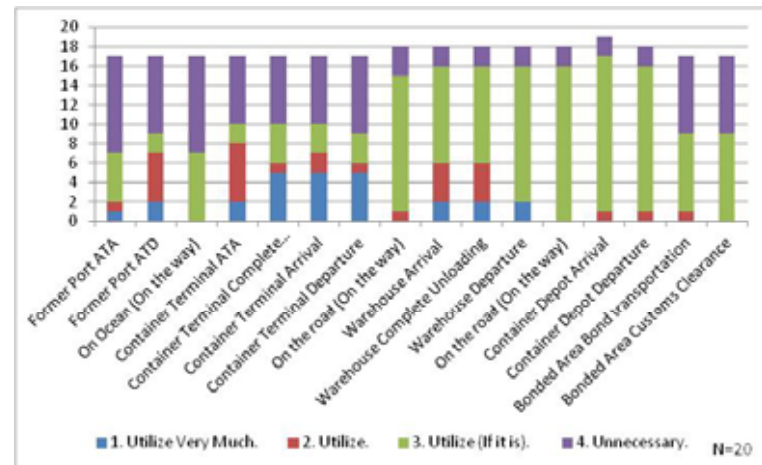


Figure Contents of the information items to be shared
Container status of Import : Shipping company and Container terminal



Complete unloading from vessel, the arrival and the departure to/from Container Terminal and the arrival to Container Depot of container has the necessity of real time

- Complete unloading from vessel, the arrival and the departure to/from Container Terminal and arrival of Container Depot has the necessity of real time at Import process.

Figure Contents of the information items to be shared real-time of Container status of Import : All

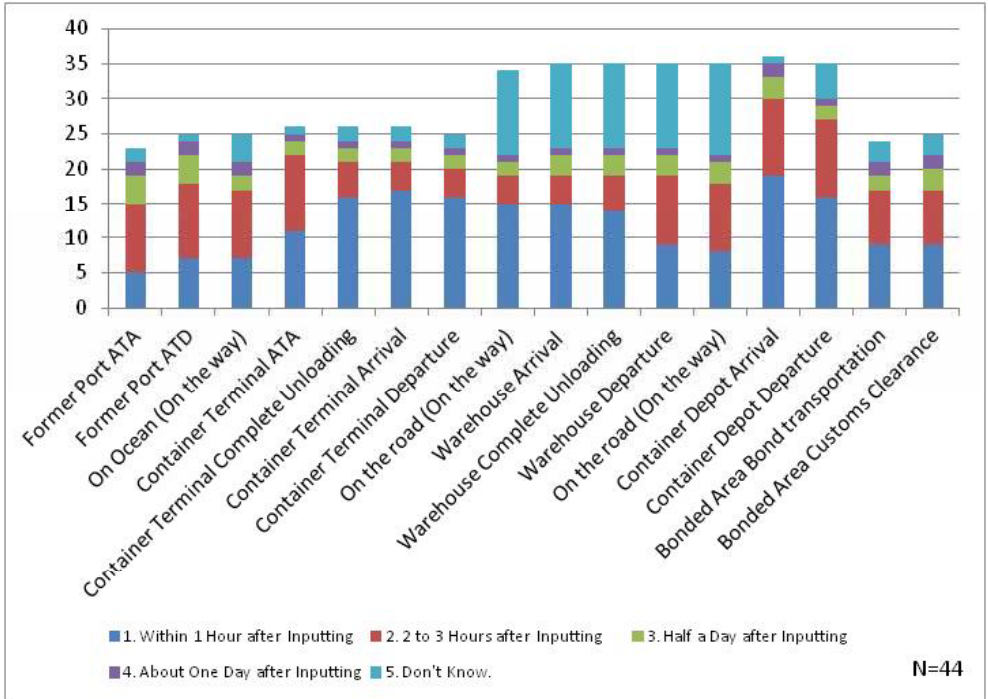


Figure Contents of the information items to be shared: real-time Container status of Import : Shipper/Consignee and Forwarder

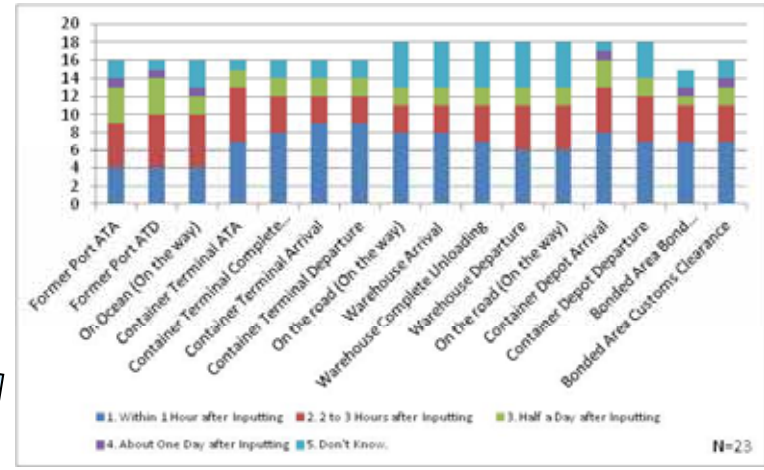
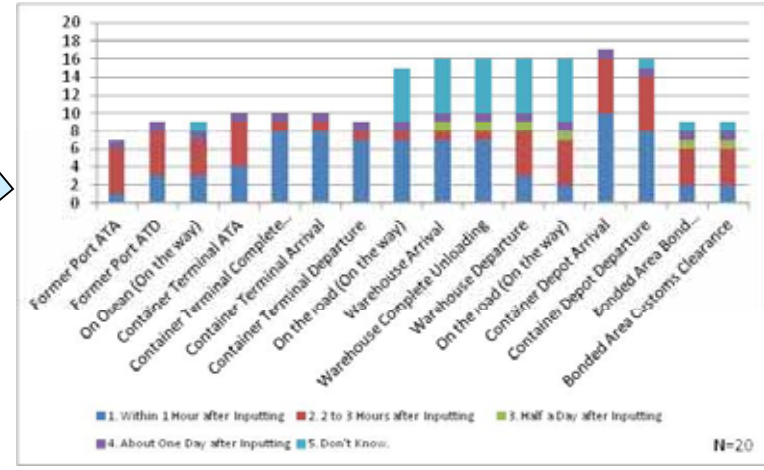


Figure Contents of the information items to be shared: real-time Container status of Import : Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

Bill of Lading No. & Container Number is most useful query key for Shipper/Consignee and Forwarder to search their containers

- Bill of Lading No. & Container Number is most useful query key for Shipper/Consignee and Forwarder to search their containers at Import process.

Figure Contents of the information items to be shared: Search condition of Container status of Import : All

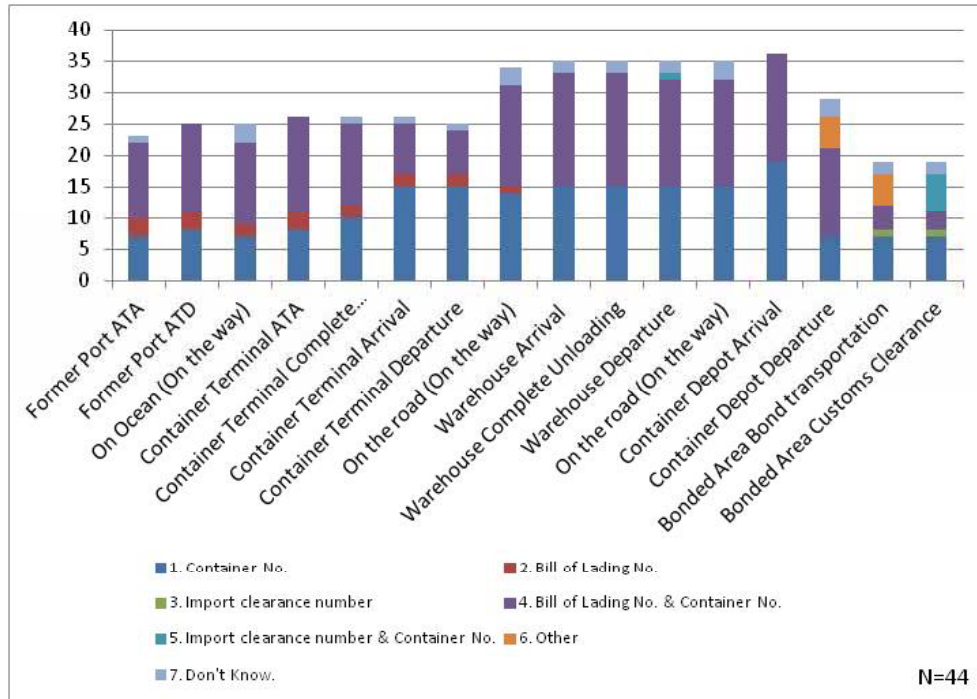


Figure Contents of the information items to be shared: Search condition Container status of Import : Shipper/Consignee and Forwarder

