WCO COMPENDIUM

HOW TO BUILD A SINGLE WINDOW ENVIRONMENT

VOLUME 1 : THE EXECUTIVE GUIDE

IMPORTANT:

1. This is a Draft document that has been compiled solely for study by the WCO Secretariat and some Volunteers from Customs Administrations.
2. The document is not fully annotated. The Secretariat will add additional annotations and references wherever appropriate.
3. References to case studies have been / or will be omitted unless it is duly permitted by the member administration.
4. Comments may be sent to the sp.sahu@wcoomd.org. Comments will be examined by the Editorial Team of the Secretariat.

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Chapter 1: Understanding Single Window Environment

This chapter covers the following:

- ✓ What is a Single Window Environment and why should customs be concerned?
- ✓ Understanding different approaches to a Single Window Environment.
- ✓ Actionable insights in each of these approaches.

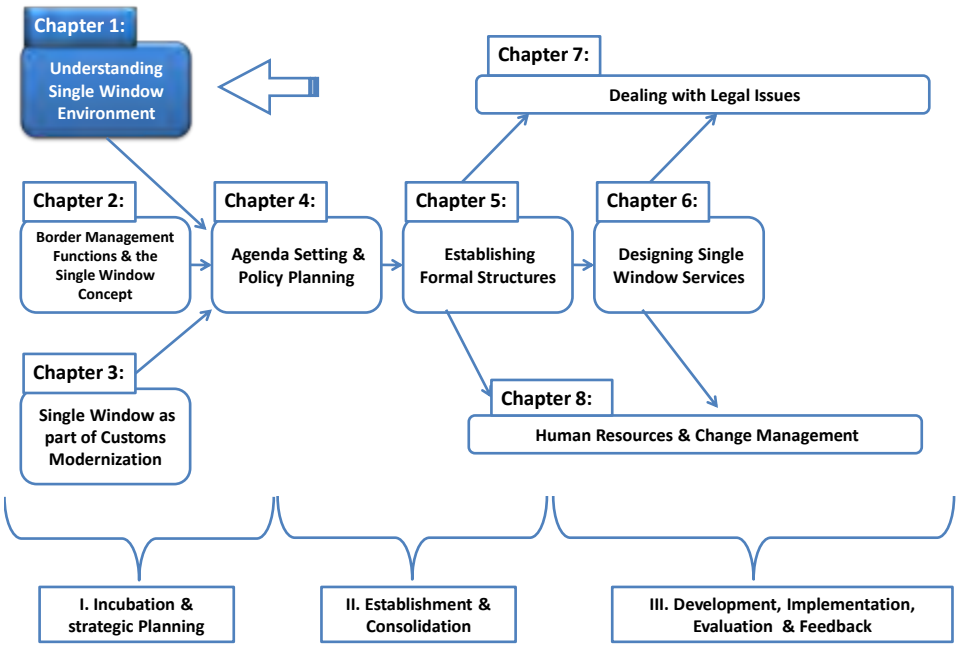


Diagram1: Layout of Chapters for Volume 1

1. Introduction

In the last three decades, Customs administrations have been developing automated systems with a view to improving trade facilitation and to achieving effectiveness in pursuing their objectives of revenue collection, social protection and providing business intelligence to government. Developments in Information Technology (IT) have enabled governments to make dramatic improvements in the delivery of services. Each new development in IT brought with it a new set of possibilities that would help bring transformational changes to the regulatory environment for international trade. These developments were not just about the new technology but about new business philosophies and architectures that have enhanced the trading community's convenience and efficiency. The emergence of the 'Single Window' concept is one such development.

1.1 A philosophy of governance

'Single Window' is a philosophy of governance in which traditional structures of government are transformed into new arrangements that best serve the needs of citizens and businesses. Under the 'Single Window' approach, citizens and businesses would receive government services through a single interface to government. The complex, multi-agency organizational arrangements that go into the service delivery will be transparent to the consumers of the services, leading to increased efficiencies and reduction in the transaction costs of regulation.

Such transformation does not take place overnight. It is an iterative process involving several initiatives. The essential elements of such initiatives would include examination of costs and efficiencies of organizational arrangements created to offer current services to citizens and businesses, how these services relate to different areas of government and the extent of integration that would be required between government departments or agencies in fulfilling these services.

The concept of Single Window has been around for sometime in a few areas of government. For instance, local governments in some parts of the world are offering a bouquet of citizen services under one roof through web portals and through kiosks or citizen service centers. Under this approach, different government departments re-organize their back-offices concerned with the delivery of individual services such issuance driving license, parking rights, benefits administration etc into services provided "under one roof". This re-organization is aimed at causing the least possible inconvenience to citizens and to meet all their needs at a single service delivery point. The electronic interface between such governments and citizens come in the form of citizen portals or websites and other access channels.

The same concept can also be applied to the complex regulatory processes governing the movement of goods, transport means and people across international borders. Experts acknowledge that these processes are suffused with costly inefficiencies, lack of

coordination among border agencies, burdensome procedures and documentation. Therefore this is an appropriate area for adopting the Single Window concept.

In recent times, the term 'Single Window' has gained currency in the circles of trade facilitation. The Trade is strongly in favour of a Single Window approach because it creates the visions of a dramatically simplified interface to Cross-border Regulatory Agencies (CBRAs) in which, the entire government apparatus that deals with the movement of goods across borders will be re-engineered to meet the specific and exacting service needs of business.

1.2 About this Chapter

The following section (Section 2) begins with an overview of the concept of a Cross-border Regulatory Single Window and attempts to provide clarity on the often loosely used terms associated with this topic. It explains why it should be more appropriately called a Single Window *Environment*.

The rest of the Chapter examines different approaches to the Single Window concept, each of which would provide actionable insights for the executive management. It starts with the most widely acknowledged definition of Single Window in *UN/CEFACT Recommendation 33* (UN/ECE 2005). It then describes the WCO view of the Single Window as a part of the quest for '*Co-ordinated Border Management*'. Next, it looks at the techno-legal view of the Single Window Environment being similar to a *Virtual Enterprise* that is visible through web-portals and interfaces connecting a group of co-operating facilities. The entire arrangement needs an orchestrator and is backed by strong technical and legal support. Lastly the Chapter looks at Single Window as a *collection of inter-related services* in support of international trade and as well as cross-border regulatory controls. The "Collection of Services" paradigm helps in documenting the hierarchy and variety of regulatory services. Developing the taxonomy of business and technical services in a Single Window Environment is a facile way of examining the scope and coverage of existing facilities. It helps planners to draw boundaries for new Single Window projects by pointing out the pathways for new collaborations. This 'Collection of Services' view of the Single Window can help channelize the negative energies of competitive behavior among CBRAs and focus discussions on resolving the really overlapping and redundant processes. Besides, the services paradigm helps in building bridges with between with the influential disciplines of 'Interaction Design for Services', 'Service-Oriented Architecture (SOA)' and 'Management of Service Operations', thereby maintaining 'services' as the common theme starting from the concept stage to the implementation stage.

The chapter concludes by highlighting the practical and actionable insights arising from each of these approaches, which are not just meant to provide a better appreciation of the

Single Window Environment but also the platform approaching the complex questions around its development.

2. The Cross-border Regulatory 'Single Window'

'Single Window' is a widely used term in the area of international trade, and a number of efforts have been made to define and describe this term and the associated concepts. The idea of a 'Single Window to international trade' challenges the conventional models of regulatory control of the movement of goods and means of transport.

Traditionally, in cross-border trade, different government departments and agencies have managed different areas of regulation. Customs, Plant &aAnimal Quarantine Agencies, Sanitary & Phytosanitary Inspection Agencies, Food Safety Agencies, Border Policing and Transport departments have maintained presence at the border and managed their respective areas of competence. Over the years, executive and regulatory competencies were developed by discrete organizational units within government. These organizational units managed their respective government programs. Each program had its own finances – sustained over long periods of time, leading to the creation of program-specific human and technical resources and enduring organizational structures and service delivery mechanisms that supported trader and transport activities.

