

# Single Window (SW) and Paperless Trade Implementation

Success Factors, Lessons Learned & Emerging Trends

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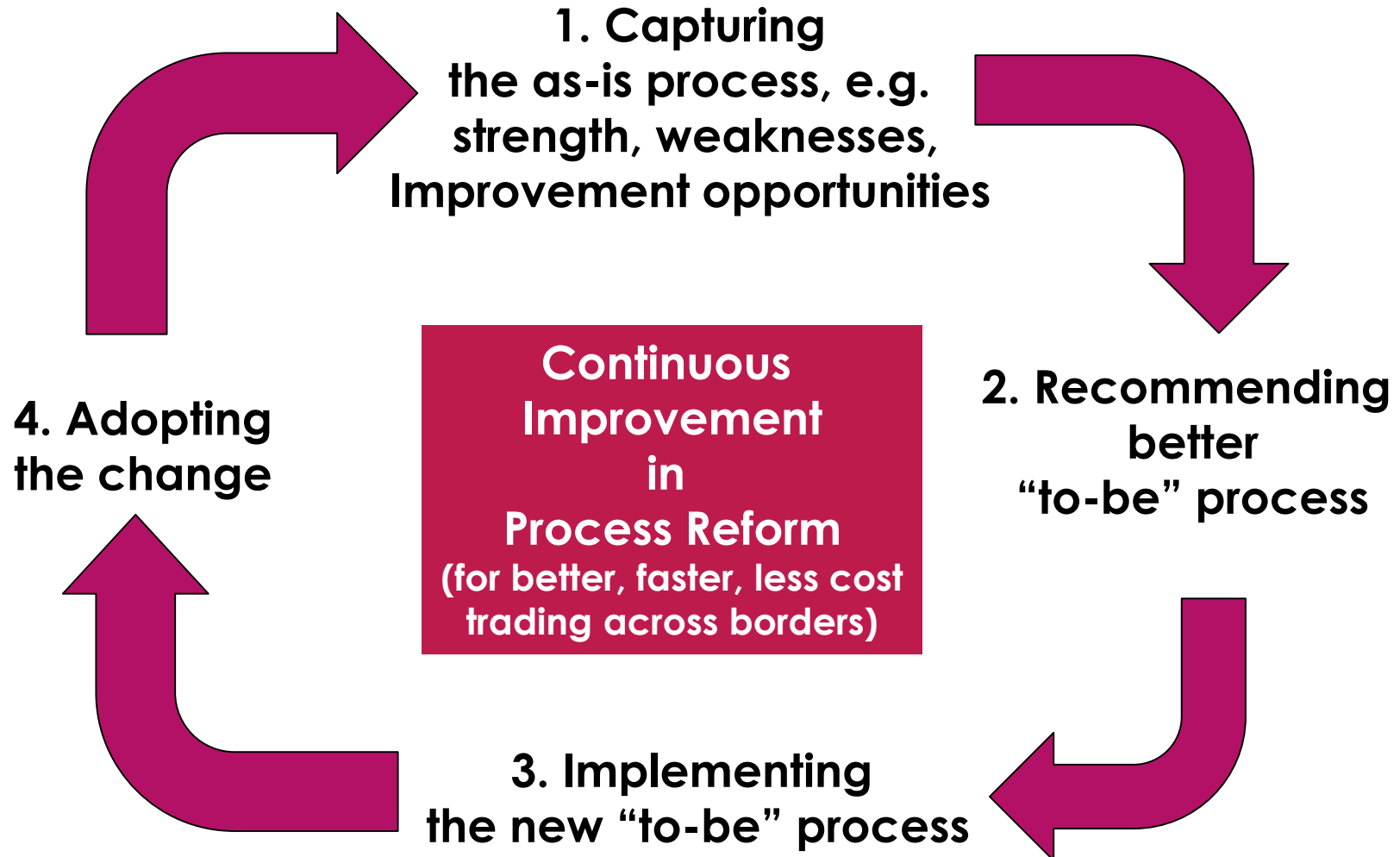


# Topics

- ▶ SW/Paperless Trade Implementation is about Trade Process Reform
  - **Agency Process Reform** within each regulatory agency
  - **Inter-Agency Process Reform** among regulatory agencies
  - **Inter-Government Process Reform** between economies
- ▶ Success Factors & Lessons Learned
- ▶ Emerging Trends
  - **Institution Change** suitable for Innovation/Digital Transform
  - **DevOps** Environment
  - **Cloud Computing & Data Analytics**



# Trade Facilitation (SW/Paperless trade implementation) = Trade Process Reform =





# Goal and Strategy

## [Trade Process Reform]

### Goal:

**Making trading across borders  
better compliant, faster, and less cost**

### A Proposed Strategy:

**To achieve end-to-end digital transformation  
along the cross-border trade supply chain,  
particularly within-agency & inter-agency regulatory  
procedures**



# Cross-border Trade Supply Chain Improvement in 3 flows

**Seller  
(Exporter)**

**Physical Goods**

**Buyer  
(Importer)**

**Trade  
Facilitation  
Improvement**  
-  
Efficiency in  
procedures &  
document  
handlings

**Payment**

**Our  
Improvement  
Opportunities**

**Information/Documents (up to 300 document types\*)**

**36 regulatory agencies,  
10 business sectors\*,  
e.g. importers,  
exporters, banks,  
F/F, Customs Brokers,  
Insurance companies,  
Terminal Operators,  
Sea Carriers, Airlines,  
Trucks, etc.**

**Traders**

**Banks**

**Importers Traders**

**Exporters**

**Customs Borkers**

**Customs Officers**

**Dept. of Fisheries**

**Dept. of Agriculture**

**Freight Forwarders**

**Food and Drug Administration (FDA)**

**Other regulatory agencies**

**Ship Agents**

**Transport-Operators**

**Economic Operators**

**Cargo Insurance Companies**

**Carriers**

**Chamber of Commerce**

**Terminal-Operators**

**Port Authority**

**Trucks**

**Airlines**

\* Referring to "Thailand Case"