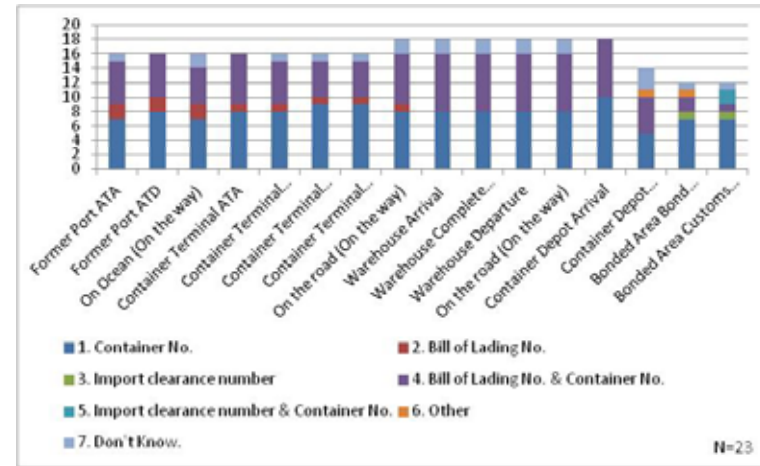
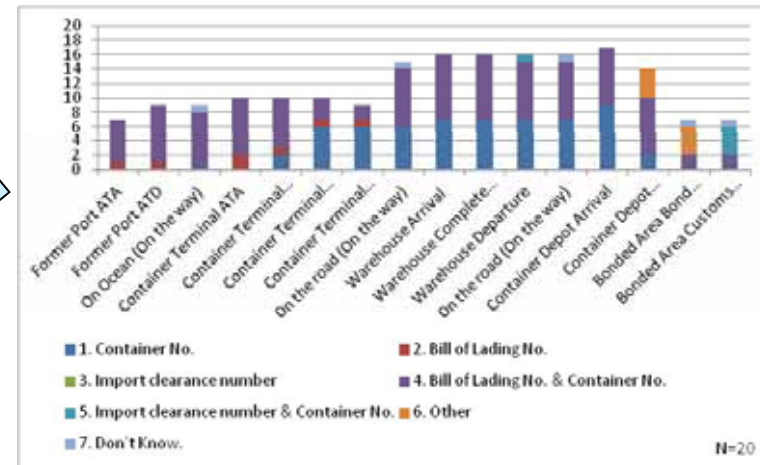


Figure Contents of the information items to be shared: Search condition Container status of Import : Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

Digitalization of Vessel Schedule Data is important items for Shipping company and Container terminal.

- In addition to ID of a ship including a Vessel name or a Voyage number, the digitalization of ETA, ATA and ETD is important for Shipper/Consignee and Forwarder.

- It is important for Shipping company and Container terminal to digitize all the Vessel Schedule data.

Figure Digitalization status at company system
Vessel Schedule Data: Shipper/Consignee and Forwarder

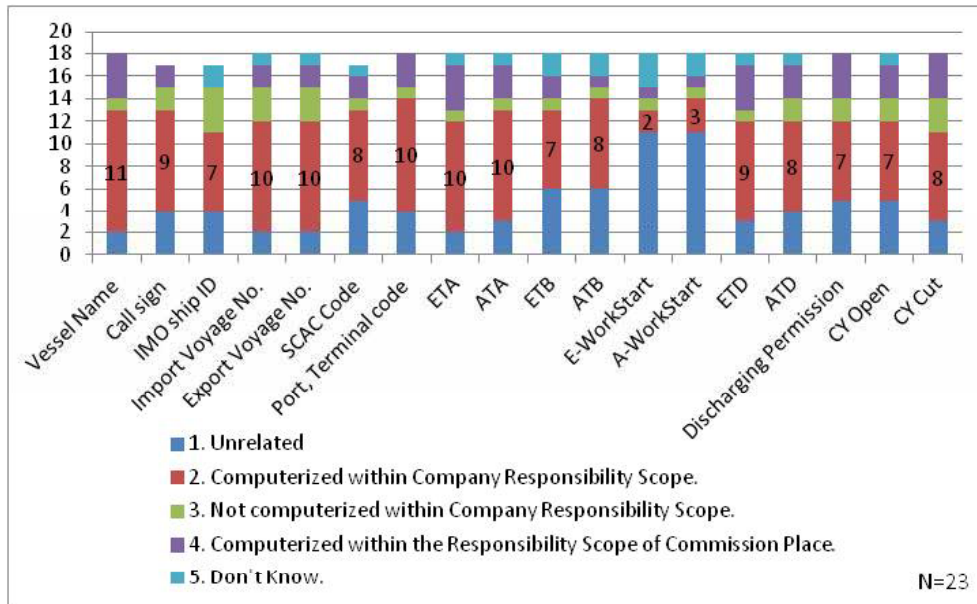
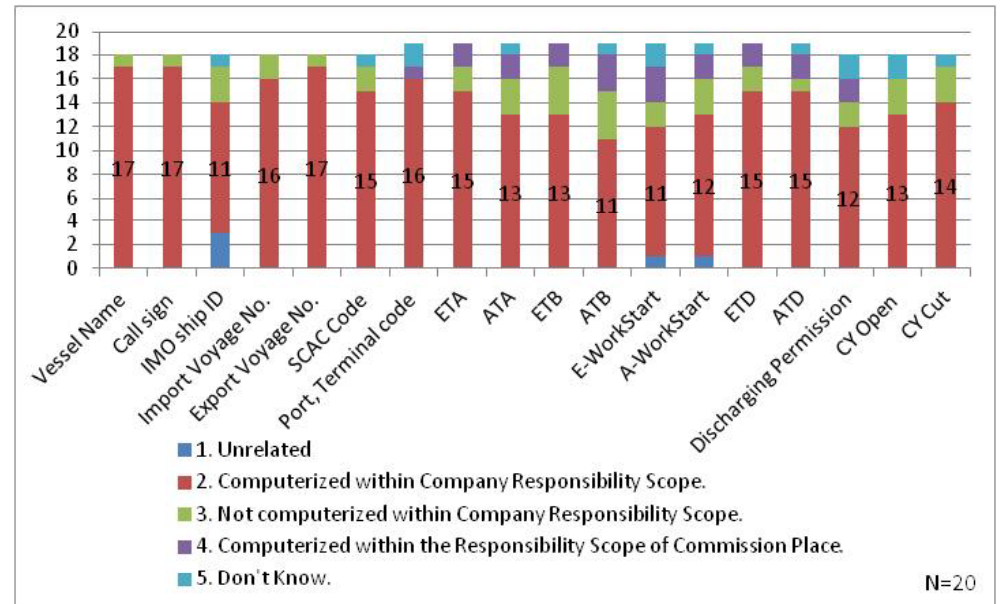


Figure Digitalization status at company system
Vessel Schedule Data: Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

Shipping company and Container terminal is sensitive to the real-time system of Vessel Schedule Data

■ Shipper/Consignee and Forwarder is interested in the real-time system of ETA, ATA and ETD.

■ Shipping company and Container terminal is sensitive to the real-time system of Vessel Schedule Data.