The Single Window concept examines regulatory controls *through the eyes of the trader* and views all interactions between trade and regulatory agencies without regard for the internal divisions within government. This approach clearly brings out all the procedural redundancies, duplication in the filing of information and the wastefulness involved in the overall effort in fulfilling cross-border regulation. From this analytical approach arise a set of solutions that greatly simplify government-trade interface by reorienting procedures and reorganizing regulatory data requirements.

This simple concept has been embraced enthusiastically by the leadership both in Trade and in government organizations. Several terms were coined to describe it in different languages around the world. In the French language, it is referred to as *Guichet Unique* where 'guichet' in French is understood traditionally as the service window or service counter of a government office. The Single Window approach does exactly what the term in French denotes – it unifies the interface between government and trade. Therefore, in this respect, this French term most suitably reflects the concept that this Compendium tries to expound. In Latin America, the Single Window is widely known as VUCE or *Ventanilla Unica de Commercio Exterior* – or a Single Window to External Trade. This is not very different from the term of ITSW or International Trade Single Window that was popularized by SITPRO (Davis, et al. 2009), which carried out some pioneering analytical work in this area.

The use of different terms for the Single Window concept is important because of the scope they suggest. 'International Trade Single Window' conveys the sense of it being an omnibus facility for trade. Exchanges between participants in an international trade transaction cover processes starting with the discovery of products and trade partners, shipment and dispatch, regulatory clearances at the border and payment for the traded goods. The Single Window being discussed in this Compendium does not cover all those processes that are purely for trade and includes only those processes that involve cross-border regulation. Of course, the context in which trade transactions occur must be kept in mind but essentially, we are discussing only about the *Cross-border Regulatory Single Window*, where regulatory formalities are the focus. The distinction between a portal for trade or transport transactions and the cross-border regulatory Single Window is clear as the former falls in the category of Business to Business (B2B) facility and the latter is Business to Government (B2G) facility. Clearly, there is a relationship between the B2B facilities and the B2G facilities. For instance, a Cargo Community System, which is largely a B2B facility, would for some processes act as the intermediary between Business and Government. An approach to understanding and describing the boundaries of different systems (or Single Windows?) is explained in section 6 of this Chapter.

Many Single Windows?

As explained in the preceding paragraphs, apart from customs, there are a number of government agencies (such as Agricultural inspection, Veterinary inspection, Controllers of drugs & pharmaceuticals) that are entitled to interdict and examine goods crossing the border. Due to lack of sharing of information among these agencies, an undesirable situation for the Trader exists in the form of the latter providing the same information to different government agencies. Consequently multiple inspections are carried out by these agencies at different points in time. The assessment of regulatory risk is carried out on the basis of agency specific data and not on the based on the entire data that government receives from traders.

Any one of these concerned government agencies could propose a project to establish a Cross-border Regulatory Single Window. For example, the maritime agency may moot the idea of a Maritime Single Window, which would provide all services associated with the electronic reporting by ocean-going vessels. The entire ship-port interface can be covered by such a Single Window. In fact, it has now been mandated by the Director General of Mobility & Transport of the European Union that all Member States of the European Union shall accept electronic reports from ships or their agents electronically at the earliest and via a Single Window and no later than June 2015. Such facilities have been described as "Maritime Single Windows" (EU DG MOVE, 2010). It is envisaged that the Maritime Single Window would operate alongside other Single Window facilities provided by Customs and Trade licensing authorities.

Like-wise, Cargo Community Systems that have been implemented in several countries provide a single point of interface between the logistics operators at the port/ airport and the trade and transport community. These systems have in some cases acted the interface between Customs and the trade and transport community by providing the means for custom in cargo control.

The stand-alone systems that Government Agencies and cargo communities have evolved over the years, by developing extensive inter-linkages to share information and to facilitate trade. Some of these systems have also positioned themselves as the Single Window solutions. Questions may arise about the oxymoron 'multiple Single Windows'. Shouldn't there just be a 'single' Single Window? If for any reason, should multiple 'Single Window' solutions emerge for different sectors (maritime, trade, transport, Customs) in support of international trade, how would these single windows interact with each other? Can the responsibility to deliver the 'Single Window' concept be divided into different parts and be delivered by different organizations through Information Technology based systems? Is Single Window a single automated system or a collection of inter-connected systems operated by different agencies? Should there be a single orchestrator who manages the development of these multiple 'Single Windows'? Would the purpose-built stand-alone system that has been running for years - for example for import licensing & verification - survive the development of a Single Window or should all such systems be retired when a Single Window emerges? How does one draw the boundaries of coverage between Single Window Systems and the existing 'stand alone' systems?

These questions can best be addressed by examining them through analytical frameworks that describe the Single Window. As mentioned before, there are different approaches to understanding the Single Window concept. This Chapter takes four approaches, which are discussed in detail in the following sections 3 to 6.

National Vs. International Single Window

Collaboration between Customs and other partner CBRAs is the theme of the national Single Window (sometimes referred to as NSW) in this Compendium. Such Collaboration can also occur between national governments, with a view to further simplifying trade procedures and international data flows. Data on a cross-border transaction originates in the country of export and as goods move through the country of transit and reach the country of destination, it is brought under the controls applied by different national governments and points to the need for collaboration in order to enhance capacities for control for all participants.

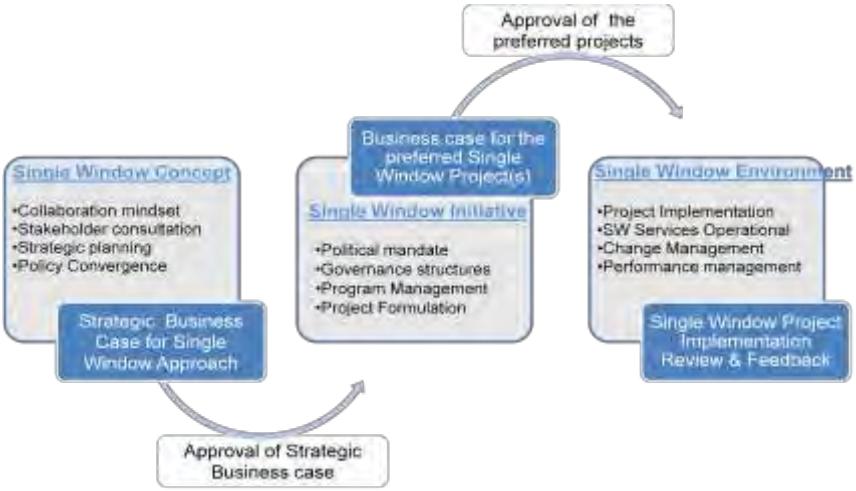
When national governments collaborate at the land borders, they can create a 'One Stop Border Post', under which countries sharing a land border enter into international agreements that enable close cooperation between agencies on either side of the border to ensure that regulatory formalities associated with import, export or transit are not duplicated.

Customs administrations around the world already collaborate with each other in order to share sensitive information pertaining to enforcement through Customs Mutual Assistance Agreements (CMAA) (World Customs Organization 2004). While the CMAAs deal largely with the fight against transnational crime, including smuggling, such collaboration is also being witnessed in the area of international transit of goods, where Customs office at 'departure' gets confirmation from customs at 'destination' about the successful transit of goods, which help in the updating of their respective records. There are a number of other areas that require co-operation between governments where licenses, certificates and permits that are produced in one country have to be used in another country. These possibilities are sometimes referred to as the international or regional dimension of the Single Window.

There are possibilities of co-operation between countries for the supply of advanced information (pre-departure & pre-arrival) in respect of import and export cargo, which is so vital for securing national borders besides speeding up the flow of cargo. All these possibilities are the subject of discussion in the WCO work related to **Globally Networked Customs** (Noël Colpin 2010), which is a WCO Building Block for Customs in the 21st Century. The outcome of this initiative has the potential to change the landscape.

