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# Barriers to Global Maritime Trade

*Business Perspectives on Trade Barriers  
and Frictions in the Pacific Rim*


**University of Southern California**  
Marshall School of Business

Busan, Korea  
November 15, 2005



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## Exponential growth initiates potential crisis



**“With the relentless shift of global manufacturing to Asia, particularly China, container volumes will triple by 2020”**  
 -Global Consulting Firm

**“An 11 day shutdown of ports of Long Beach and Los Angeles in 2002 led to an estimated loss of US\$15.6 Billion”**  
 -Global Consulting Firm

**“We had to wait 9 days for berths to open up at a West coast port. This delay and other lost voyages cost us US\$ 27 million last year”**  
 -Global Shipping Company


Trade volume increasing faster than system capacity

↓

Extremely high transaction costs

↓

Ripple effect through system



## Exponential growth initiates potential crisis

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Extremely high transaction costs

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Ripple effect through system



## Project objectives




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**APEC establishes...**  
Bogor Goals

**ABAC provides...**  
Business Perspective

**USC researches...**  
 Barriers to shipping and trade  
 Best practices to facilitate flow of goods  
 How new technology can be leveraged  
 How security concerns impact the flow of goods

Objectives

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What We Learned


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Best Practices

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## Key messages for APEC

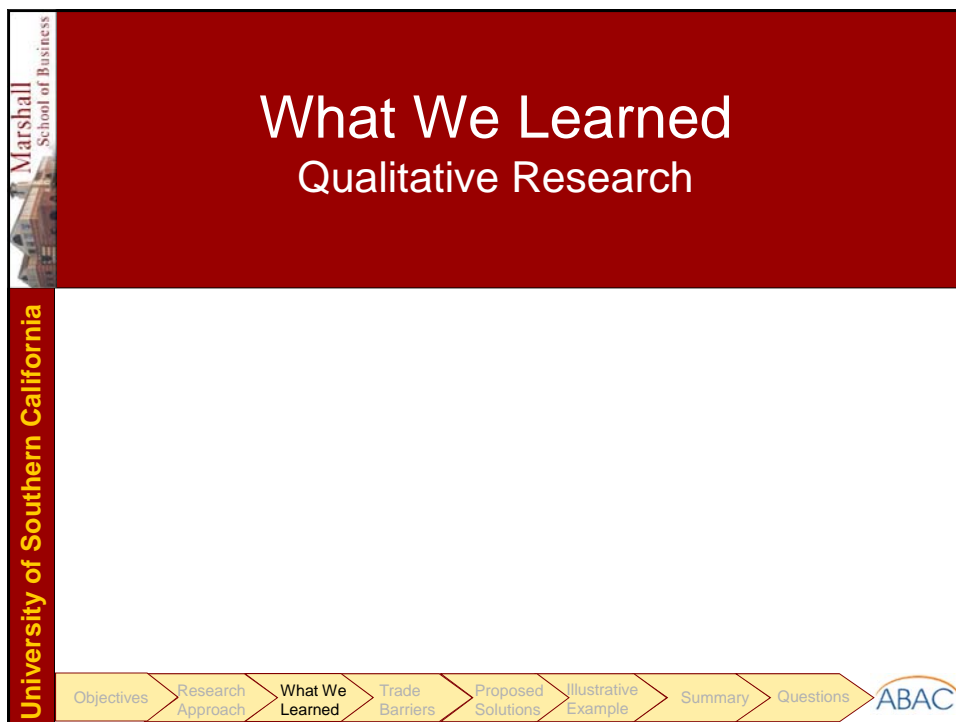
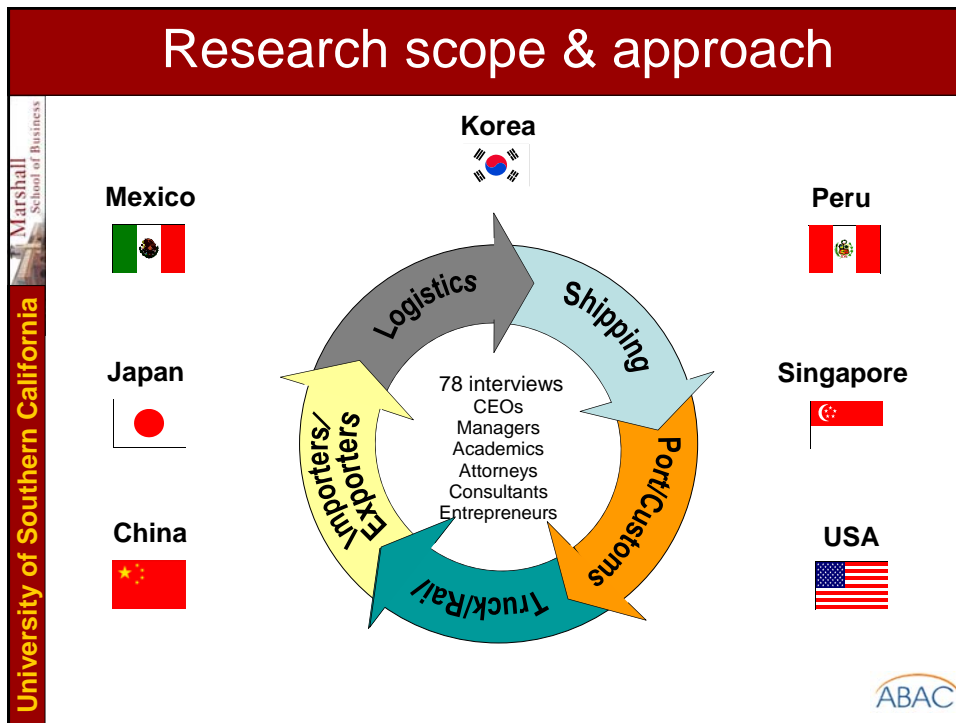
Conflict of interests and unique underlying factors within an economy cause barriers