# WB Trading Across Border Indicators (2018)\*

Economy ▲	Trading Across Borders DTF	Trading Across Borders rank	Time to export: Border compliance (hours)	Cost to export: Border compliance (USD)	Time to export: Documentary compliance (hours)	Cost to export: Documentary compliance (USD)
▲ Region						
East Asia & Pacific	69.97	102	55.9	387.5	68.2	112.1
Europe & Central Asia	83.96	58	28.0	191.4	27.9	113.8
Latin America & Caribbean	68.71	101	62.5	526.5	53.3	110.4
Middle East & North Africa	58.07	121	62.6	464.4	74.3	243.6
OECD high income	93.92	25	12.7	149.9	2.4	35.4
South Asia	58.32	126	59.4	369.8	77.0	179.5
Sub-Saharan Africa	52.56	137	100.1	592.1	87.8	215.1
Korea, Rep.	92.52	33	13	185	1	11
Thailand	84.10	57	51	223	11	97
Myanmar	47.67	163	142	432	144	140



# Tools - UNESCAP Trade & Transport Facilitation Monitoring Mechanisms Guide

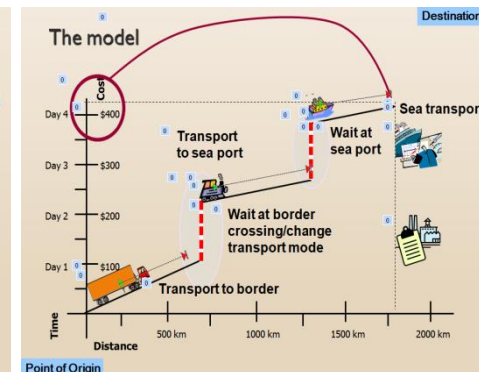
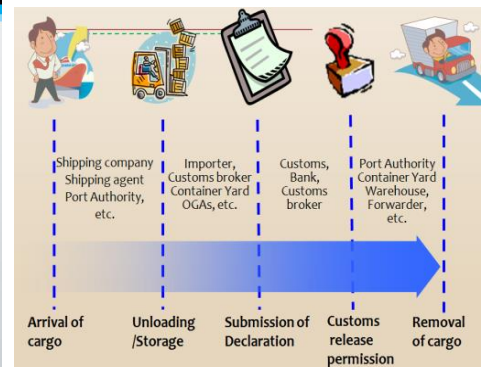
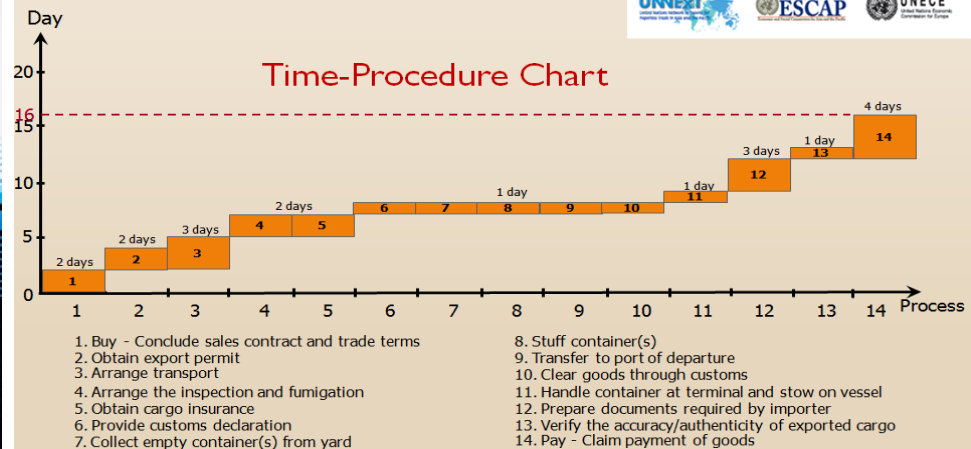
Towards a National Integrated and Sustainable  
Trade and Transport Facilitation  
Monitoring Mechanism: BPA+



## BPA + TRS + TCD Methodology

### A Business Process Analysis

BUSINESS PROCESS ANALYSIS  
GUIDE  
TO SIMPLIFY TRADE PROCEDURES





# Process Reform in 3 levels (SW/Paperless Trade Implementation) to achieve end-to-end digital transactions

**3. Inter-Government Process Reform** to streamline and digitize inter-government procedures **between trading economies**

**2. Inter-Agency Process Reform** to streamline and digitize inter-agency procedures **among regulatory agencies within a country**, e.g. national digital ID, single data submission, and coordinated border clearance

**1. Agency Process Reform** to streamline and digitize its inter-division procedures **within each regulatory agency** e.g. for single-sign on, e-registration, e-applications, lab test e-reports, online payment, and e-permit/e-certificate issuance



# 1. Process Reform within each agency

To digitize/streamline **end-to-end paperless transactions** within each regulatory agency

- ▶ Single Sign-on/Unique ID to access all e-services of the agency
- ▶ Digital Registration
- ▶ Automatic Customs Valuation & Validation
- ▶ Paperless Customs Declaration & Online Approval
- ▶ Digital Submission of Requests & Online Verification
- ▶ Lab test e-reporting
- ▶ Inspection e-reporting
- ▶ Online Payment for Customs Duty and/or Fee
- ▶ Electronic permit/electronic certificate issuance
- ▶ Automatic Risk Analysis
- ▶ Online Clearance