Single Window: Concept, Initiative & Environment

In the diagram below, the three phases in the development of a Single Window Environment are described.



In a discussion on Single Window, careful distinction must be made of the different terms used. During the exploration phase, the term *Single Window concept* or *Single Window approach* is preferred. When there is formal acceptance of the concept, it would lead to a *Single Window initiative*. As the initiative finds expression through a political mandate, governance structures would be established and Single Window project(s) would come into being. The execution of these projects would gradually establish the *Single Window Environment* which would serve the purpose of the trade and regulatory agencies. Section 3 explains the preference for the term 'Single Window Environment'.

To conclude this section, it is useful to carry with us the understanding that the subject of study of this compendium is **'Cross-border Regulatory Single Window**'. This facility deals with the regulatory aspects of cross-border flows of traded goods, cargo, transport equipment, means of transport & crew. This Compendium would also make references to the border control of international travelers (passengers). 'Single Window' is principally the outcome of collaboration between Customs and its partner government agencies and in no small measure, of collaboration between Government and Business. The first of the frameworks to discuss this topic is the pioneering work carried out by UN/ECE and is described in the following Section:

3. UN/CEFACT Recommendation 33

The Cross-border regulatory Single Window is a complex undertaking. It is quite useful to produce simple descriptions by choosing a few characteristics in order to describe its essence. One of the main characteristics of a Single Window is that it helps avoid repetitive submission of data. The United Nation Centre for Trade Facilitation & Electronic Business)(UN/CEFACT) definition in (Economic & Social Council, 2005) looks at this characteristic and connects it to question of submission of information by trade to Cross-border Regulatory agencies. This helps connect concept of Single Window with UN/CEFACT's broader area of the expertise - that of data standard and electronic messaging.

In UN/CEFACT Recommendation 33, the collaboration between Customs and other government agencies is explained it in terms of information flows between parties involved in trade and transport on the one hand and regulatory agencies on the other. It was the first rigorous attempt to collect data and documentation on the design and implementation of Single Window for international trade. This recommendation is generally the basis for the current understanding on the subject. Globally, implementations of the Single Window concept are being judged by whether they meet the norms required by the definition of Single Window and the typologies described in the annex to the Recommendation. The definition of Single Window as provided in UN/CEFACT Recommendation 33 is given below:

"Within the context of this Recommendation, a Single Window is defined as a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once."

The accompanying guidelines to this Recommendation describe the most common models for a Single Window. (i) The **'Single Authority Model'**, an entity that co-ordinates between all relevant agencies to ensure that the logistics chain remains unhindered. (ii) The **Single Automated System** model which is an automated information system that processes information or co-ordinates with a group of systems that process the data that has to be received or sent. Such systems could be further categorized as *integrated systems* in which the Single Automated System serves as processing hubs for individual users from all concerned agencies or *interfaced systems* where the Single Automated System develops and utilizes interfaces with systems belonging to other agencies to complete a transaction. There could also be a hybrid of integrated and interfaced approaches to the Single Automated System. (iii) The third type of system, called the **Automated Information Transaction System** that serves as transaction hub and is integrated to all authorities. Declarations and permits are received electronically in a single application and it is processed seamlessly by the concerned individual authorities. The response is returned to electronically to the declarant.

The Guidelines to the Recommendation suggest the need for a lead agency to co-ordinate between the stakeholders and describe the standards and tools that could be deployed. It provides preliminary guidance on the practical steps in planning and implementing a Single Window, listing out the key factors in establishing a successful Single Window. The Guidelines provide an overview of services that leading Single Windows provide around the world.

This Recommendation served as the anchor for all further discussions on the subject. Innumerable workshops, seminars, research papers and discussion papers referred to this Recommendation to outline highlight the possibilities and benefits. UN/CEFACT developed further Recommendations to describe practical tools and methodologies that support the development of a Single Window.

Coming from the Centre for Trade Facilitation and electronic business, it is not surprising the focus of the Recommendation and its accompanying guidelines is on the ICT enabled solutions for one time electronic submission of regulatory data. There are equally important organizational consequences when we consider a Single Window as a socio-technical system involving vital policy, legal, human resources and business implications.

The WCO prefers the term '*Single Window Environment*', which was also the term used in the concept brochure produced as a prelude to UN CEFACT Recommendation 33. WCO's website currently uses an unofficial definition of "'*Single Window Environment*' *as a cross*

border, 'intelligent', facility that allows parties involved in trade and transport to lodge standardized information, mainly electronic, with a single entry point to fulfill all import, export and transit related regulatory requirements, which are largely in line with the UN/CEFACT Recommendation 33." (WCO 2008)

Why is it an *Intelligent* Facility?

The term 'intelligent' is significant because the Single Window is not merely a data switch or a gateway to a set of facilities nor is it just a unified access point through a web portal. It is also a vehicle for providing shared services to the users. Computation of duties/ taxes, co-ordinated risk management, shared operational controls and orchestration of inter-agency business processes and workflows are some of the examples of shared services. The 'intelligence' makes it possible to provide the trader with an integrated view of his transaction. Without intelligence, the Single Window is just a 'single portal' or a Value Added Network (VAN) service that connects the trader with various government agencies.

Intelligence notwithstanding, the defining feature of a Single Window remains 'one time submission' to government agencies that seek information from trader and transport actors to enable the application of regulatory measures on cross-border movement of goods, people and all means of transport. Cross-border movements include import, export and transit.

'One time submission' implies avoiding repetitive submission of the same piece of information to government agencies. 'One time submission' does not imply the delivery of the bulk of information in a single transmission data. Information may be submitted in multiple transmissions, allowing the traders to provide data incrementally according to the logic of business processes covering cross-border regulatory clearance in its entirety.

'One time submission' cannot be achieved without standardizing information and documentation. The word 'submission' in 'one time submission' means providing of information to a Cross-border Regulatory Agency (CBRA) in a manner prescribed in law with a view to receiving a decision or a determination from the CBRA. The movement of information between trade and government agencies and amongst government agencies is not merely an act of issuance of information by a party but also is a significant action prescribed in the relevant legislation. The submitted information is generally termed as a "declaration" or a "report". The submitter, who provides the information to CBRAs holds himself legally accountable for his "submission".

Single Window business processes are a collection of related and structured activities designed to achieve one-time submission by trade and transport actors. These processes also include reverse flows of information from government agencies to businesses but the concept implies the issuance of a harmonized and co-ordinated response by CBRAs back to the submitter of the regulatory declaration. Avoiding redundant flows of information from CBRAs to businesses and vice-versa would help realize the true potential of a Single Window Environment.

One-time submission to a Single Window is based on the following principles, all of which signify the 'intelligence' aspect of a Single Window Environment.

Incremental submission of data: Trade and transport actors submit data to CBRAs at different points in time in the course of a transaction in international trade. A Single Window may require submission of only the incremental data to reflect a change or progression in the transaction. The Single Window should avoid re-submission of data to the extent that such data was part of an earlier submission. The ability to link-up individual submissions of data by a trader is part of the "intelligence" of a Single Window Environment.

Harmonized regulatory declarations: Different CBRAs prescribe data requirements, which are often overlapping. Under a Single Window, a harmonized set of data requirements may be prescribed so that for a trade transaction or a transport movement the concerned actors are not obligated to submit the same data repeatedly to different agencies.

Sharing of information amongst CBRAs: This is a logical consequence of harmonized regulatory declarations. This sharing enables the shared or separated application of controls by the respective CBRAs.

Harmonized CBRA response: The response to a declaration/ report by a trade or transport actor is an important part of the business process. A CBRA response indicating release of goods signifies the fulfilment of a regulatory service. Each CBRA may process its responses independently but the single window must provide a unique harmonized response to the trader.

Why Single Window '*Environment*'?