Prevent companies from progress towards Bogor Goals

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## Presentation agenda

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## Findings

Free  
Open  
Trade

Capacity Constraints

Information Barriers

Security Barriers

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## Businesses had different concerns

<p><b>IMPORTERS &amp; EXPORTERS</b></p> <ul style="list-style-type: none"> <li>•24-hr rule causes issues in logistics</li> <li>•Concern about sharing sensitive data</li> </ul>	<p><b>SHIPPING COMPANIES</b></p> <ul style="list-style-type: none"> <li>•24-hr rule helps Shippers plan</li> <li>•Concern about smart containers</li> </ul>
<p><b>FREIGHT FORWARDERS</b></p> <ul style="list-style-type: none"> <li>•Difficult to share information</li> <li>•Few information standards</li> </ul>	<p><b>PORTS &amp; CUSTOMS</b></p> <ul style="list-style-type: none"> <li>•Capacity is a key issue</li> <li>•Need education across economies</li> </ul>

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## Economies shared some concerns

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*“Our company contracts with about 10 different carriers in Singapore... lack of common software becomes problematic and increases costs.”*  
Supply Chain Manager  
Multinational, Singapore

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*“Our company is trying to compete globally but ... There are no guiding standards and lots of differences in the existing systems”*  
Major Exporter, Mexico

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## Notable findings

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Destination is bottleneck	➔	Expansions are at origin and en route
Technology advances facilitate information flow	➔	Lack of communication and standards; digital divide widens
Security driven by USA; Supported by others	➔	New measures do not tackle theft/ contraband

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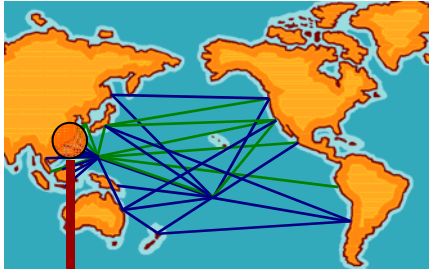
## Trade Barriers Analysis of Findings