# End-to-end Paperless Customs Transactions

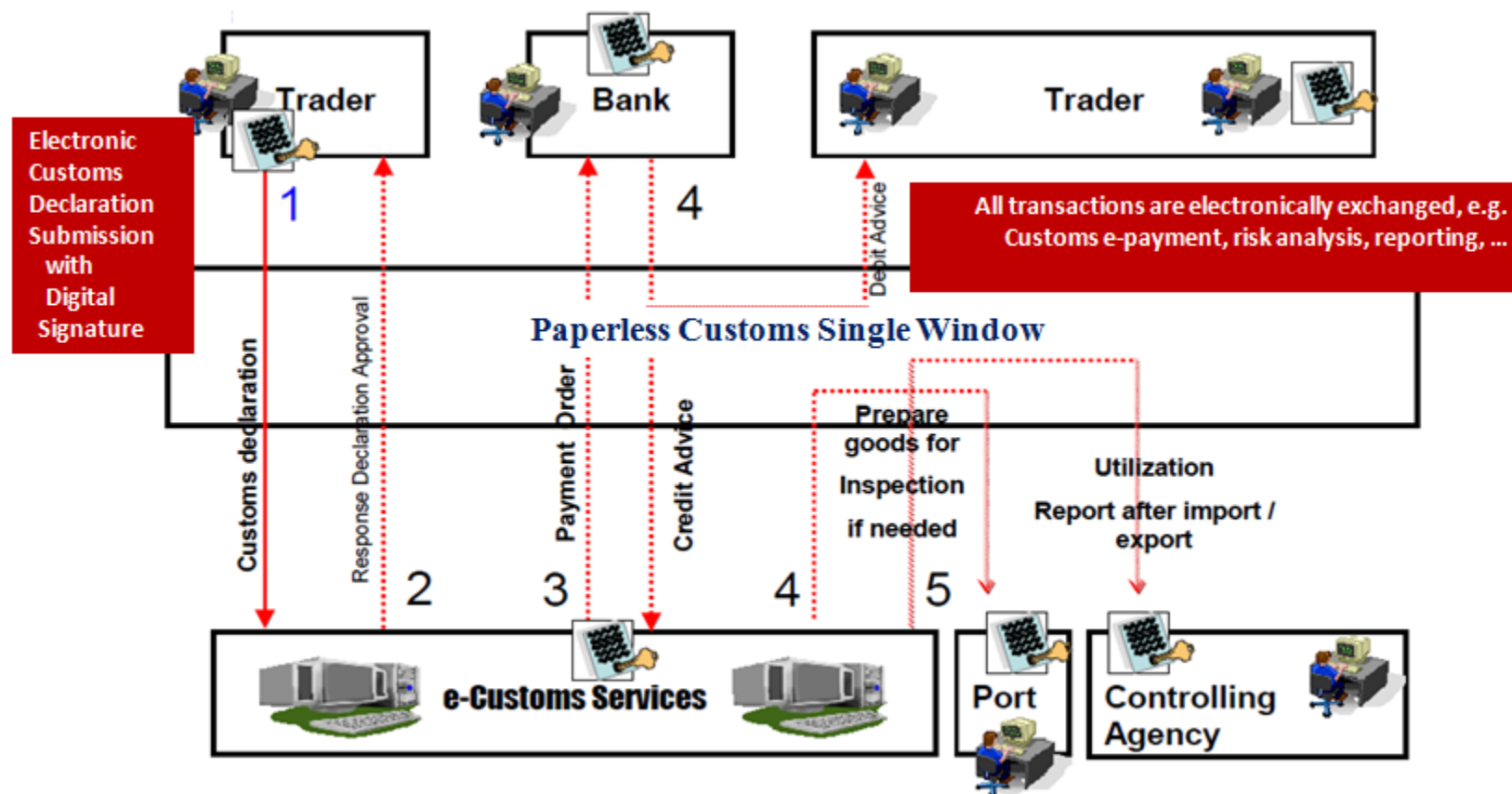
## Preferred Features/Functions for Paperless Customs Single Window –

Electronic Customs Declaration Submission with electronic signature +

e-Payment for Customs Duty +

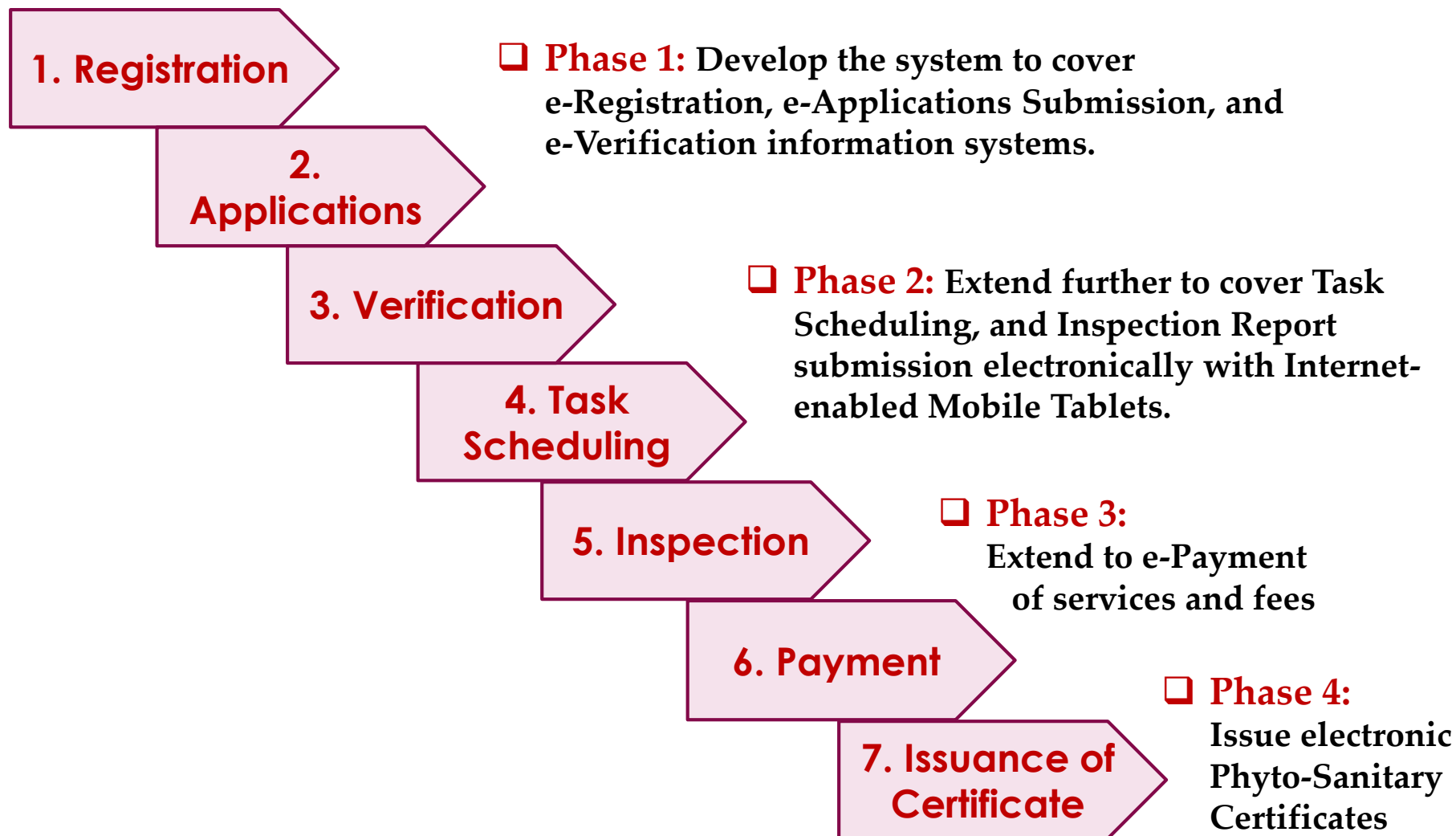
e-Manifest + and electronic risk analysis