It is called an 'environment' because it has been widely observed that Single Window implementations are usually a union or a federation of interdependent facilities joined by mutually defined interfaces and collectively adopted business processes. The environment comprises *the shared space* between individual cross-border regulatory agencies, their respective regulatory roles, legal requirements, business processes and automated systems. At any given time in the above elements of border processing represent a 'current state' of the environment and could potentially move to another state that is closer to the Single Window concept. The numerous changes required in this undertaking make the exercise most complex. The WCO Survey (WCO, 2011) has revealed that Single Window projects are being implemented in phases that sometimes extend beyond 5 years. Each phase and sub-phase builds upon the previous phase leading to progressive simplification for trade and more processing elements within the environment. It should also be kept in mind that the targeted environment may not be the result of a single project but could be the outcome of a series of projects.

Building a Single Window Environment

The word *'building'* has been chosen over 'development' because as in the case of a brick-and-mortar edifice, the Single Window is first required to be **architected** to reflect the true business needs. It has to be **constructed** using the relevant engineering capabilities. Once it is tested, it has to be certified as a facility that is fit for use and therefore **commissioned.** Like a building that hosts a life-style, the Single Window Environment hosts business processes and provides a collection of inter-related services. . The regulatory environment represents the bylaws of building that must be observed and respected.

A number of national proposals on Single Window have asserted that they were not starting from scratch and their approach would involve the refashioning or overhauling of existing IT systems (Davis, et al. 2009). Taking the 'building' analogy further, the projects on Single Window may sometimes require dismantling of existing edifices at the site and renewing or rebuilding some of the existing structures. Building is also about repairing existing structures.

To deal holistically with this complexity, this Compendium has adopted the title of '*How to Build a Single Window Environment*?'

It is widely recognized in various international organizations that a 'one-size-fits-all' understanding of Single Window will not work. Using information provided in this Compendium, a Customs administration should be able to paint its 'as-is' picture that reflects it unique 'current state of the environment', and preparedness across the various policy, technical infrastructural and practical dimensions with a view to chart the path towards the ideal end-state of the *Single Window Environment*.

UN CEFACT Recommendation 33 remains the internationally accepted definition of Single Window, but its emphasis on Single Window as a system for submitting standardized information with a single body serves only as one of the conceptual underpinnings. Following only on this line of thinking, Single Window implementations begin to be perceived as Government-managed large-scale IT applications that are capable of receiving large, single, highly complex declarations and distributing its components to concerned government agencies.

In developed countries such an approach would be generally disruptive and massively expensive as there are already a number of facilities that are already in existence and are able to effectively support supply chain processes. That landscape consists of mature IT systems such as Customs declaration processing hubs, port and logistics community systems, license issuing and verification systems, inspection and certification systems and e-Business service provider systems. Why would it be necessary to overlay yet another gigantic system called the 'Single Window' (of any of the three kinds described in the guidelines to Recommendation 33) merely to link-up and orchestrate these existing, well rooted and mature systems?

Single Window could be viewed as a network of co-operating facilities that is bound by trust and a set of agreed interface specifications in which trade has seamless access to regulatory services delivered through electronic means. The arrangements that exist between IT systems of cross-border regulatory agencies are hidden from the trader's view but these arrangements are also able to drive simplification by streamlining regulatory authorizations for the movement of goods and means of transport along the supply chain. As a consequence, the trader is *largely* spared of filing the same information multiple times.

Several Western European nations do not yet have a Single Window in place but their existing systems are already products of years of collaboration between government agencies and trade. Besides, using modern risk management practices, the principle of minimizing data for release, trusted trader programs, post clearance audit and co-operative arrangements for compliance management, these countries have built modern and efficient customs systems. The fact that these countries can boast of the world's best logistics facilities but do not yet have a "Single Window" in the sense of Recommendation 33 suggests that besides the principle of one time submission of data, there must exist some other aspects that promote high levels of facilitated trade. Chapter 3 examines the strategic components of a customs modernization program and attempts to position the Single Window Environment within those components.

Information available from the UK, France, Canada, Korea and Japan suggests that the approach to be followed in most of the developed countries would be very different from that for emerging economies, LDCs and transitional economies.

What makes the Single Window a bigger challenge for developed countries is that there are traditionally established ways of doing business, entrenched interests of the various regulatory services, inertia of legacy IT solutions, fatigue for new and large IT projects and tough legal issues. To understand the way forward, it is helpful to purposefully simplify the issues along a number of dimensions and not just in terms submission of regulatory data.

Advances in Information Technology interoperability and IT architecture have introduced new paradigms in understanding how organizations can collaborate and bring transformative changes. These advances clearly have a bearing on the way government agencies can collaborate between themselves and with the private sector. New engines of collaboration have been invented and new architectural paradigms have received wide endorsement and popularity since the release publication of Recommendation 33.

It is well known that there is no single way to build a Single Window Environment. The WCO Survey (Chapter 1, Volume 2) reveals that different solutions exist around the world and it is important understand the similarities and differences between these solutions , what works, what doesn't and why? To support that exploration, it is necessary to understand the alternative views of the Single Window.

4. Single Window as part of 'Coordinated Border Management'

Considerable research has been carried out on the operational concept of the Single Window in the context of cross-border trade in which regulatory agencies provide services to the actors engaged in international trade and transport transactions. (The World Bank Group, 2010). The WCO views the Single Window concept as part of 'Coordinated Border Management', which is the term it uses to describe global efforts at streamlining and simplifying border management systems and procedures. Coordinated Border Management includes the following approaches:

Co-location and sharing of regulatory facilities: This provides scope for unification of service outlets, fosters inter-agency co-operation, speeds-up communication, enables shared risk management and promotes unified operational controls by sharing of operational information.

Empowered frontline officials: Administrative authority is delegated to officials handling the government-trade interface either through notifications of delegation of authority within an agency or through cross-designation between agencies. Empowering the frontline officials speeds-up decision making by cutting out handoffs, leading to faster service fulfillment and greater velocity of business.

One Stop Border Posts (OSBPs): Countries sharing a land border enter into international agreements that enable close cooperation between agencies on either side of the border to ensure that regulatory formalities associated with import, export or transit are not duplicated

Single Window Environment: A collaborative arrangement between cross-border regulatory agencies that through Information and Communication Technology **(**ICT) enabled systems that provides a number of cross-border regulatory services to traders "under one roof". An important consequence of this arrangement is that the trader submits all import, export and transit information required by regulatory agencies electronically only once instead of making multiple submissions to different government entities at different points in time.

Coordinated Border Management (CBM) is a multifaceted concept of great interest and relevance to Customs. Coordinated efforts yield far greater value to government and trade than do disjointed, silos-bound efforts carried out by individual agencies and this view of the Single Window helps the executive management of all the participating government agencies truly appreciate their role in the strategic context. That is a means to attract continued political support and favourable policy disposition.

There are a number of services that Customs can identify as candidates for the Single Window Environment. However, in each of those functional areas, extensive inter-agency co-ordination is necessary. Chapter 2 of this volume analyzes in detail the various customs

or border functions and their implications for Single Window services and interagency collaboration. It concludes that the latter activity is more unstructured and challenging but is the key to success in the former.

The strategic **cross agency** areas include cross-agency risk management (risk management & targeting centers), cross agency time-release analysis and organizational arrangements. Single Window is treated in the same vein – it is a cross-agency effort to deliver regulatory cargo clearance services at the border largely through an IT based system that is support by cross-agency arrangements that are invisible to the trader. To the trader, it is as if a *'virtual enterprise'* is delivering these services. The following section further explores this view of the single window.

5. Single Window as a Virtual Enterprise

The key premise of this section is that Single Window is predicated on document exchanges and business processes and is based on the business model created due to advances in the areas of Information & Communication Technologies and internet-driven commerce. Somewhat like the Single Window, an assortment of specialized companies come together to form a *virtual enterprise* by providing one face to the customer. While the Single Window Environment is distinctly different from the ephemeral, opportunistic character of the virtual enterprise, which is essentially a Business-to-Consumer phenomenon, there are several features that help with valuable insights into the Single Window Environment.