Figure Digitalization status at company system: real-time Vessel Schedule Data: Shipper/Consignee and Forwarder

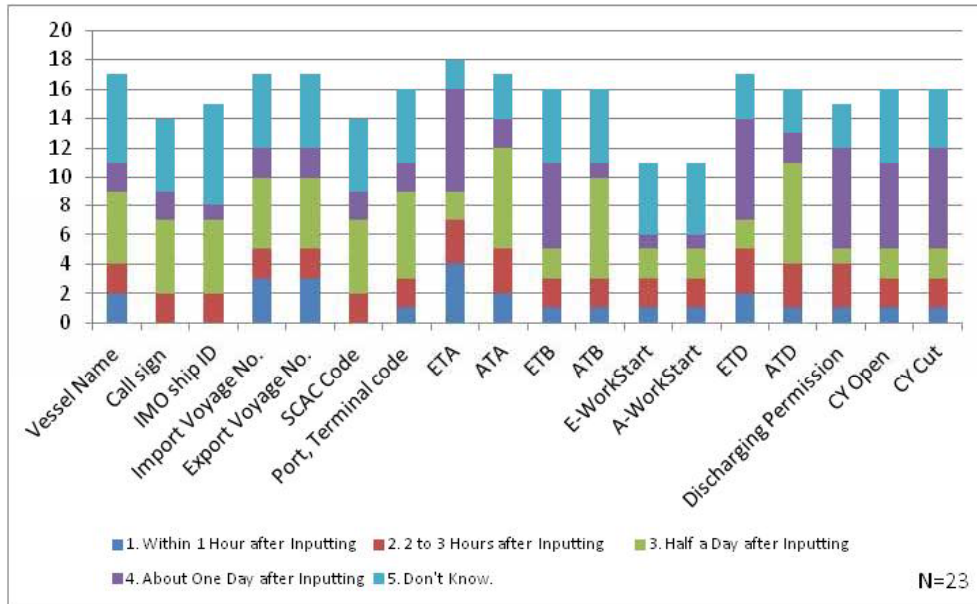
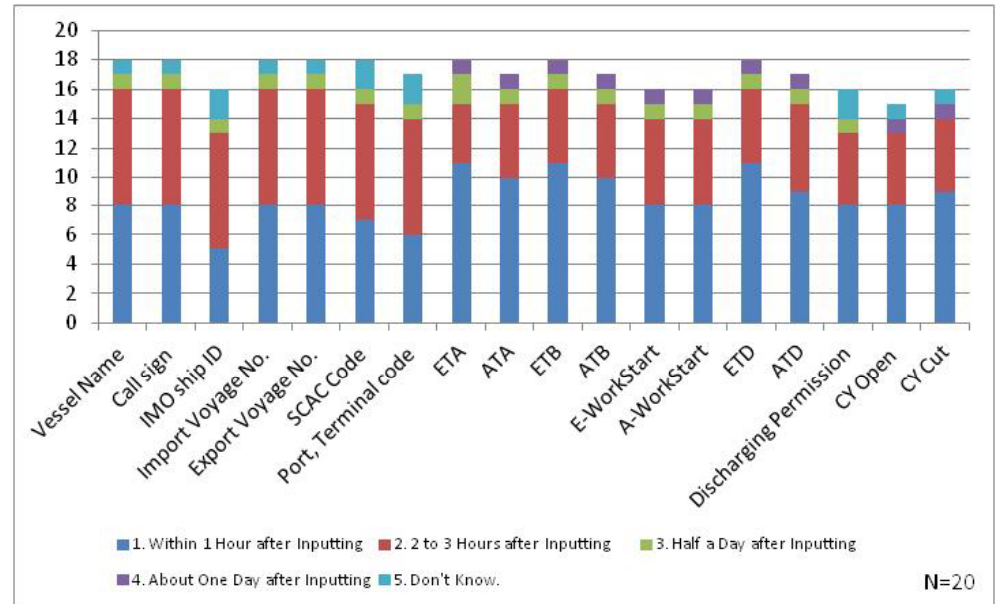


Figure Digitalization status at company system : real-time Vessel Schedule Data: Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

The importance level of export container status digitalization is different from each entities

■ Warehouse, Next port and Bonded area are important items for Shipper/Consignee and Forwarder.

■ Container terminal and Next port are important items for Shipping company and Container terminal.

Figure Digitalization status at company system
Container status of Export: Shipper/Consignee and Forwarder

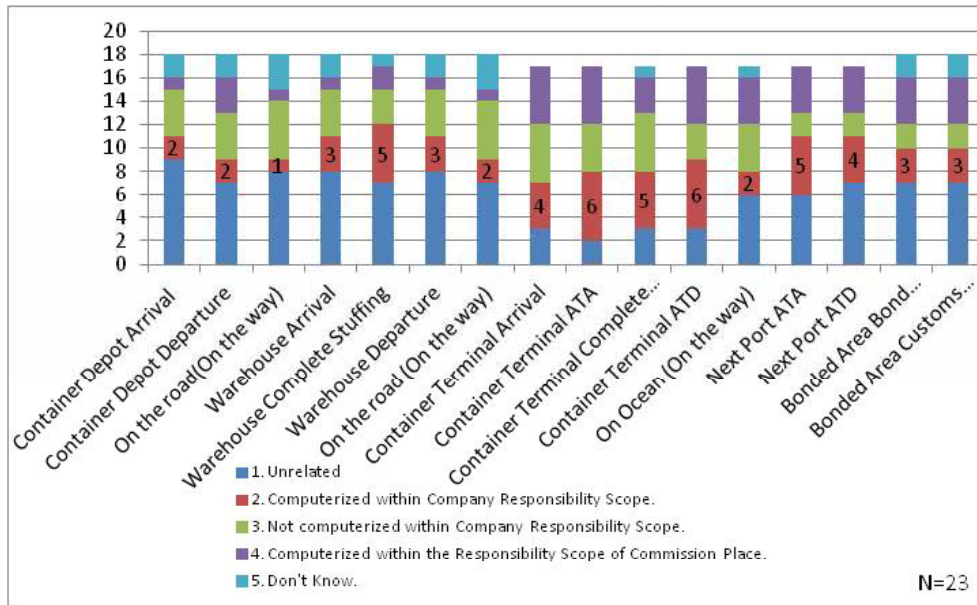
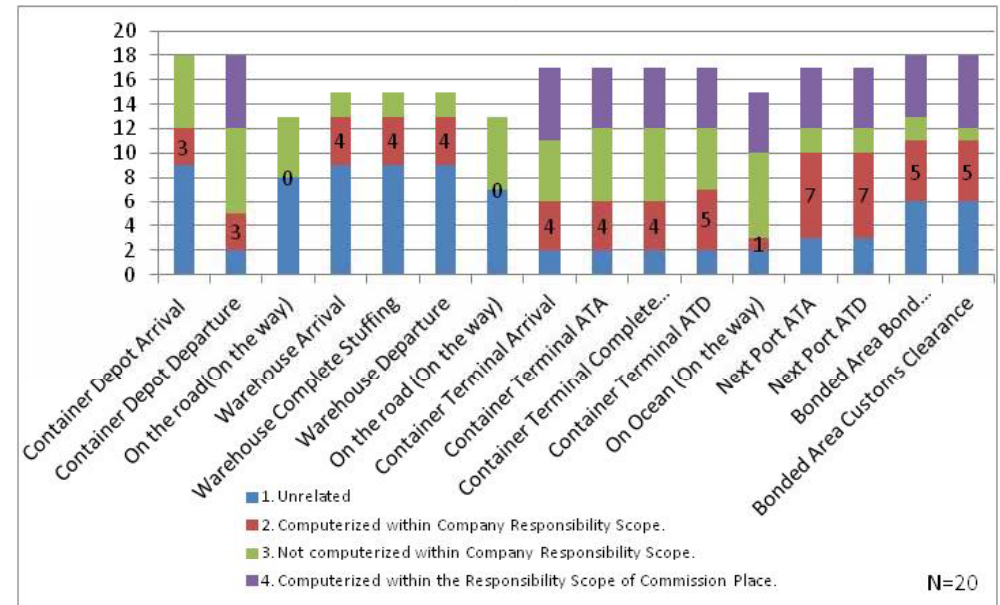


Figure Digitalization status at company system
Container status of Export: Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

Shipping company and Container terminal are interested in real-time

■ The real-time system is important items for Shipper/Consignee and Forwarder at Container Terminal and Next port. Digitalization for them is enough less than half a day regarding in real-time.

■ The real-time system is important items for Shipping company and Container terminal at Container terminal and Next port. Digitalization for them is required less than 3 hours regarding in real-time.