for speeding up customs clearance and reducing # of physical inspections





## Digitizing/Streamlining end-to-end inter-division regulatory procedures for issuing e-Phyto Sanitary Certificates





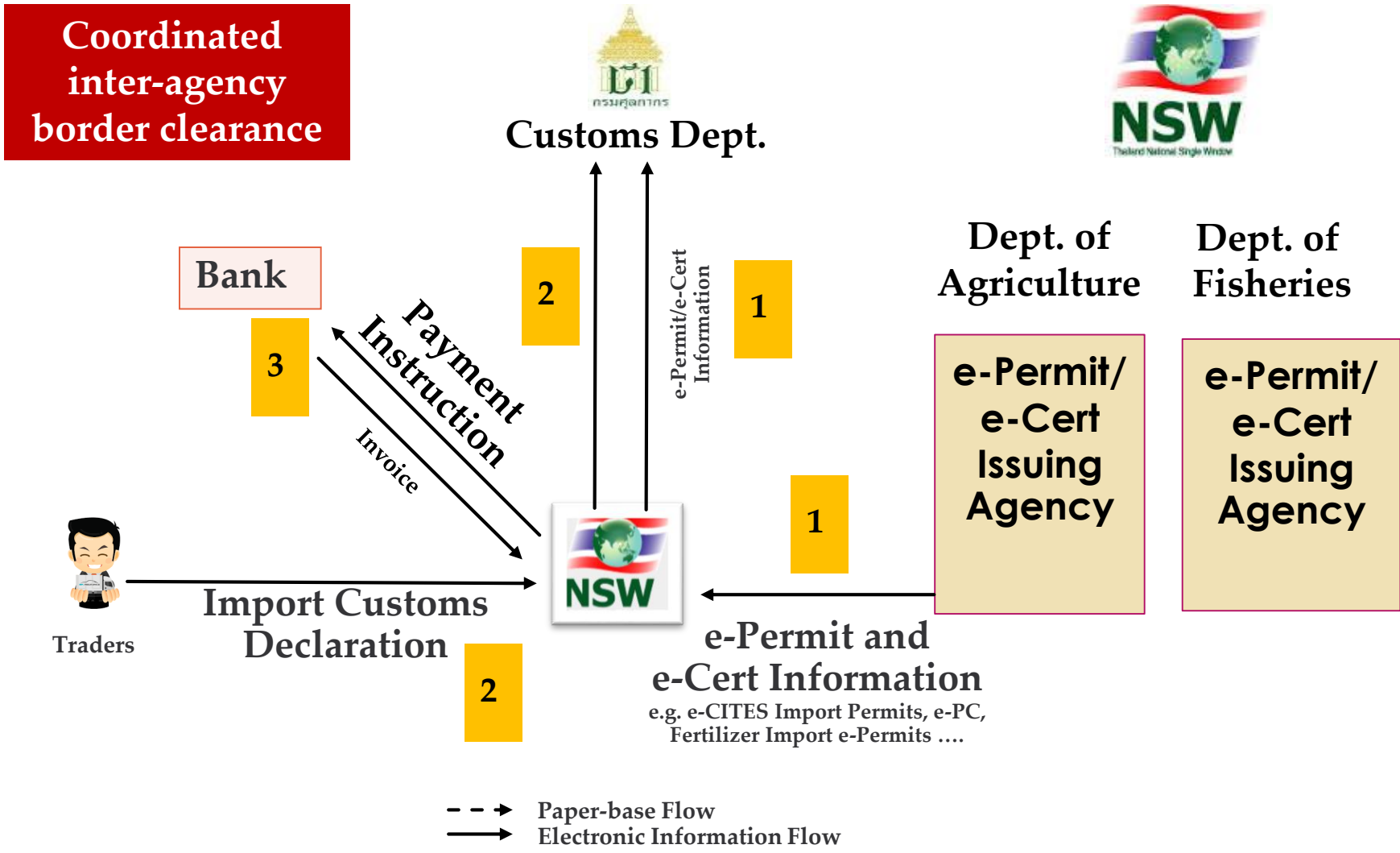
## 2. Inter-agency Process Reform among regulatory agencies

To digitize/streamline **end-to-end paperless transactions** across different regulatory agencies within a country

- ▶ Establish National Digital ID for individuals and enterprises/organizations
- ▶ Develop a system with single data submission, paperless permits exchange, coordinated border clearance, coordinated statistics reporting and quota validation.