Online shopping, airline reservation and hotel booking are all examples of internet-driven commerce. In each of these cases, the portal that provides the front-end to the consumer is not necessarily the organization that provides all the underlying services. In fact the portal reveals very little of the numerous processes, document exchanges and organizational arrangements that go into the delivery of the product or service. Much like the EDI links of the 90s and the present day web-services, the integrative processes that support these portals help the joining of business processes and services of different 'real' organizations and to deliver a composite business service to the end user. The virtual enterprise emerges from these electronic interconnections and offers its services through the virtual interface of the web-portal.

In this section, the Single Window Environment is viewed through two key aspects of the 'virtual enterprise' namely (i) web portals (ii) a network of collaborating facilities and organizations. The following subsections will explain why the 'Virtual Enterprise' analogy holds promise as a conceptual anchor for a Single Window Environment both for the emerging economies as well as for developed countries.

5.1 Web Portals

Take the case of online shopping. The web-portal for online shopping supports the a purchase transaction by being the information carrier. The web-portal , handles data input and output and also orchestrates the business processes of real enterprises associated with online purchase. The transaction goes through various "states" such as self-configuration / selection of the articles of purchase, check-out, selection of the shipment option, payment, billing and invoicing, verification of back-end inventory and placement of supply orders with manufacturers or distributors, arrangement of transportation, issue of dispatch advise, physical delivery, processing of receipt advise and the final cross-reconciliation of accounts receivables by all parties concerned. A typical online shopping transaction may involve numerous business processes and document exchanges, close to half a dozen business enterprises, and their respective and automated systems. *The transaction comes through within a few seconds because the pre-orchestrated business processes were sequentially executed behind the web portal through the exchange of highly standardized electronic messages between various parties*, such as the supplier, the payment gateway, the transport company and the customer. The IT systems of all these organizations are fully interoperable and messaging between them is highly standardized.

Much like the Single Window, participating organizations in a Virtual Enterprise collaborate and share information and prevent the re-keying of data and ensure that business processes share the same data throughout the transaction life-cycle.

The web-portal can be the most visible symbol of Cross-Border Regulatory Single Window solutions. To begin with, these portals can provide all relevant regulatory **information** "under one roof" and serve as the information outlet and the virtual service interface between the trader and regulatory agencies. In fact such portals acted as the launching pads for the recently developed Single Window solutions in emerging economies. Gradually, as Customs adds **transaction** processing capability to the portals, they become access points to services such as declaration processing, cargo release, duty/tax payment processing and securities management. Further, as Customs systems establish online connectivity with the licensing and permit processing systems of other Cross-border Regulatory agencies, and the **integration** of business processes takes place, it marks the beginning of the Single Window. Finally, as different portals in the Single Window environment could grow by addition of more complex services, the effect would be a **transformation** of the way these agencies deliver services.

Portals could help Single Window initiatives make a beginning but with a potential to scale-up fast, propelled by new enabling technologies. Therefore even the modest initiatives that call themselves Single Window Projects need to be groomed as potential stalwarts. Recent developments in the growth of web-based commerce suggest that a virtual enterprise can be created rapidly, flexibly and at low costs. (Glushko & McGrath, 2008). Rapid enhancements are possible by starting with a portal and following the *information-transaction-integration-transformation* cycle and this model Single Window development holds promise as a model for emerging economies.

A question that is often asked is whether there should be a single web portal or multiple web portals. Although legacy systems play a big role in this respect, ultimately user convenience and accessibility of information will determine how the web portals will be organized.

5.2 A network of collaborating facilities

As can be seen in the online shopping example, web portals are only a part of the story. The real transactions happen between IT systems or participating agencies. In the example given in the preceding paragraph, the virtual store was able to execute its business processes by connecting numerous and independent enterprises through document exchange and interdependent operations. In the same way, in a Single Window Environment, the trader has his view of the transaction completely transparent to the complex and carefully managed series of exchanges that may take place between Cross-Border Regulatory Agencies, Customs brokers, banks, carriers, and logistics providers.

Building a Single Window Environment requires that the participating CBRAs move from a situation where each agency has its own independent *concept of operations* to a position involving *process interdependencies and document exchanges*. These interdependencies need to be defined in business process models that are agreed between agencies.

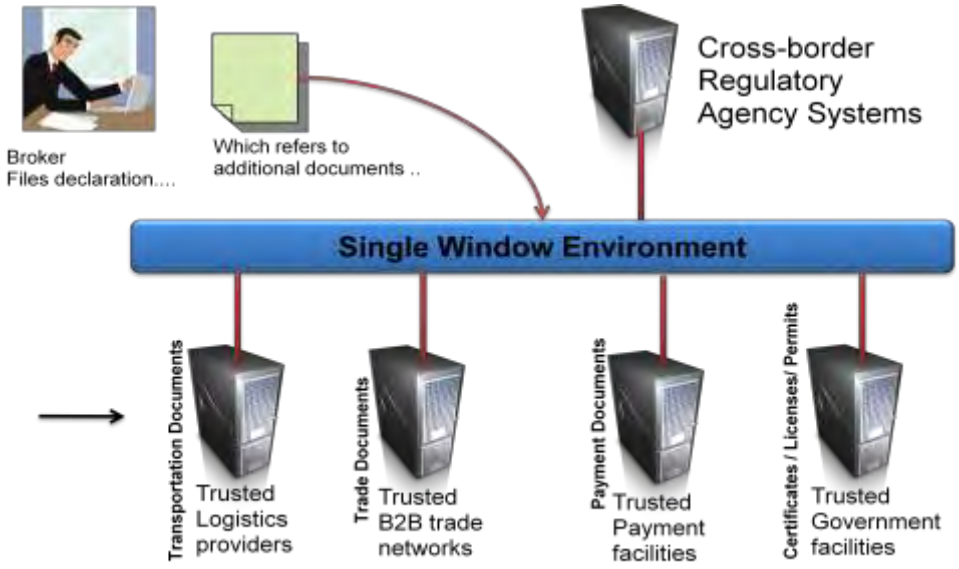


Diagram: Singe Window as a network of co-operating facilities

The above diagram presents the Single Window as a network of co-operating facilities. Advanced and newly industrialized economies already have a large number of mature IT systems, with highly developed border regulation and a wide array of cross-border regulatory regimes. Therefore, for such economies, large, green-field projects to usher-in

a Single Window Environment are neither feasible nor desirable. A different set of approaches would be necessary for charting out the migration paths from current vertical silos into closer and more integrated systems. In a typical advanced industrial nation, the following IT system are already functioning in the "Single Window space".

- ✓ Automated Customs Systems for declaration and release.
- ✓ Automated license management systems
- ✓ Systems for veterinary controls; sanitary and phytosanitary controls.
- ✓ Cargo community systems for ports and airports that control the logistics and cargo flow.
- ✓ EDI connectivity between customs systems, cargo community systems, trader systems, banks and automated license verification systems.

When these systems were developed, care was taken to ensure that there is data interchange between them and it was also aimed at reducing time and hassles for the traders. This is not to say that the existing set of interconnections amount to a Single Window environment, but to alert the decision makers to examine costs of starting Single Window projects from the scratch with respect to the business value these projects can bring.

The "Dominant Enterprise" effect

We learn from Virtual Enterprises the dominant organizations that establish communities of users and also build the basic rules of interfaces between systems. Those IT systems which have a larger number of interfaces in operation will stand a greater chance of their interface standards getting accepted regardless of whether or not these standards meet the so called "international norms", and will be shared widely within the trading community and the larger ecosystem. Called the "effect of dominant enterprises", it can be seen in trading communities such as RosettaNet or with dominant installations of Enterprise Resource Planning (ERP) Systems such as SAP. Depending upon the domain of operation, the standards followed by the dominant enterprises also serve as standards for the entire user community. By implication, the cross-border regulatory agencies and their user community would also hold positions of dominance by virtue of being monopolies and could 'dictate the terms' on standards. The role of the Single Window Operator or "Orchestrator" in bringing order to the standard interfaces governing interaction within the community would be important.