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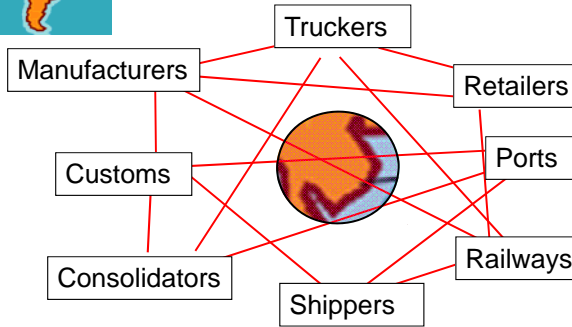
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## Trade is complex on a global & local level

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**Multi-directional flow of goods and information between constituents creates a highly integrated system**



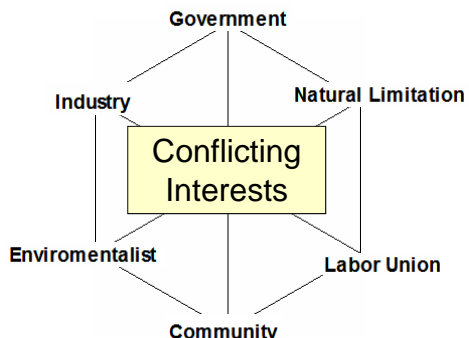
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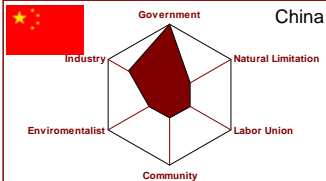
## Power dynamics differ across economies


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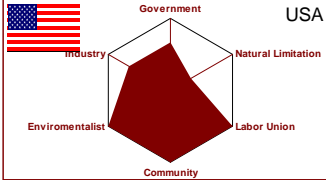



**China**



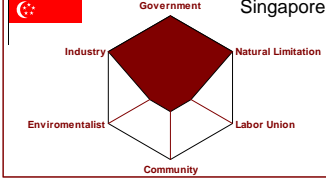


**USA**






**Singapore**



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## Capacity restricted by more than lack of space

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### Capacity Constraints

- System-wide issue
- Conflicts among six forces
- Ex: USA Port of LB/LA environmental concern

```

                    graph TD
                        A[Environmental concerns] --> B[Opposition to expand truck routes]
                        B --> C[Trucks waiting in queue]
                        C --> D[More pollution]
                    
```

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## Lack of sharing & standards creates info barriers

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### Information Barrier

- Conflicts between two forces
- Lack of information sharing
- Few technology resources
- Few standards