# Exchanging of e-Permits and e-Certificates Information from other regulatory agencies with Customs Department



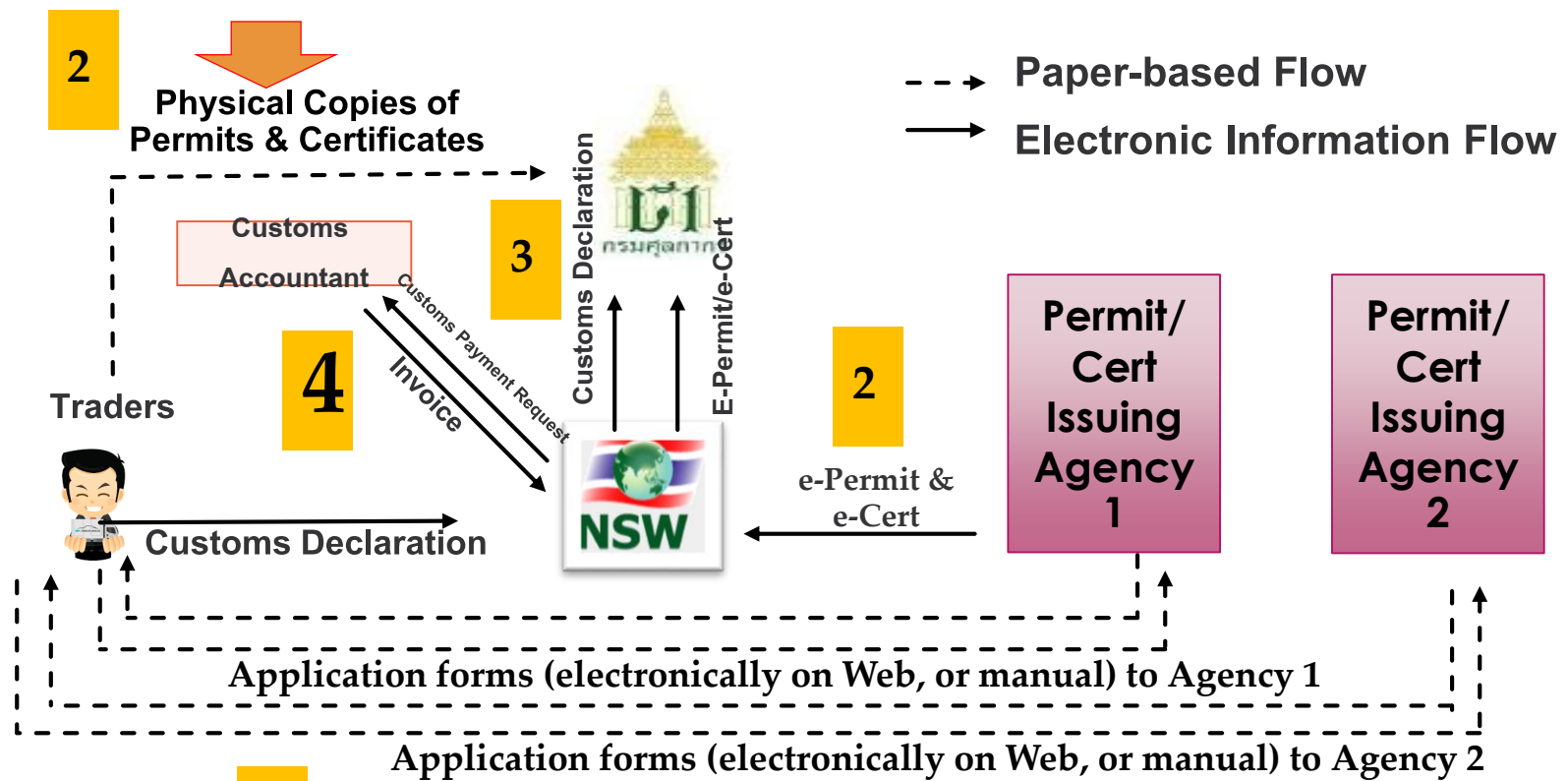


## Electronic Permits/Certificates information exchange through NSW for efficient/effective clearance [within the country]

- ▶ **Electronic Import Permits** (e.g. as issuing by Dept. of Agriculture) **could be electronically sent** to Customs Department through the NSW environment.
- ▶ Then at the border, that **electronic Export Permit** could be automatically matched with the corresponding **Export Customs Declaration for Customs Clearance**.
  - ▶ In this case, the **Permit Identification Number** needs to be submitted along with the electronic Customs Declaration so that these two corresponding e-documents could be linked and the data can be cross-validated automatically.