The readiness of the dominant systems of Customs and the other government agencies will matter as will those of the cargo community systems providers. The Single Window Environment as a network of co-operating facilities can be hypothesized to have the following characteristics:

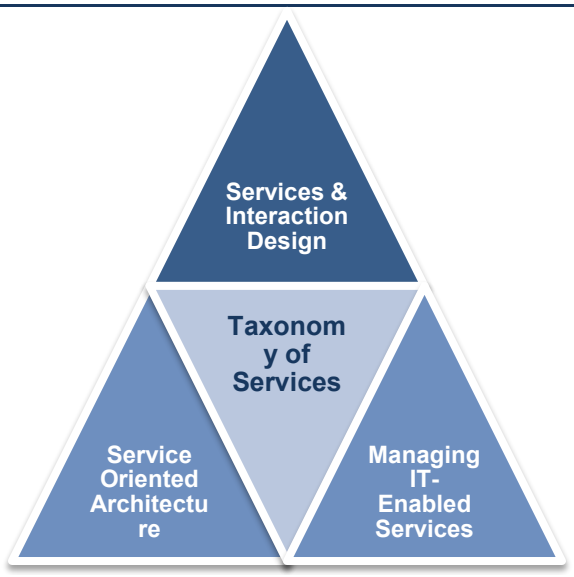
- ✓ Single Window Environment will be the result of a strategic association of the existing vertical silos of non-competing entities.
- ✓ No organization can take unilateral steps to implement the Single Window concept to replace the existing network of facilities.
- ✓ The standards adopted by the dominant IT systems would be followed by the entire community (Dominant enterprise effect).
- ✓ A Single Window Orchestrator will be formally appointed:
    - To manage formal agreements with participating IT Systems and organizations.
    - To develop and steer the Single Window Architecture (Business, technology, security and data architectures)
    - To enforce service & interface standards
    - To foster trust among the collaborating entities.

To transition each business service into a Single Window service, all players have to collaborate and adjust their current interfaces as the community moves closer to the targeted state in a Single Window Environment. The following section provides an analytical view of Single Window as a collection of services and would explain how such transitions might take place.

Single Window as "Collection of Services"

Finally, the Single Window Environment is examined as a collection of services that support the core regulatory functions of import export & transit and trade facilitation. These services are predominantly enabled by the information and communications technologies. The appointed Single Window operators (or orchestrators) provides (or supports) the enablement of these services on behalf of CBRAs through a common platform. Broadly, these services result in the regulatory clearance of goods, means of transport and crew.

The offered bundle of related services "under one roof" makes it convenient for business as it is able to access and consume these services with ease. Looking at Single Window through the prism of "services" brings a clear appreciation of the issues at hand. The 'services' paradigm places at our disposal a number of useful technical and managerial tools that can help answer many questions that we may face in the process of building a Single Window Environment.



6.1 Scope of the Cross-Border Regulatory Single Window

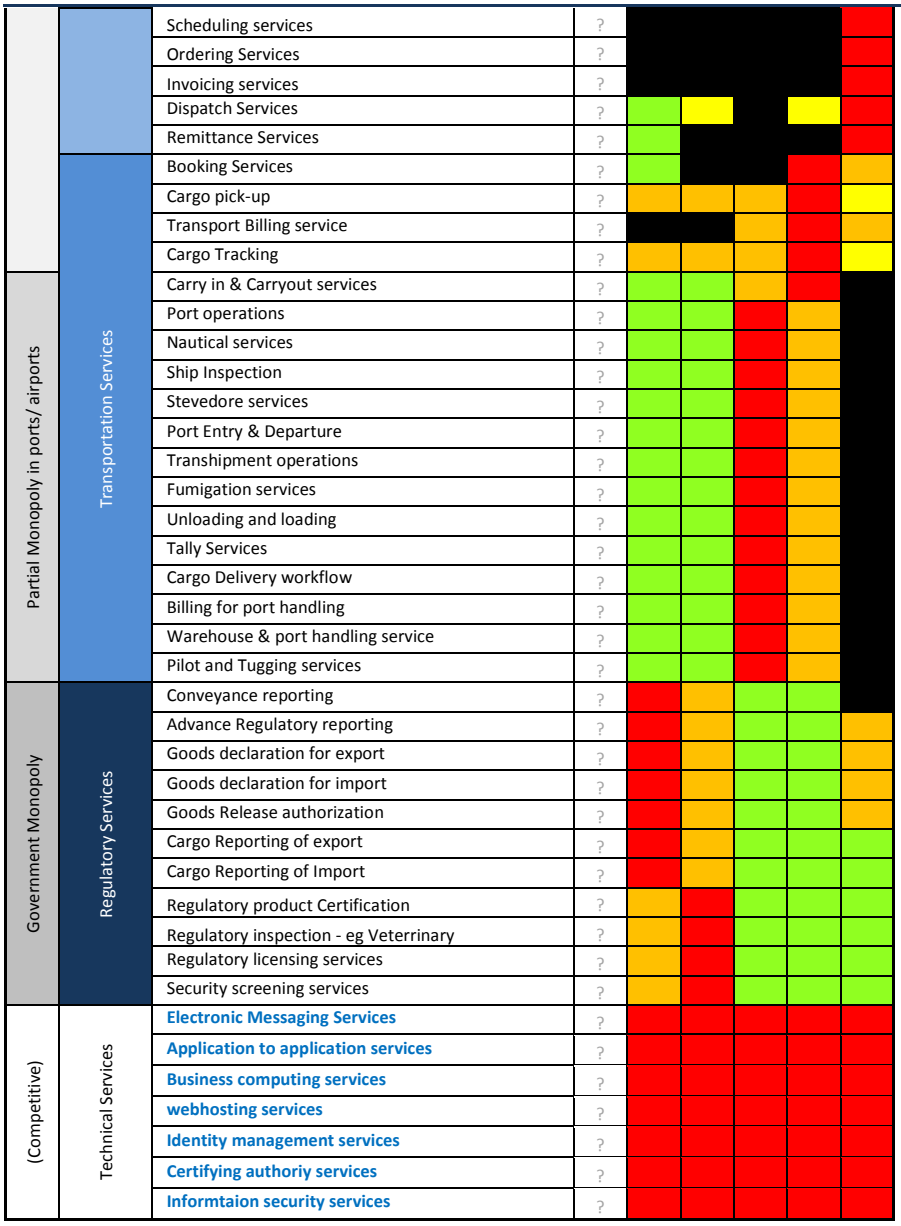
To complete an international trade transaction, business and government need to access a number of trade, transport and regulatory services. These services can be organized into *non-overlapping categories* and *hierarchies* - a classification scheme or taxonomy. This subsection explains that by preparing the taxonomy of services covering trade, transport and regulatory services, it becomes easy to identify ownership, responsibility, accountability and the consultative framework needed between all service providers of IT systems for international trade serving a community based both in government and business.

The chart below describes an example of the taxonomy of services and the current disposition of ownership of these services among existing community providers. The question asked to the Single Window operator is: What are the services it would like to assume ownership of?

Legend

Responsible | Accountable | Consulted | Informed | Not concerned

	« Services offered	Collaborative Systems in operation » » »	Cross-Border Reg. Single Window	Stand-alone Customs System	Stand-alone Partner CBRA system	Port Community system	Community Logistics System	B2B Community System
Trade & Transport	Trading Services	Trading partner discovery	?					
		Product Discovery services	?					
		Catalogue services	?					
		Quotation Services	?					



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The role for the Single Window operator or Orchestrator can be allocated in a transparent manner. Through a process of mutual consultation, each participating CBRA (on behalf of the system it operates -whether stand alone or community system type) can arrive a a 'to-be' position and can articulate it in terms of the services it wishes to own and be accountable for and those that it could give-up in favour of the Single Window operator or another CBRA.