Figure Digitalization status at company system: Real-time Container status of Export: Shipper/Consignee and Forwarder

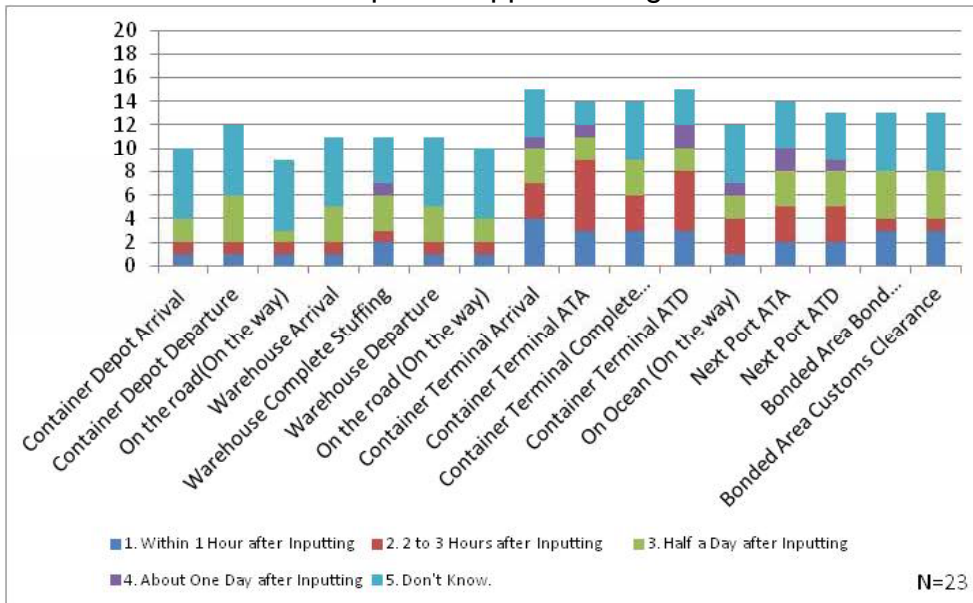
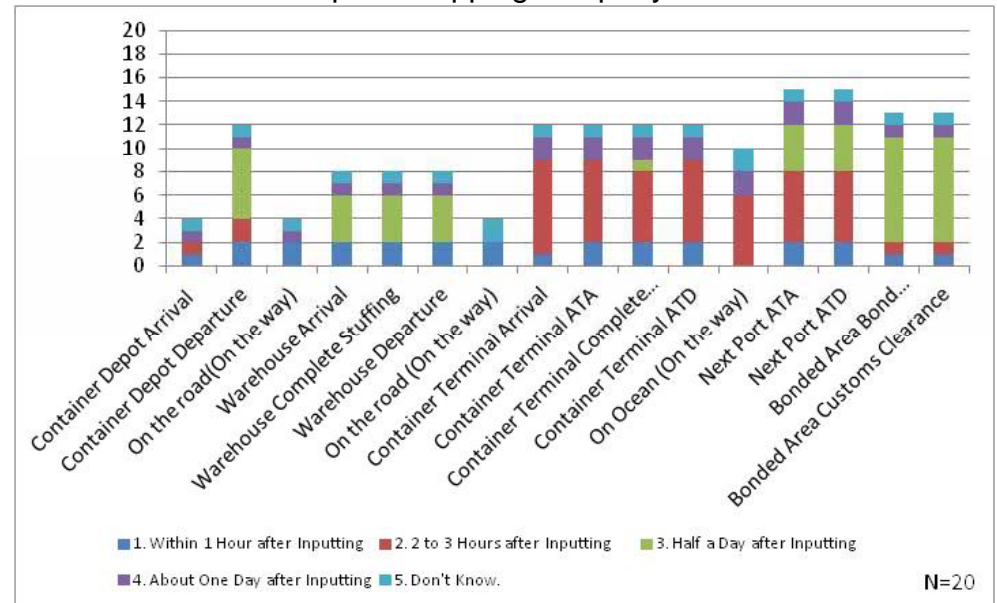


Figure Digitalization status at company system : Real-time Container status of Export: Shipping company and Container terminal



4. Result of questionnaire survey 3) Digitalization status at company system

The importance level of import container status digitalization is different from each entities

■ Warehouse, Container Depot and Bonded area are important items for Shipper/Consignee and Forwarder.

■ Former port, Container terminal and Container Depot are important items for Shipping company and Container terminal.

Figure Digitalization status at company system
Container status of Import: Shipper/Consignee and Forwarder

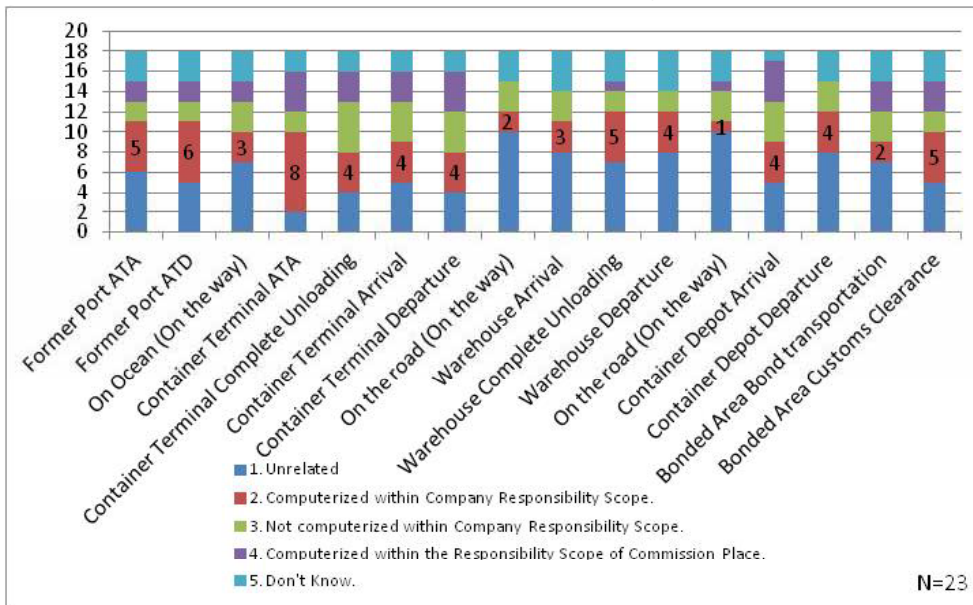
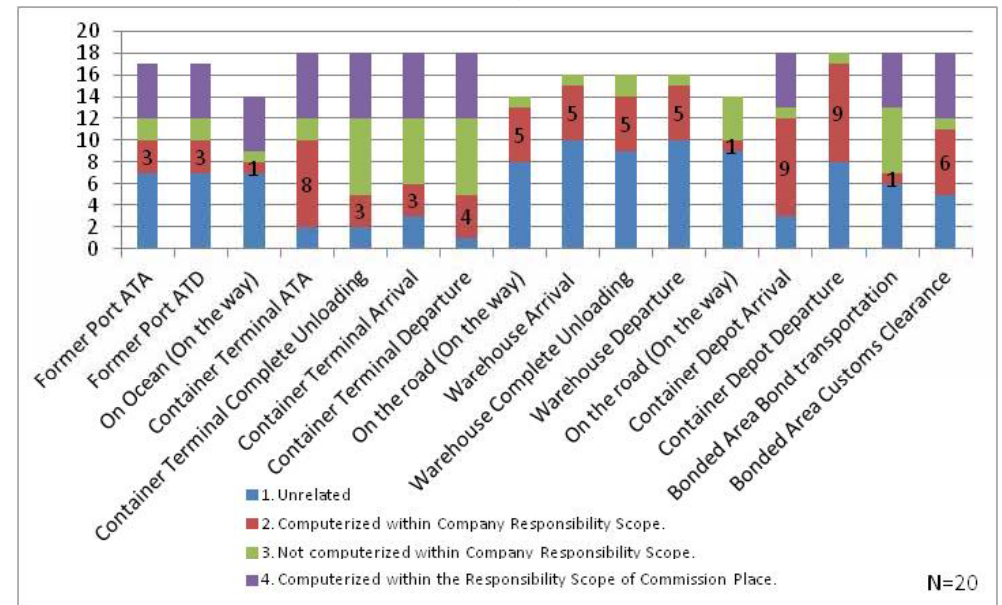


Figure Digitalization status at company system
Container status of Import: Shipping company and Container terminal