# Inter-agency Process Analysis (As-Is)



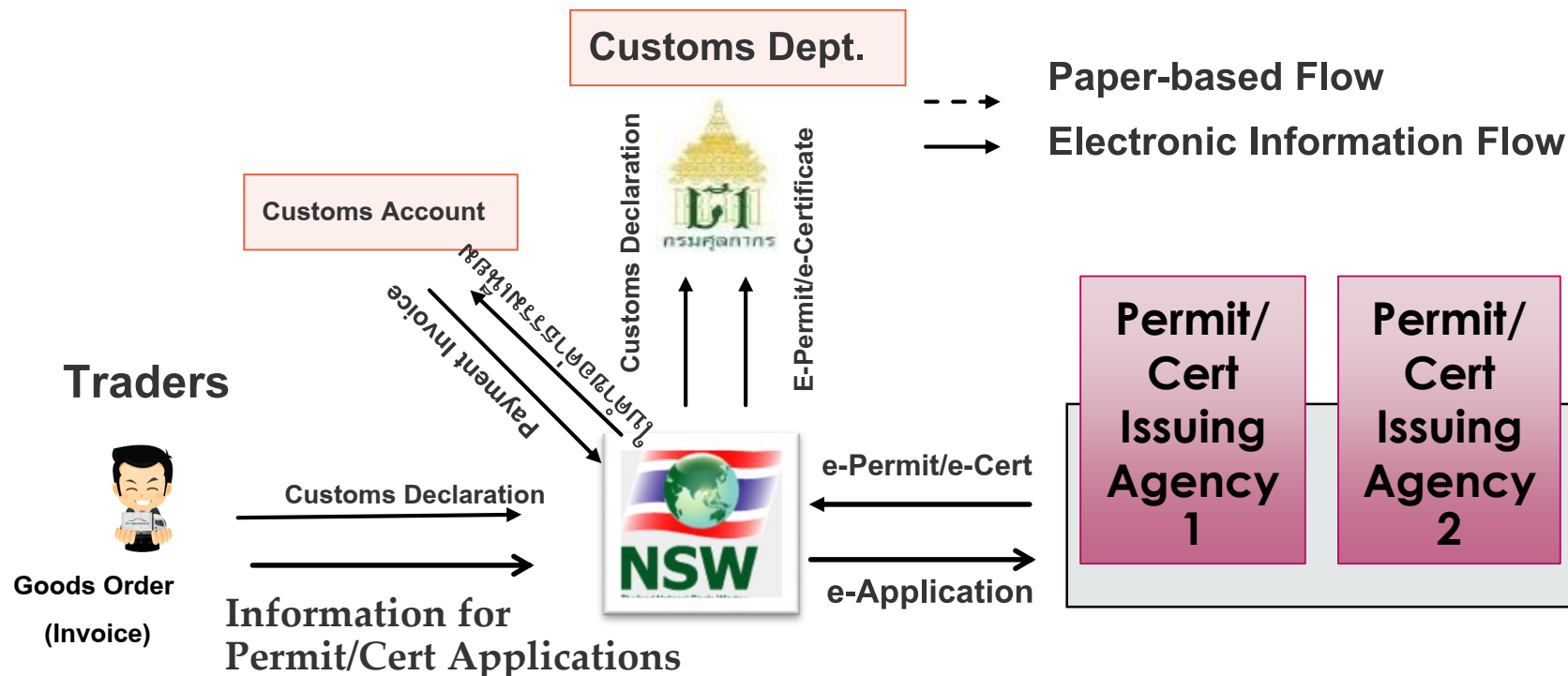
**1**

**Problems:** Traders submit multiple/duplicated physical papers in different physical locations, or several electronic data on several websites..

Several visits, multiple documents, time consuming



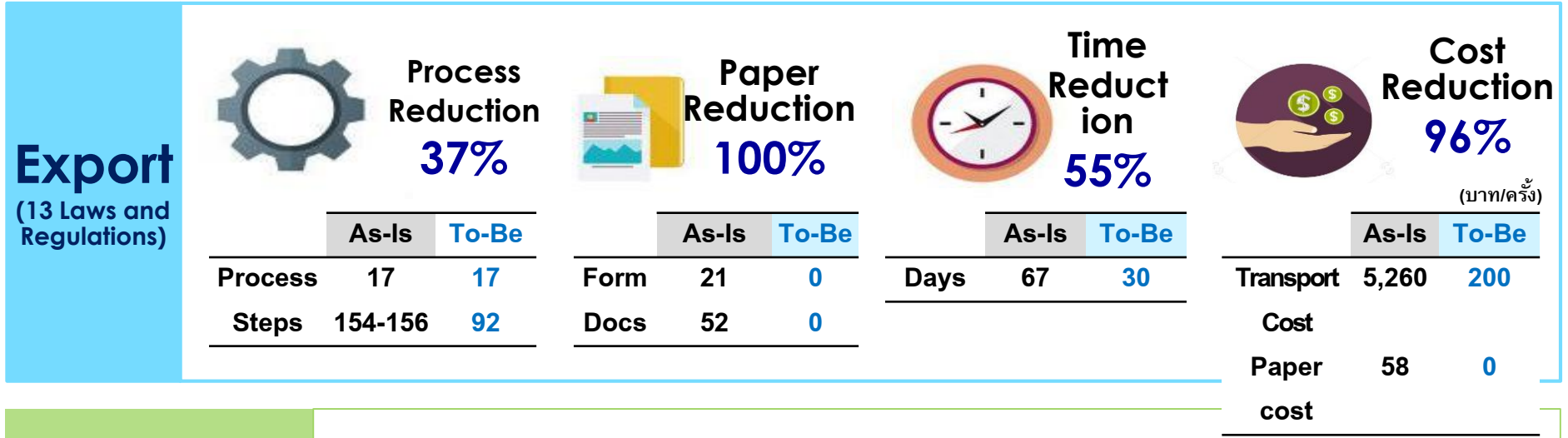
# Inter-agency Process Re-design (To-Be)



Traders could submit each electronic data element once at a Single Entry Service – and the appropriate e-application form will be sent to the different agency accordingly.



# Inter-agency Process Re-design: for Sugar Export Procedures





### 3. Inter-government Process Reform between economies

To digitize/streamline inter-government or cross-border regulatory transactions

- ▶ Develop cross-border information exchange between National Single Windows for more efficient coordinated border clearance







# Success Factors

## 1. Established Political Mandate

- ❑ Establishing it as a national commitment (by developing national strategic plan, and obtaining endorsement by the highest political institution, e.g. by the Cabinet).
- ❑ Establishing it as a regional commitment, e.g. MOU signing among the Head of States to develop the National SW and the Regional SW.

## 2. Institutionalizing the Policy i.e. transforming the policy mandates into normal routine management, e.g.

- ❑ Institutionalize the **National High-level Committee (National TF Committee)**, and **Project Management Office (PMO)** for steering and overseeing the SW implementation, by the Cabinet's mandates and by laws (with the support from **several working groups, governments, business sectors and academia**)
- ❑ Securing the necessary budgets to finance the project.



# Success Factors

## 3. Establishing effective collaborative taskforces

- ▶ At the agency level, the key challenge is in working collaboratively among different divisions within the agency - **breaking the silo within the agency!**
- ▶ At the inter-agency level, the challenge is in working collaboratively among several regulatory agencies and with business stakeholders
- ▶ At the cross-border level, the challenge is in working collaboratively among regulatory agencies of different economies



# Success factors

4. Established **laws** and **regulations** to support new digital processes
5. **Sustainable Business Models**, e.g.
  - In several economies, “**Special Corporate Vehicles(SCV)**” for **SW services** have been established, e.g. Japan’s NACCS Inc., and Korea’s KNet.