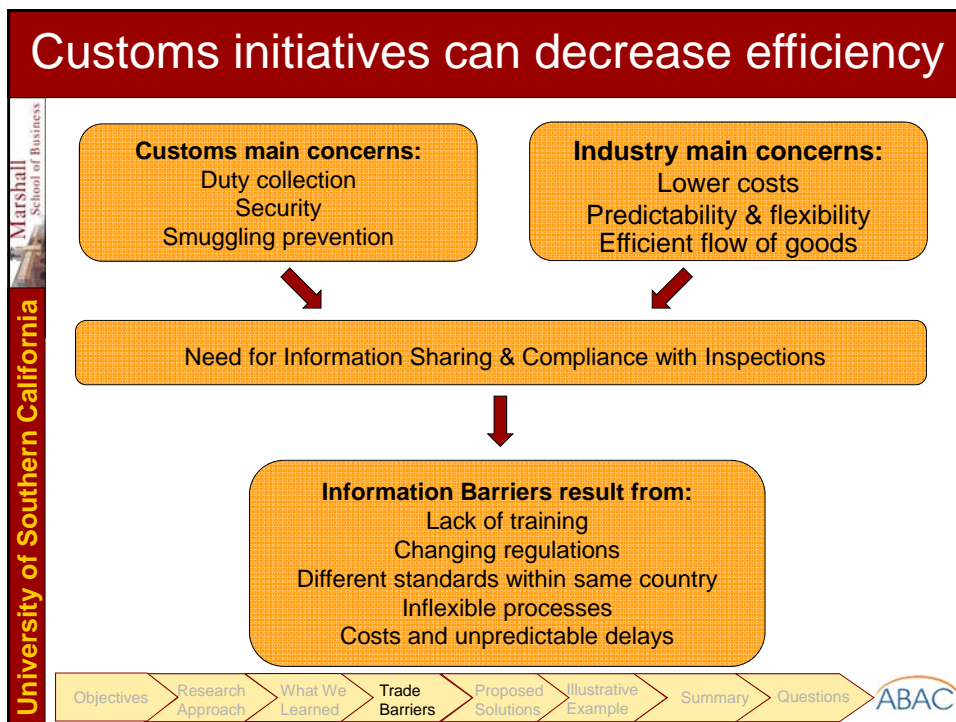
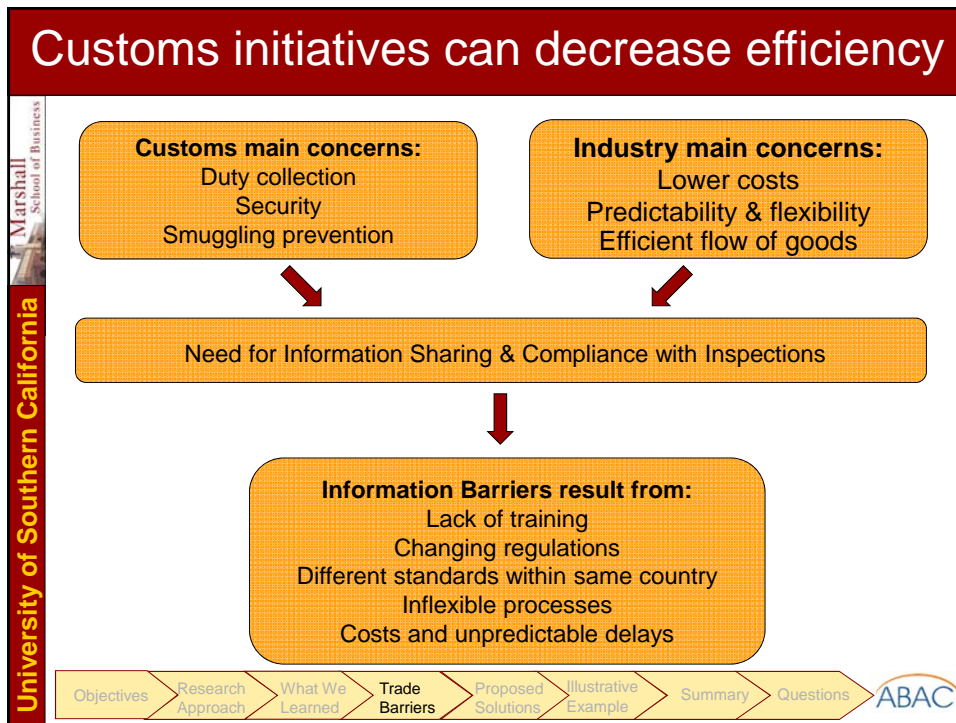
```

                    graph TD
                        A[Industry Importer] <--> B[Customs Importer]
                        B <--> C[Customs Exporter]
                        C <--> D[Industry Exporter]
                    
```

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## Complexity in regulations creates security barriers

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Security Barrier

- Regulations
- Lack of education
- Different level of security concerns and regulations in different economies

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## 24 hour rule exemplifies conflict of interest

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Impact on Economies

**Technologically advanced economies**

- May lose some of their efficiency advantage (Japan)

AS OPPOSED TO...

**Labor rich economies**

- Can more easily absorb the added cost (China)

Impact on Companies

**Shipping Companies**

- Some shippers *increased efficiency*

AS OPPOSED TO...