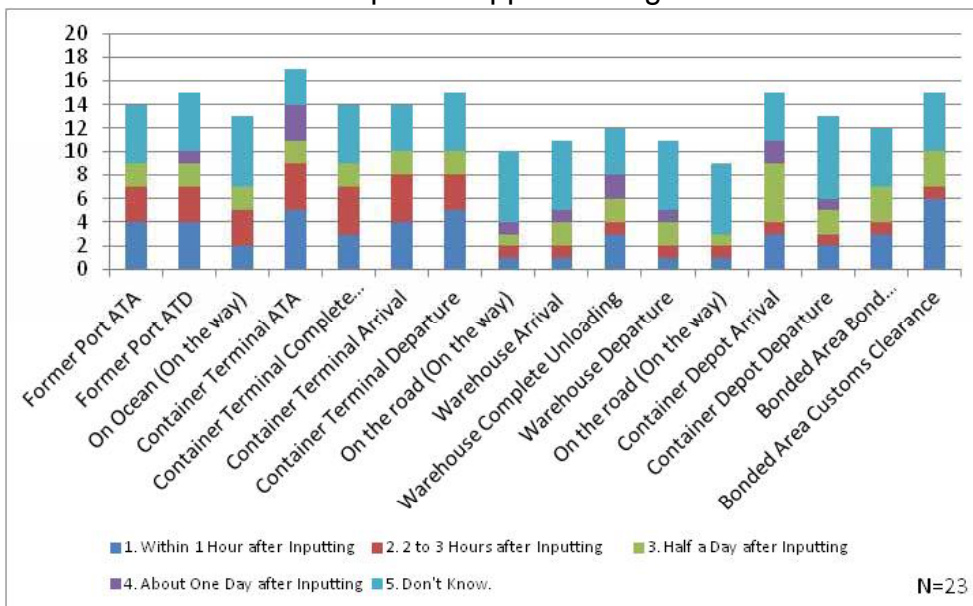


4. Result of questionnaire survey 3) Digitalization status at company system

Shipping company and Container terminal are sensitive to real-time

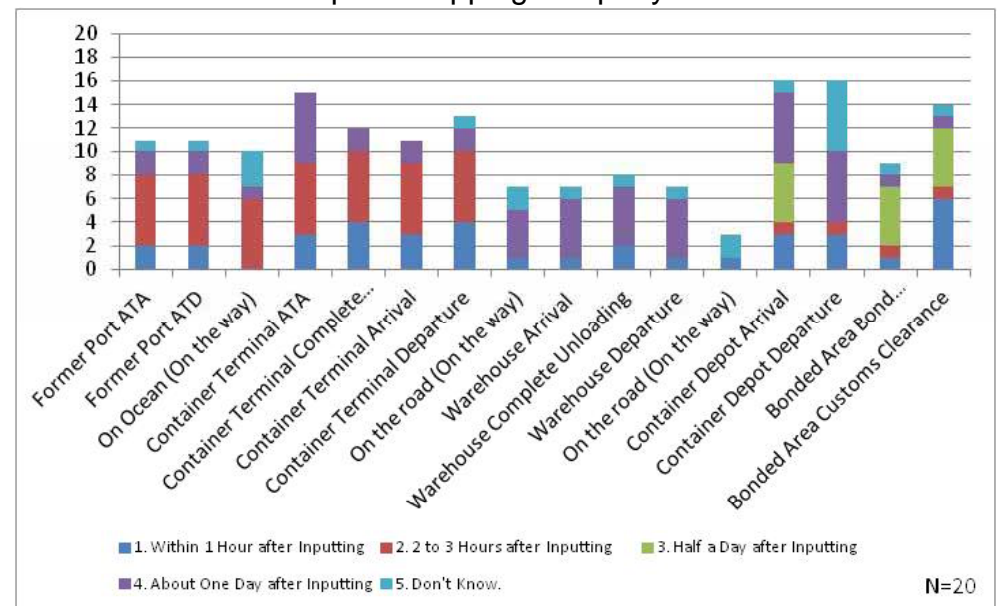
■ The real-time system is important items for Shipper/Consignee and Forwarder at Container Terminal, Warehouse, Container Depot and Bonded area. Digitalization for them is enough less than one day regarding in real-time.

Figure Digitalization status at company system: real-time Container status of Import: Shipper/Consignee and Forwarder



■ The real-time system is important items for Shipping company and Container terminal at Former port and Container terminal. Digitalization is less than 3 hours after an input.

Figure Digitalization status at company system : real-time Container status of Import: Shipping company and Container terminal



4. Result of questionnaire survey 4) Conditions when providing information

Vessel Schedule data may be indicated to anyone

- “You May Indicate to Anyone. ” about Vessel Schedule Data accounts for majority.
- Shipping company and Container terminal think vessel schedule more feasible than Shipper/Consignee and Forwarder do.

Figure Conditions when providing information
Access authority to Vessel Schedule Data: All

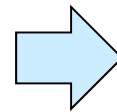
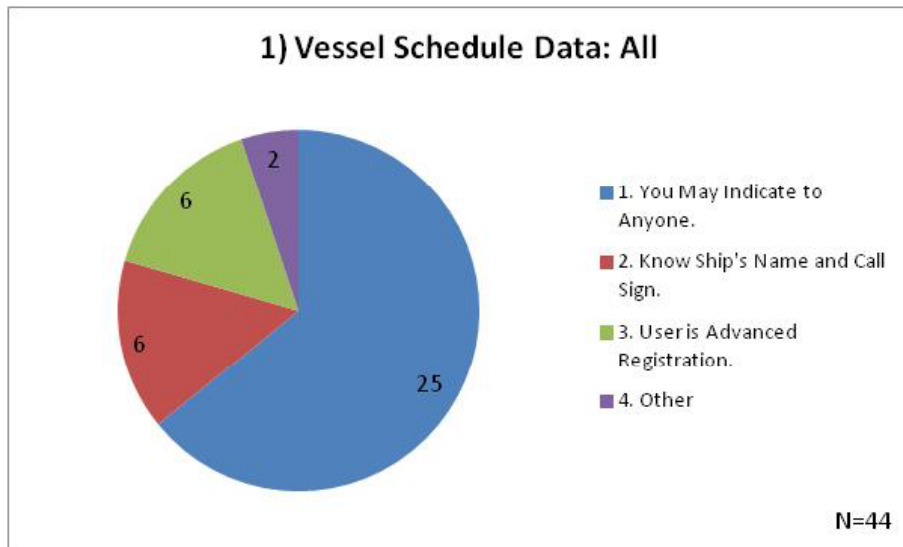
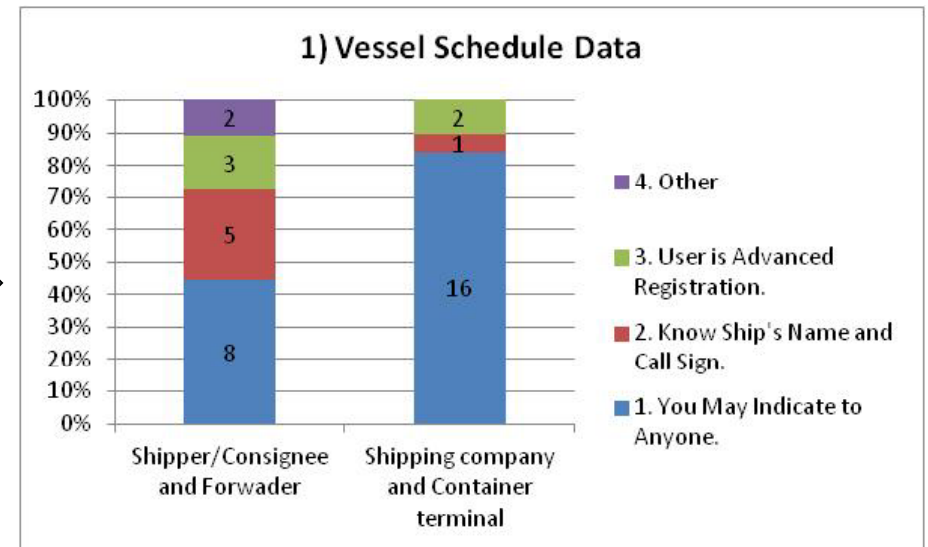


Figure Contents of the information items to be shared
Access authority to Vessel Schedule Data



4. Result of questionnaire survey 4) Conditions when providing information

Query key for Vessel schedule data is Vessel name & Voyage Number

- “Vessel name & Voyage Number” about Vessel Schedule Data accounts for majority.
- Shipping company and Container terminal think Vessel name and Voyage Number more feasible than Shipper/Consignee and Forwarder do.

Figure Conditions when providing information
Search key for Vessel Schedule Data: All