# SW Planning and Implementation Guide (UNNExT/ESCAP, 2012)

- ▶ A managerial guide on how to plan and implement SW and paperless trade projects

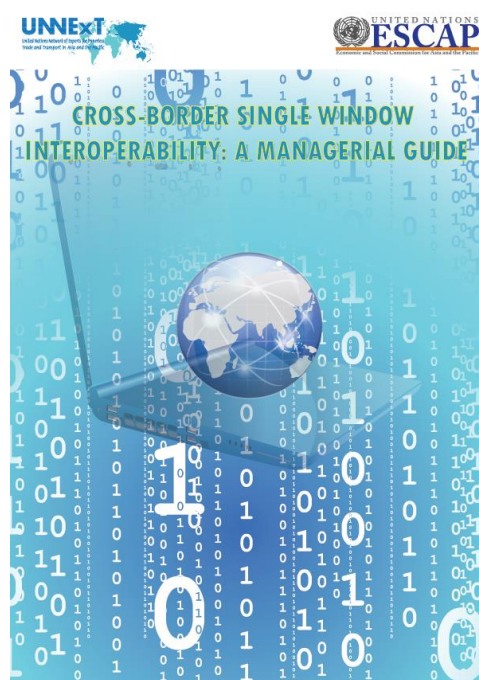


A systematic approach  
based on Enterprise  
Architecture (EA)  
is the basis of  
this guide.



# Cross-Border Single Window Interoperability: A Managerial Guide (UNNExT/ESCAP, 2018)

- ▶ A management guide with a framework and recommended actions for establishing cross-border Single Window Interoperability (SWI)

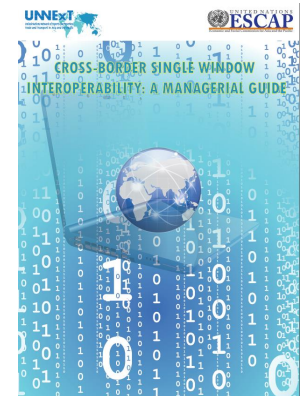


**A systematic approach  
based on Enterprise  
Architecture (EA)  
is also the basis of  
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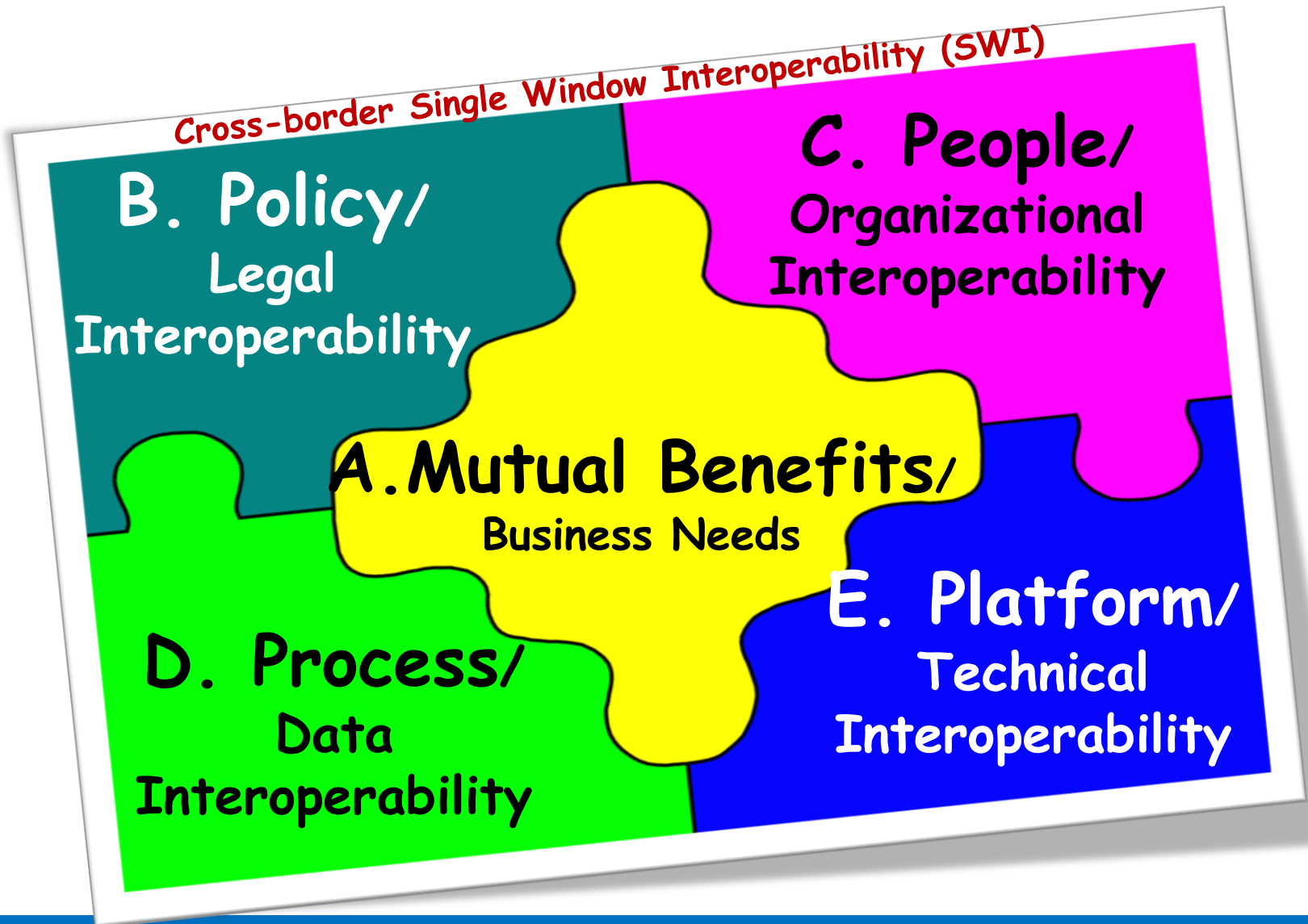
- ▶ Chapter 1 - Single Window: Concept & Challenges
- ▶ Chapter 2 - State of Paperless Trading Implementation including Single Windows
- ▶ Chapter 3 - A Framework for Cross-border SWI
- ▶ Chapter 4 - Specific Issues for Cross-border SWI
- ▶ Chapter 5 - Governance and Management of Cross-border SWI
- ▶ Chapter 6 - Summary