What is clear from the above matrix is that only those services involving a monopoly of a provider can be a Single Window service. For example, port services are the monopoly of the port authority, which can be the owner of the maritime Single Window. That community can be part of the Single Window environment, which contains other 'monopoly' regulatory systems that provide non-overlapping cross-border regulatory services.

The taxonomic analysis becomes even more insightful when the larger services are broken into more elemental services and dependencies are established. For example, the service to process import and export goods declaration is dependent on a service that fulfils cargo examination. For Cargo-examination to occur, the services of scheduling and calendars services of the inspecting staff may have to be invoked. While services describe the fulfilment of a business need, business processes provide the steps involved in fulfilling a business service. One can rearrange business processes to fulfil the same service.

Cross-border regulatory controls should be considered as comprising a set of services provided to trade and transport actors by the regulatory agencies such as Customs, Trade Ministries other government departments that are concerned with trade. Traditionally, these services were established by the respective government departments and logistics service providers as disjointed, discrete services, with little thought given to the inter linkages. At the core of the electronic Single Window is the notion of 'joined-up' services in which the focus is on service outcomes for the client. The above matrix helps in charting the process of joining-up and provides a framework to scope Single Window –related projects.

Experts have suggested that a typology and a hierarchy of services is a useful methodology for analysis (Cohen 2007). A reasonable classification that brings out the dependencies is critical for describing the currently provided services and their inter-relationships. It provides a common language to business analysts and technology architects enabling the platform for effective decision making. This description can be exploited in developing the business and technology architecture for the Single Window Environment. Section 6 of Volume 2 deals with this issue in detail.

6.2 Designing Service Interactions & Service Oriented Architecture

The most important part of designing the Single Window solution is to describe the 'to-be' state of the trader's (or brokers/ transporter's) 'experience' of a transaction. Astatement of description of this 'to-be' would serve as the binding link for all stakeholders as they engage in a series of activities of architecture and design.

The service processes identify what the trader (broker/ transporter) has to do in the electronic mode and in what sequence. What would be the activity of the system for each corresponding activity of the trader? Like-wise, how do we describe the interaction when

the trader moves to the physical interface(for example, to take the delivery of goods), what is the basic description of the interaction? What are resources that are required for each activity and what would be the quality descriptors for each activity(idle time, wait time, queuing time, response time, accuracy, reliability etc).

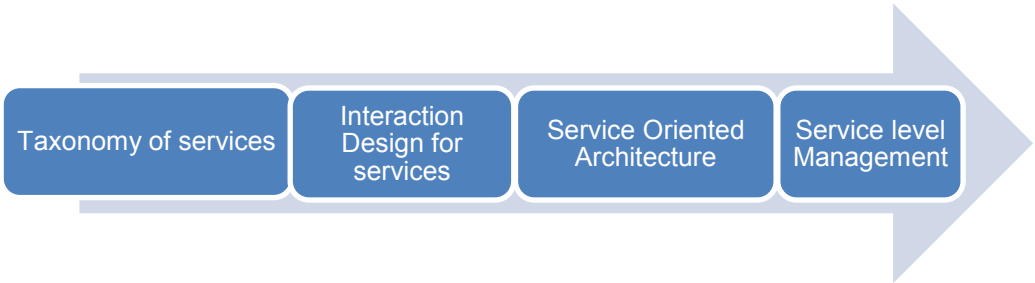
Service outcomes are the result of a series of 'service encounters' involving trade and transport actors and CBRA personnel in the process of moving goods across borders. The processing times and incurred cost (along with predictability in time, cost and effort) together with the non-quantifiable behavioral aspects of participants influence the total service experience. The goal is to provide predictable services that are consistent and cost efficient. These services have to be imagined, visualised and documented collaboratively by all stakeholders in a Single Window project in order to produced the ideal service encounter. This is an essential step in single window design. Discretionary powers of officers and questions related to delegation of authority and empowerment of the frontline officials are crucial to this discussion and provide critical insights to the executive management about business processes and trade facilitation.

Interaction design goes beyond the normal business use case development. It delves into the details of the experiential aspects of service delivery. Chapter 6 deals with this issue in greater detail.

Each Government Agency can provide a separate view of its services. However, the single window concept requires that these should be imagined from a whole of Government and regulatory agencies perspective. Whichever way it is conceived, *Service Oriented Architecture* provides a clear way forward in delivering a scalable and maintainable Single Window Environment.

Service-Oriented Architecture (SOA) begins with a strong focus on the business services. It is does not focus on the technical infrastructure (servers, storage etc) and its associated technical services. This character of The fact that this architectural approach is strongly rooted in business makes it a natural choice for architecting the Single Window Environment. Different aspects of SOA are examined in Section 6 of Volume II of this Compendium.

The diagram below provides the logical flow of the 'Collection of Services' approach where different disciplines related to the services paradigm come into play.



This 'Collection of Services' view of the Single Window can help neutralize the negative energies of competitive behavior among CBRAs and focus energies in resolving the really overlapping areas. Besides, the services paradigm helps building bridges with between he influential disciplines of Interaction design for Services, Service-Oriented Architecture (SOA) and management of operations services maintaining the seamless linkage between the concept stages and implementation stage.

6. Conclusion

The four different approaches to understanding the Single Window Environment provide different actionable insights on 'How to build a Single Window Environment'.

Perspective	Main Themes	Actionable Insights
UN/CEFACT Recommendation 33	Facility for lodging standardized information and documents with a single entry point	→ Standardizing information and documentation is the key to trade facilitation. → Unifying government's interface to trade
	Individual data elements should only be submitted once	→Harmonizing data across cross-border regulatory agencies →Creating combined cross-departmental forms and software applications to enable single submission of data
	Single Authority, Single Automated System (Integrated, Interfaced or Hybrid) and Automated Information Transaction Systems	→Understanding architectural types, classifying existing Single Windows and charting migration paths
Co-ordinated Border Management	Single Window is part of a wider program of inter-agency collaboration	→Linking the Single Window strategically with the overall performance on border management → Focus on functional integration and collaboratively performed activities (integrated risk assessment, co-ordinated examination, unified cargo control, combined trader account management etc.)
	Single Widow services demand a high degree of inter-agency collaboration	→Identifying and managing tasks of inter-agency co-ordination that support Single Window Services
The Virtual Enterprise	A legal entity with an effective virtual presence	→Single Window Operator to be established formally as a legal person with legally established relationships, rights, obligations & liabilities. →Single Window legal mandate can set forth the basis for accomplishing specific goals without participating organizations otherwise losing their functional autonomy •

	Web-portals can simplify and unify diverse regulatory requirements	→ Single Windows can begin and grow like cross-enterprise web-portals; follow the *information* → *transaction* → *integration* → *transformation*.
	Single Window as an orchestrated network of collaborating facilities and organizations	→Systems within a community systems collaborate through legal agreements and will gradually flourish through relationships of trust. →Danger of the Single Window Environment following the standards of the 'Dominant Enterprise' ignoring international standards for interoperability
Collection of Services	Single Window services can be organized into distinct, non-overlapping categories and hierarchies	→Helps identify gaps in the IT supported services in cross-border trade, transport and regulatory domains → Provides a framework to analyze and determine Single Window scope →Creates pathways from business services to Single Window services under 'Service Oriented Architecture'.
	Service interactions hold the key user satisfaction	→ Draws management attention to interaction design and service experience →Follows the established disciplines of service catalogue development and service operation management.

Chapter 2: Border Management Functions and the Single Window Concept

In this Chapter, we will deal with the following questions:

- ✓ Why most areas that customs deals with involve a high degree of collaboration with other government agencies?
- ✓ If Customs administrations differ from one another in terms of the functions they handle, is there a way to describe their current strategic responsibility and their future role in governance?
- ✓ Which are the candidate services for Single Window arising out of different Customs responsibilities?
- ✓ What impact will 'Single Window' have on the traditional customs functions?