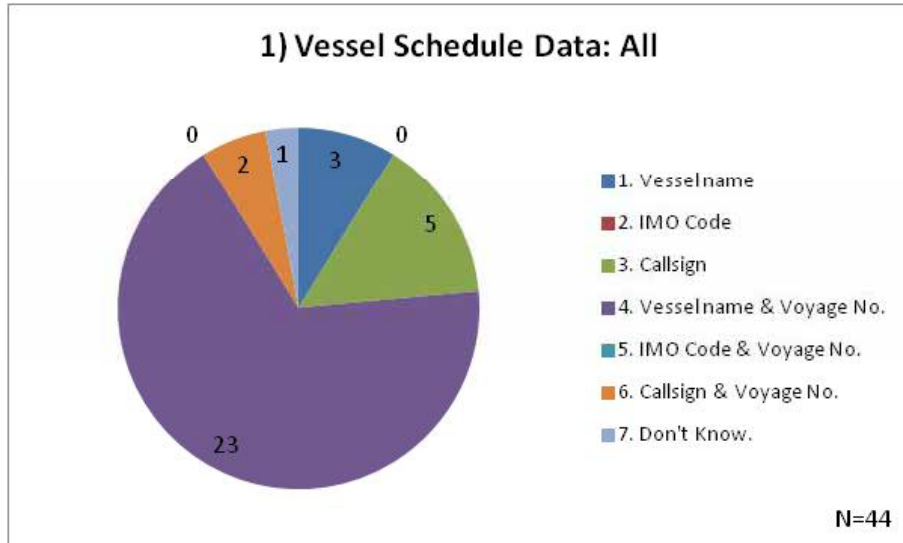
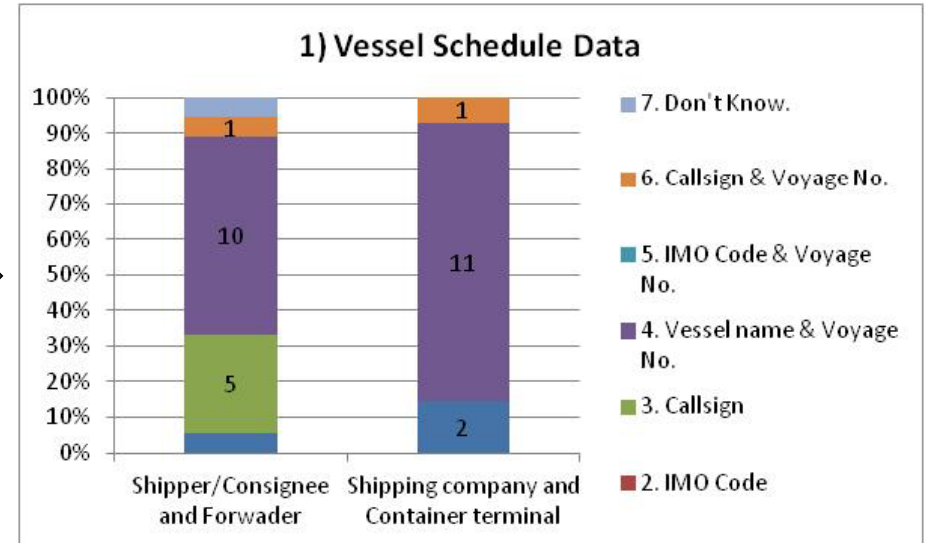


Figure Contents of the information items to be shared
Search key for Vessel Schedule Data



4. Result of questionnaire survey 4) Conditions when providing information

The indication of Container Status data between Port to Port requires a user's advanced registration

- A user's advanced registration is indispensable to the indication of Container Status data between Port to Port.
- Shipper/Consignee and Forwarder think advanced registration more feasible than Shipping company and Container terminal do.

Figure Conditions when providing information
Access authority to Port to Port Container Status data: All

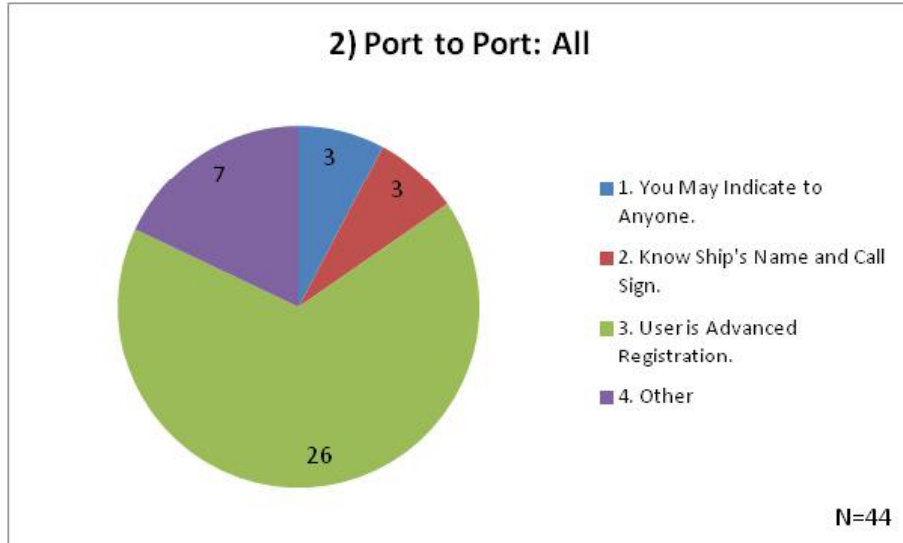
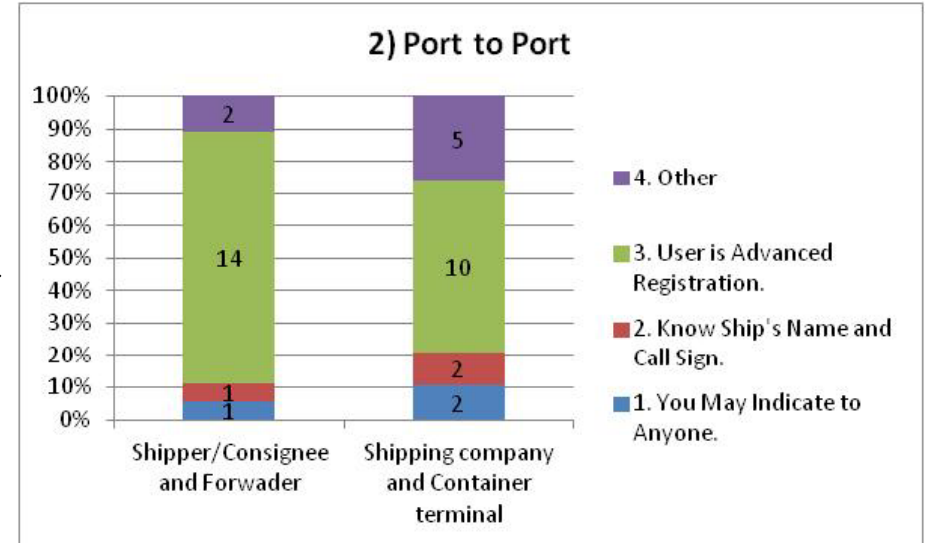


Figure Contents of the information items to be shared
Access authority Port to Port Container Status data



4. Result of questionnaire survey 4) Conditions when providing information

Query key for Container Status data between Port to Port is Container No. with Booking No. or BL No.

- “Container number with Booking number or Bill of Lading number ” about Container Status data between Port to Port accounts for majority.
- Shipping company and Container terminal thinks “Container No. with Booking No. or BL No.” more important items than Shipper/Consignee and Forwarder do.

Figure Conditions when providing information
Search key for Port to Port Container Status data : All

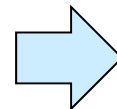
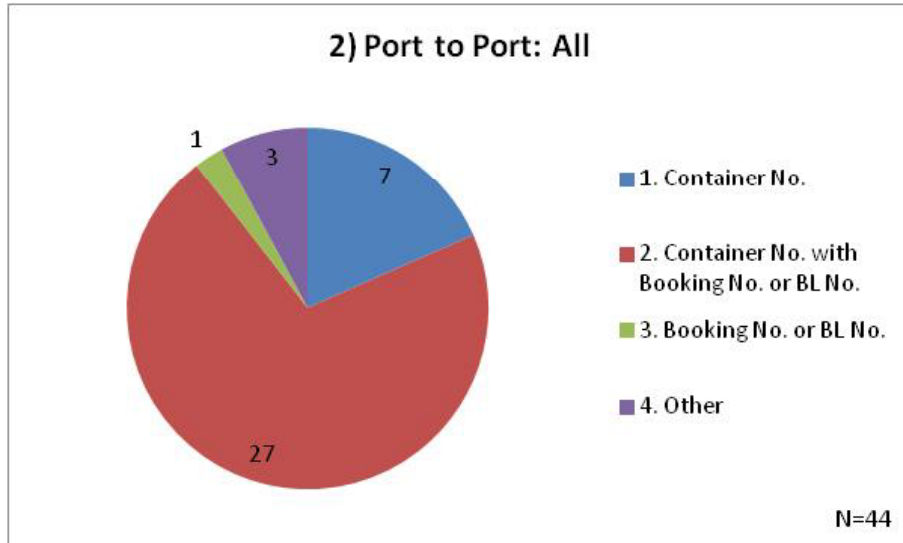
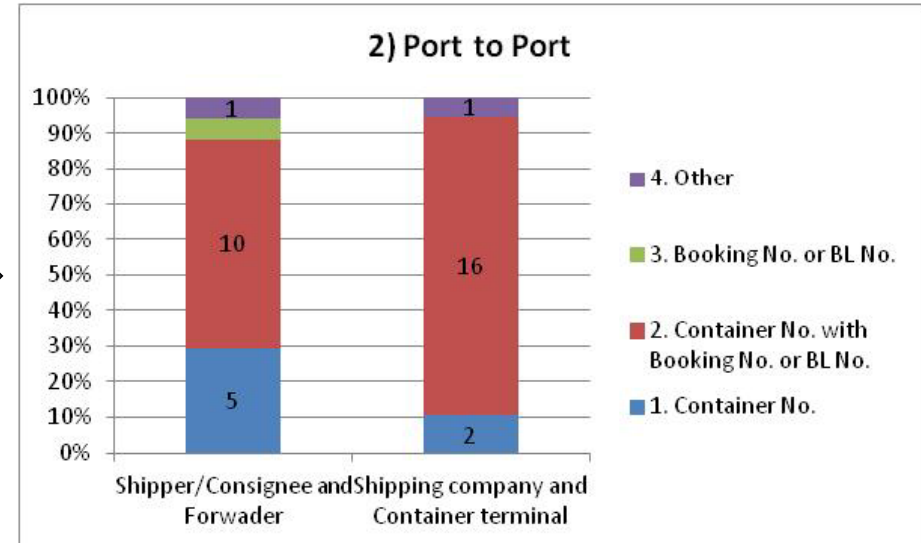