# The proposed Framework for Cross-border SWI

composing of 5 critical components





# **A. Mutual Benefits/ Business Needs for SWI**

## **B. Policy/ Legal Interoperability**

**Policy Setting/Laws & Regulations**

## **C. People/ Organizational Interoperability**

**Collaboration/Governance/Management**

## **D. Process/ Data Interoperability**

**Process Reengineering/Data Harmonization**

## **E. Platform/ Technical Interoperability**

**Interface Specifications/Connectivity**

**Key Roles for each of  
the critical SWI components**

**High-level Policy  
Decision Makers,  
& Legal Specialists**

**Policy Managers,  
Leading Agencies &  
Public/Private Stakeholders**

**Business Domain Experts  
&  
Data/Document Analysts**

**ICT Specialists**



# Lessons learned/Government Problems

## ▶ Government Problems

- ▶ Huge and complex organizations
- ▶ Bureaucratic and slow decision making
- ▶ Not coping well with reform (new process/process reform) - development of new things/innovation/digital transformation



# Lessons learned/Government Problems

- ▶ **Government's Procurement Law/Management is not suitable for development of software (process reform) (waterfall/step-by-step contract management is not suitable for creating innovation)**
  - ▶ Hire a vendor & start the software development project
  - ▶ Guess the requirements/system specification
  - ▶ Approve the software specifications
  - ▶ Design and Implement the software
  - ▶ Install and deliver the software
  - ▶ Test and finish the project



# Challenges in Process Reform & Software Development



**Like diving in a cave**

**Even with the lamp,  
we can barely see  
what is ahead in the  
coffee-like water.**



**Like waking in a rough terrain**

**Even with a guiding rope,  
we slowly move  
through narrow and  
winding paths**



# How can we be successful?

- ▶ No single method to completely solve this challenge
- ▶ We need a good combination of methods, tools, techniques, and mostly importantly human collaborative spirit.





# Emerging Trends

## - Lean Organizations for Digital Transformation

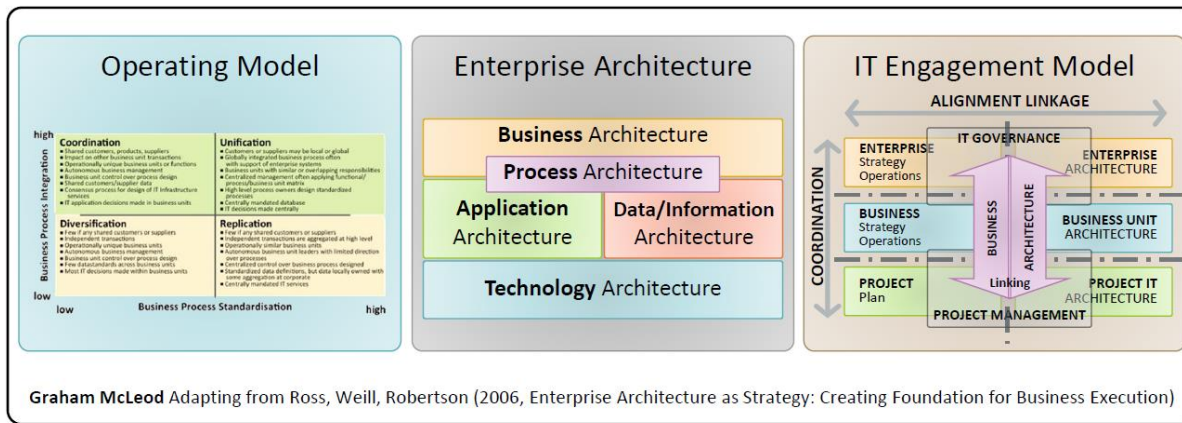


- ▶ **Agile/Lean Organizations** – lean decision making, collaboration spirit of all levels
- ▶ **Continuous improvement culture** in **process & products/services**
- ▶ **Scientific/Iterative method** - problem statement, hypothesis, exploration, building a new system, testing/collecting lessons learned/improvement feedback
- ▶ **Cross-functional multi-disciplined team\***
- ▶ **Small incremental & fast feedback iteration**
- ▶ **DevOps software tools** – development tools for automatic testing, continuous integration, continuous delivery, monitoring
- ▶ **Cloud computing**, e.g. servers/hardware on a cloud
- ▶ **Data Analytics** e.g. assigning/educating staff to work as data scientists within the organizations



# Conclusion

- ▶ A good **strategy formulation** is needed, e.g.
  - the vision towards end-to-end trade supply chain digital transformation
- ▶ But a **good capability for strategic execution** is the key success factor (to make it happens), e.g.
  - ▶ National-level policy decision makers (e.g. NTFC)
  - ▶ Authorized policy management with PMO support
  - ▶ Designated inter-agency working groups, etc.



**Enterprise Architecture is a guideline to build foundation for digital transformation**



Q & A

Thank You

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# Speaker - Somnuk Keretho, PhD



## Education

- ▶ Ph.D. (Computer Science), Univ. of Louisiana at Lafayette, USA.

## Current Position

- ▶ Director, Institute for IT Innovation (INOVA) and Assistant Professor, Dept. of Computer Engineering, Kasetsart University, Bangkok, Thailand
- ▶ UNNExT Advisory Committee

## Research and Work Interest

- Digital Government Strategies and Transformation
- Paperless Trade and Single Window for Trade Facilitation
- Enterprise Architecture and Software Engineering

## Related Work

- Author, Cross-border Single Window Interoperability - A Managerial Guide (2018), UNNExT Guide for Single Window Planning and Implementation (2012)
- Co-author, UNNExT Business Process Analysis Guide (2009, 2012), UNNExT Data Harmonization Guide (2012)
- Project lead, Trade and Transport Facilitation Monitoring Mechanism (2016 - 2017) (UN/CEFACT Recommendation No.42)