**Export Companies**

- A large Japanese exporter *lost ten years of progress*

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## Three main barriers prevent free open trade

### Capacity Constraints

- System-wide issue
- Conflicts among six forces

### Information Barrier

- Conflicts between two forces
- Lack of information sharing
- Few technology resources
- Few standards

### Security Barrier

- Regulations
- Lack of education
- Different level of security concerns and regulations in different economies

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## Precision gained from separate analysis


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# Proposed Solutions and Best Practices

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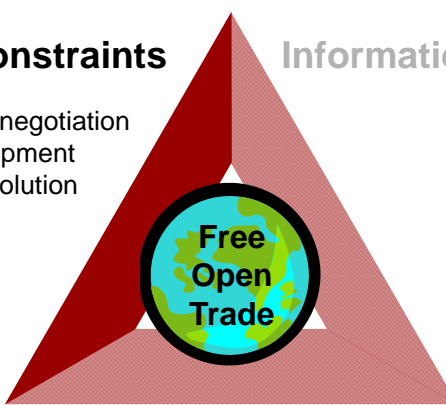
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## Solutions to capacity barriers

**Capacity Constraints**


- Common goal negotiation
- Advanced equipment
- System-wide solution



**Information Barrier**

**Security Barrier**

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## Collaboration helps overcome capacity constraints

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### Advanced Equipment

- Multi-container hoist systems
- Gantry Cranes with longer reaches

### Common Goal Negotiation

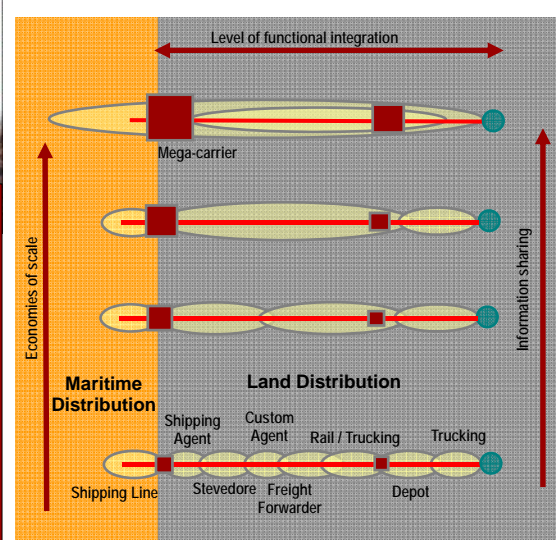
Off Dock Terminals

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## System wide solution

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Maritime Distribution: Shipping Line, Shipping Agent  
 Land Distribution: Stevedore, Freight Forwarder, Custom Agent, Rail / Trucking, Trucking, Depot

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- Increase visibility
- Better planning
- Improve efficiency

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## Solutions to information barriers

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### Information Barrier

- Information technology
- Standards
- Information sharing

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## Supporting common standards

Confusion **costs** money

- Cannot compare
- Enables false documents
- Inefficient transfer of info

➔

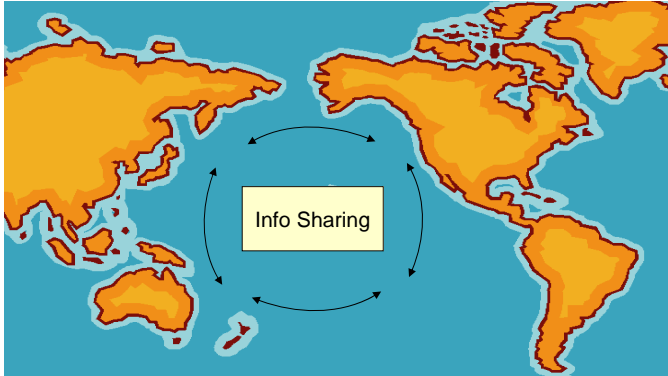
Save money

- Easier to compare
- More quality
- Increased efficiency

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## Promote information sharing

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**Share Customs Info**  
 Increases Efficiency