Figure Contents of the information items to be shared
Search key for Port to Port Container Status data



4. Result of questionnaire survey 4) Conditions when providing information

The indication of Container Status data between Door to Door requires a user's advanced registration

- A user's advanced registration is indispensable to the indication of Container Status data between Door to Door.
- Shipper/Consignee and Forwarder think advanced registration more feasible than Shipping company and Container terminal do.

Figure Conditions when providing information
Access authority to Port to Port Container Status data: All

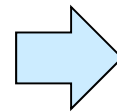
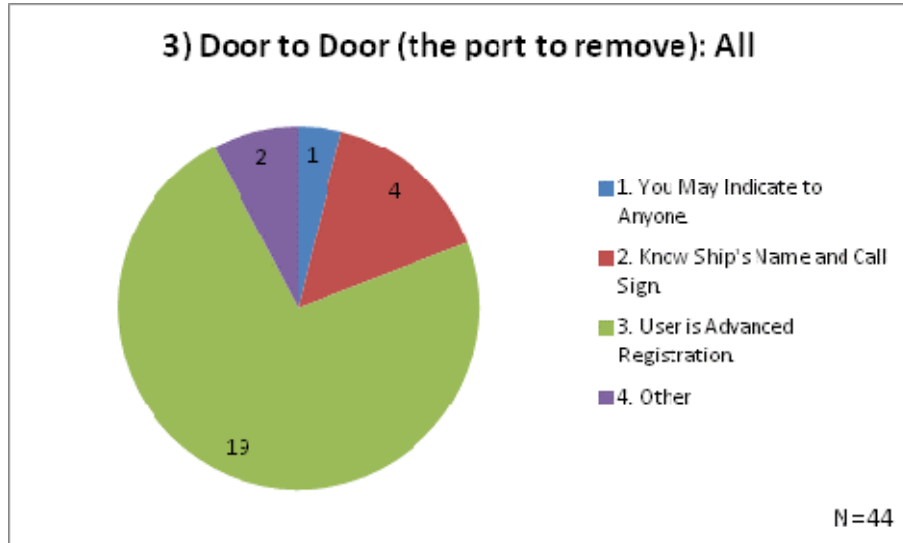
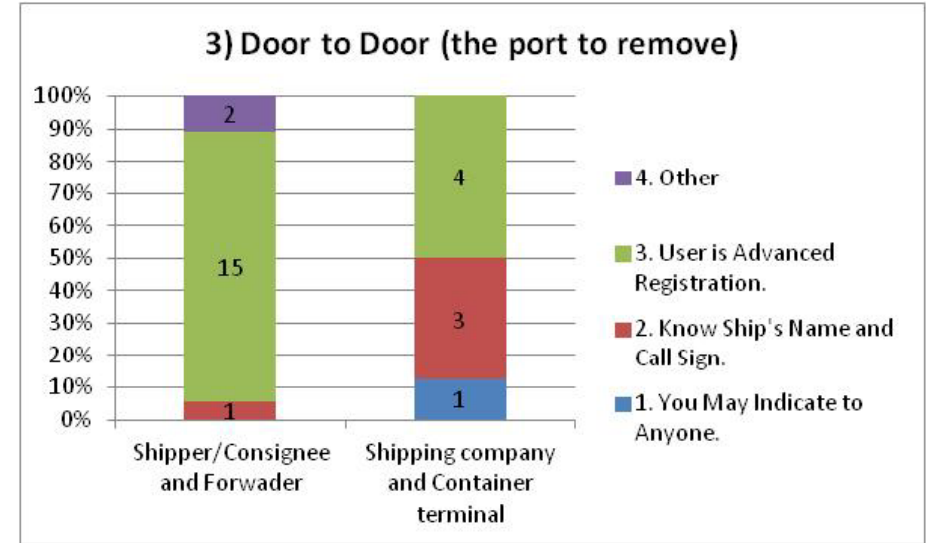


Figure Contents of the information items to be shared
Access authority Port to Port Container Status data



4. Result of questionnaire survey 4) Conditions when providing information

Query key for Container Status data between Door to Door is Container No. with Booking No. or BL No.

- “Container number with Booking number or Bill of Lading number ” about Container Status data between Door to Door accounts for majority.
- Shipping company and Container terminal thinks “Container No. with Booking No. or BL No.” more important items than Shipper/Consignee and Forwarder do.

Figure Conditions when providing information
Search key for Door to Door Container Status data : All

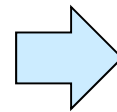
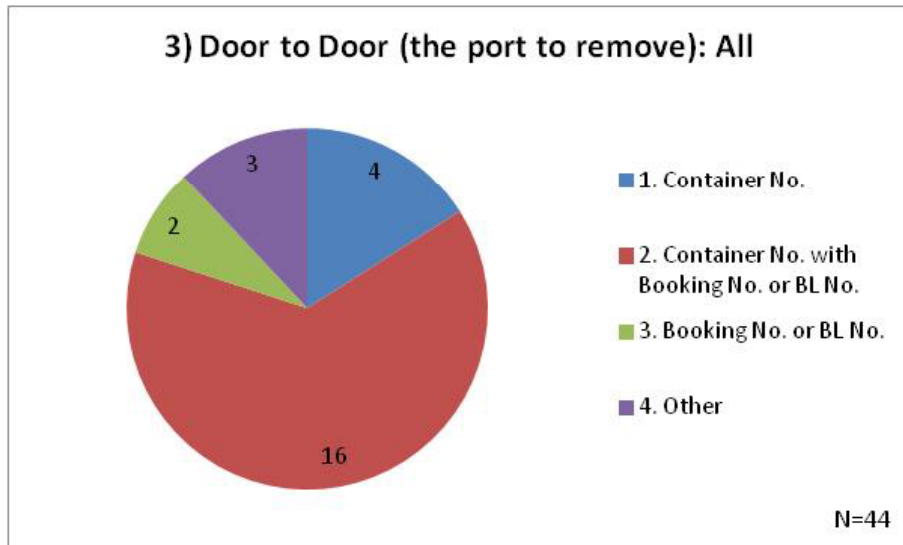
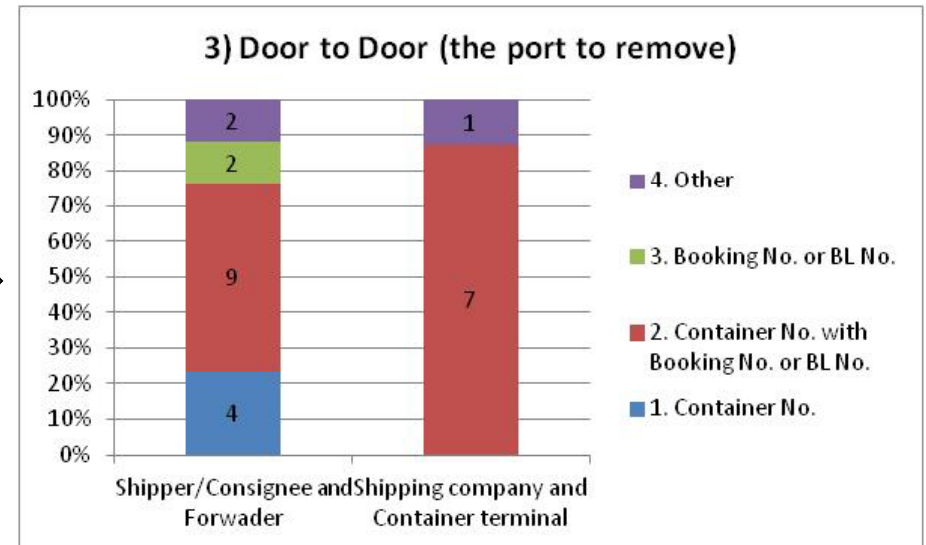


Figure Contents of the information items to be shared
Search key for Door to Door Container Status data



4. Result of questionnaire survey 5) Information systems to provide visibility information under present conditions

Visibility information has been provided by both public and private sector

- Six systems have been grasped from three economies utilizing the system to obtain the Visibility information.
- Public sector could also provide the Visibility information by their own system.