**Leverage Tiered System**  
 Creates Incentives

**Communicate Errors**  
 Improves Processes

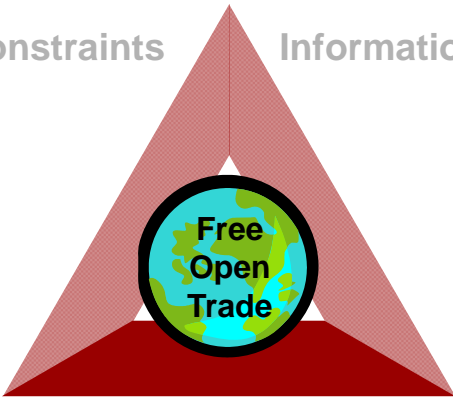
**Communicate Priorities**  
 Reduces Costs

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## Solutions to barriers

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Capacity Constraints
Information Barrier



Free Open Trade

Security Barrier

- Technology
- Standard
- Coordination
- Education

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# Overcoming security barriers

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## Container

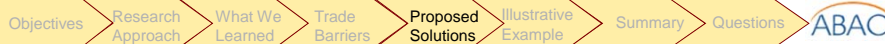


- Smart containers
- Electronic Seals
- RFID

## Transportation Route

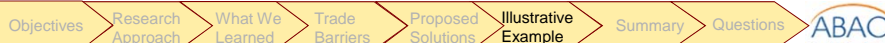


- C-TPAT
- CSI
- WCO Framework of Standards
- RFID
- X-ray/ Gamma Gates and Portals



# Illustrative Example

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## Increased inspections create significant delays

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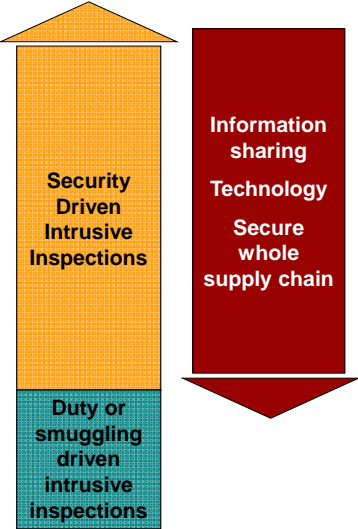
*“Security checks add about 1 week lead time (3 weeks worst case) and sometimes force the exporting company to sell merchandise at a substantial discount to the retailer”*

*Chinese Exporter*

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## Reducing port inspections as part of a wider effort

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A systemic approach to reduce intrusive inspections and resulting delays.

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## Lack of resources to inspect contributes to delays

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*“Customs will randomly check about 5% to 10% of containers. But ... there are few officers from US Customs. As a result the checks waste a lot of time.”*  
 US Importer

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## Better targeting can reduce inspections

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*“Information sharing across customs for background checks would help better target risky containers for inspections.”*  
 US Security Specialist

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## Inadequate & inaccurate info increases checks

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*“We must educate our clients by regularly distributing C-TPAT information, circulars and creating awareness about the 24 hr rule”.*  
*Freight Forwarder*

## Non-intrusive devices can reduce inspections

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- Shipping companies in Singapore suggested setting up radiation portals
- Shipping companies in China suggested having an X-ray gate

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# Ports should not be the only point of inspection

**Security Driven Intrusive Inspections**

**Duty or smuggling driven intrusive inspections**

- Supervised consolidation of cargo at Singapore
- Japan's informal preferential clearance policy

Allocate necessary resources

Share info across customs

Help prevent paper work errors

Sophisticated non intrusive inspections & automation

Decrease risks along the whole supply chain

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# Summary

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## Conflict of interest leads to barriers

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Barriers		Solutions
Capacity constraints	➔	Optimize & increase system capacity
Information barriers	➔	Increased integration/standardization of information resources
Security barriers	➔	Technology solutions

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## Alignment of interests will increase trade facilitation

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Decrease in transaction costs & friction

Transparency

Secure Business Environment

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# APEC needs to champion change

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Responsibility		Action
Coordinate interests	➔	Align incentives, Establish priorities
Support system capacity building	➔	Find ways to fund expansions
Promote education	➔	Support WTO/ WCO

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