Table Information systems to provide visibility data at APEC economy

System name	System provider	System purpose	System conditions of use	Cost of use	Economy of User
unipass	The Korea Customs Service(KCS)	to facilitate customs filings	officially registered member	1. No charge	Hong Kong
Customs Control System	Hong Kong Customs	To provide vessel's information to Customs officers for risk profiling and reference	For Customs internal use	1. No charge	Hong Kong
SAP R3	SAP	to keep track all shipment info (internal use)	don't know	1. No charge	Korea
cTradeworld	KTNET	to lodge cargo manifest	authorized member	3Charge (the Amount of Meter-rate)	Korea
Colins	Ministry of Land, Infrastructure, Transport and Tourism	Shared Visibility of Vessel and Container	member qualified by Advanced Registration	1. No charge	Japan
NACCS	Ministry of Finance Customs and Tariff Bureau	Cutoms clearance	member qualified by Advanced Registration (only Shipper/Consignee, Customs broaker and Bonded Area)	3Charge (the Amount of Meter-rate)	Japan

4. Result of questionnaire survey 6) Evaluation of this questionnaire
Ease of use and Significant nature of visibility information were evaluated high score

- Since there were a little bit complicated data under the present circumstances in contents of the questionnaire, they are assumed the questionnaire to be difficult to understand.
- The reply method, which is an input into Excel file, is highly evaluated.
- While we can point out the Visibility information high concern, it is also the case that uninterested peoples may not have answered.

Figure Evaluation of this questionnaire
Questionnaire contents

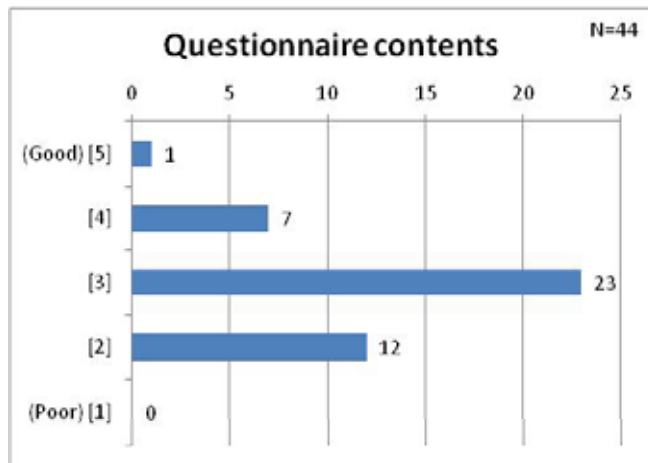


Figure Evaluation of this questionnaire
Ease of use

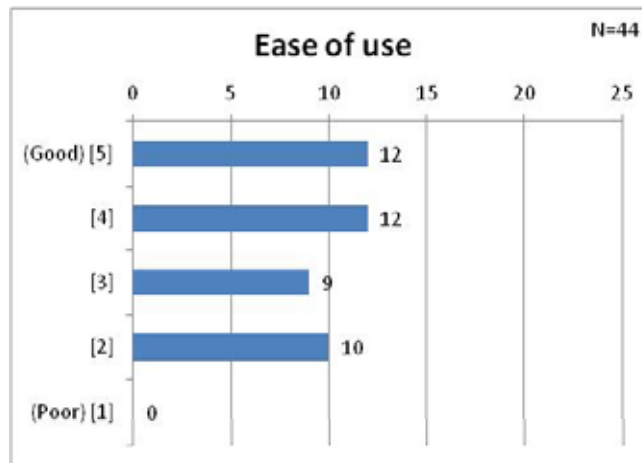
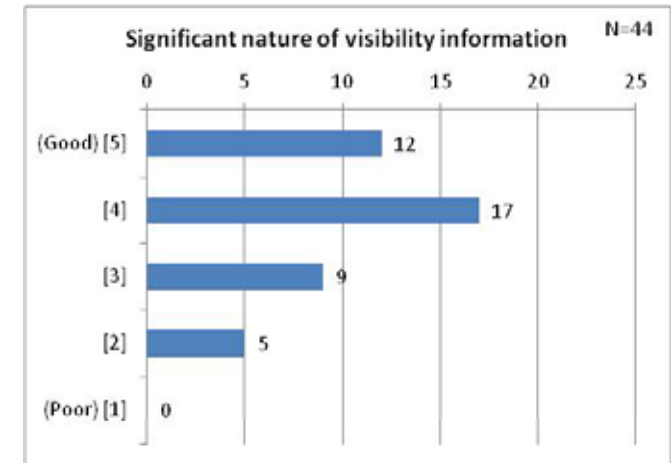


Figure Evaluation of this questionnaire
Significant nature of visibility information



5. The conclusion of an analysis result

The ideal visibility data proposal of Vessel and Container Status

- In addition to the following information items, the schedule information such as ETA, ETB and ETD on a vessel is important items . If possible, the real-time of less than 3 hours is required.

Table Vessel and Container Status Data (Export)

When	Where	Why	What	class	Importance
YMD HHMMSS	Container Depot	Arrival	Truck	B	Middle
YMD HHMMSS	Container Depot	Departure	Container	B	High
YMD HHMMSS	On the road	On the way	Container	-	Low
YMD HHMMSS	Warehouse	Arrival	Container	B	High
YMD HHMMSS	Warehouse	Complete Stuffing	Container	B	High
YMD HHMMSS	Warehouse	Departure	Container	B	High
YMD HHMMSS	On the road	On the way	Container	-	Low
YMD HHMMSS	Container Terminal	Arrival	Container	A	High
YMD HHMMSS	Container Terminal	ATA	Vessel	A	High
YMD HHMMSS	Container Terminal	Complete Loading	Container	A	High
YMD HHMMSS	Container Terminal	ATD	Vessel	A	High
YMD HHMMSS	On Ocean	On the way	Vessel	-	Low
YMD HHMMSS	Next Port	ATA	Vessel	A	Middle
YMD HHMMSS	Next Port	ATD	Vessel	A	Middle
YMD HHMMSS	Bonded Area	Bond transportation	Container	A	Low
YMD HHMMSS	Bonded Area	Customs Clearance	Container	B	High

Table Vessel and Container Status Data (Import)

When	Where	Why	What	class	Importance
YMD HHMMSS	Former Port	ATA	Vessel	A	Middle
YMD HHMMSS	Former Port	ATD	Vessel	A	Middle
YMD HHMMSS	On Ocean	On the way	Vessel	-	Low
YMD HHMMSS	Container Terminal	ATA	Vessel	A	High
YMD HHMMSS	Container Terminal	Complete Unloading	Container	A	High
YMD HHMMSS	Container Terminal	Arrival	Truck	A	High
YMD HHMMSS	Container Terminal	Departure	Container	A	High
YMD HHMMSS	On the road	On the way	Container	-	Low
YMD HHMMSS	Warehouse	Arrival	Container	B	High
YMD HHMMSS	Warehouse	Complete Unloading	Container	B	High
YMD HHMMSS	Warehouse	Departure	Container	B	High
YMD HHMMSS	On the road	On the way	Container	-	Low
YMD HHMMSS	Container Depot	Arrival	Container	B	High
YMD HHMMSS	Container Depot	Departure	Truck	B	Middle
YMD HHMMSS	Bonded Area	Bond transportation	Container	B	Low
YMD HHMMSS	Bonded Area	Customs Clearance	Container	B	High

Note) Class A:Port to Port, B:Door to Door, -:On the way

5. The conclusion of an analysis result

How to share the Vessel schedule data and the Container Status data

- Basically Vessel Schedule data may be indicated to anyone.
- Query key for Vessel schedule data is Vessel name & Voyage Number.
- The indication of Container Status data requires a user's advanced registration.
- Query key for Container Status data is Container number with Booking number or Bill of Lading number.

Table How to share the Vessel schedule data and the Container Status data

	Vessel Schedule data	Container Status data
Access authority	Indicate to anyone	User's advanced registration
Query key	Vessel name & Voyage Number	Container number with Booking number or Bill of Lading number