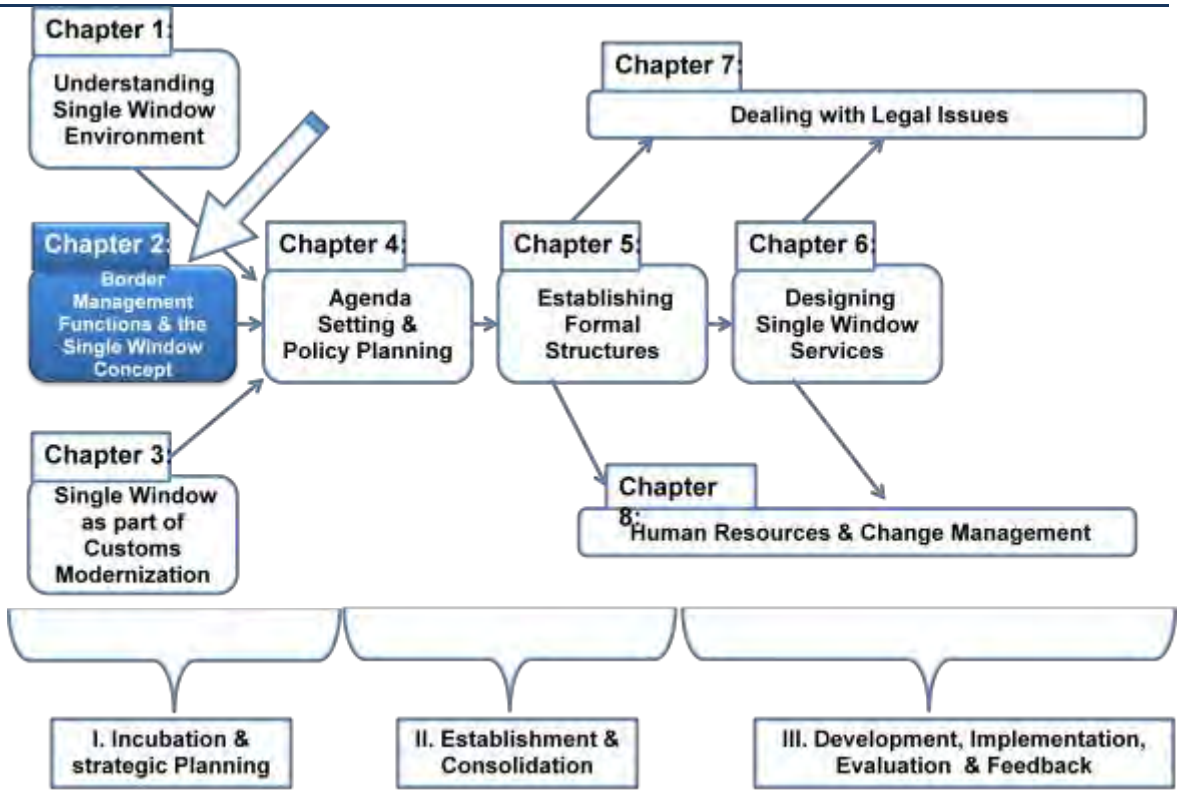


Diagram1: Layout of Chapters for Volume 1

1. Introduction

The previous chapter presented an introduction to the concept of Single Window and noted that there were several ways of approaching it. It was concluded among other things that Single Window had implications for the manner in which Customs and other Cross-border Regulatory Agencies provided services to regulate international trade and travel and that it called for a collaborative effort amongst the CBRAs. In this chapter, we will analyze in detail the various functions of a Customs organization and the implication of these functions for services delivered under a Single Window environment and for interagency collaboration.

It is widely recognised that Customs plays a key economic role in relation to managing the international supply chain, providing social protection, maintaining streams of revenue, and generating valuable statistics for policy making. While Customs can potentially perform many functions – the actual profile of responsibilities varies from country to country. There is a need for a framework to examine the impact of Single Window on different functions of customs. This analysis will provide information to help identify the scope of a Single Window project and will help executive managers to consider scope in their respective political, legal, administrative and technical environments.

The following section will list out (i) the different functions performed by customs, (ii) the Single Window services associated with these functions and (iii) the tasks for cross-agency co-ordination and collaboration. Not every customs administration may have all of these functional roles. In some countries, some of these roles may not be a priority for customs as it would be for other agencies of the government.

Additionally, there are some roles which may not be listed as customs functions even though these are related to border management. The following check-list can help elicit a more nuanced understanding of a Customs administrations functional profile. The checklist can be worked out for each customs administration by indicating one of the following attributes against each function listed below:

Responsible: Customs has administrative or regulatory responsibility in this functional area, which *requires its active participation* or ownership in decision making.

Accountable: Customs is held to the consequences of the outcome of the efforts and decisions. The focus is upon all of the elements of duty *especially after the point of decision making*.

Consulted: Primary responsibility / accountability for this function rests with another agency but *Customs is formally consulted* as there could be serious policy or operational problems in the absence of formal consultation.

Informed: Customs has no active role in decision making but needs to know for operational or implementation reasons;

Not involved: Customs is not concerned with this functional area.

In addition to the above, an administration can grade each function in terms of **priority** of **High**, **Medium** or **Low**. To illustrate and to explain how this checklist can be used, a few of the key functions have been annotated.

2. Revenue Administration

2.1 Key functions

» Assess & collect duties, taxes & fees on goods that cross the border [For example, in country A: The **role is Accountable]**]

» Participate effectively in ensuring that Value Added Tax, Excise or other domestic taxes are collected on goods that cross the border **[** For example, **Role → Accountable**]

» In relation to Customs valuation, facilitate the correct tax treatment to transnational transfer payments **[** For example, **Role → Not concerned**]

» Resolve and settle revenue and other regulatory disputes expeditiously and equitably.

» Analyze legally obtained data from different sources in order to profile tax payers and in order to discover revenue opportunities.

2.2 Single Window Services

Provide online information services concerning:

» All types of duties, taxes and fees payable at border for every commodity / tariff item [For example, **Priority → High]**

» Computation method for each type of duty, tax and fee covering not only for customs but also other legislation.

» Informing traders about the legal / regulatory authority for the charges, basis of charge and tariff

» Providing guidance on tariff classification for commodities

Provide online transaction services:

» Provide online facility to receive import, export and transit declarations online

» Providing online validation and processing of declarations;

» Online calculation and finalization of cross-border duties & taxes

» Electronic work-flow for processing release and clearance

» Online application for cross-border duties, taxes and fee liabilities

» E-payment of all duties taxes & fees - also refunds & drawback

» Collection domestic commodity taxes payable on imported goods.

» Administration of duty/ tax rebates and duty-drawbacks upon export.

» Management of in-bond movements

» Management of the duty deferments and reconciliation.

» Sharing of real-time information with internal tax authorities on tax liability of imported goods

» Case management portal to monitor and manage disputes arising out of the enforcement of border regulation.

» Dispute settlement lifecycle processes (i) Provide procedural information on how dispute settlement works with each of the regulatory agency. (ii) issue of dispute notices (iii) fixing appointments for the proceedings (iv) Notifying adjudicated decisions

» Providing information on service continuity measures in case of failure of online transaction systems

2.3 Tasks of interagency Co-ordination

» The interagency co-ordination tasks stem not just from the Single Window services but also for taking policy decisions. In relation to the Revenue administration functions, the following tasks have been identified:

» Locate every regulatory agency that collects a duty, tax or a fee for border procedures. These may be central or federal agencies, provincial agencies or local authorities.

» Examine different industry sectors - each may have its own type or structure of regulatory taxation. - For example oil industry may have a duty or fee structure quite different from agriculture sector. Consult trade and transport industry associations and their intermediaries (brokers) – these parties are always acutely aware of different types of expenses.

» Compile types of levies (duties taxes and fees) & underlying legislation from all border agencies; including even those taxes that are specific to the country, region or provinces/ports.

» Collaboratively with partner agencies, build profiles for each type of duty, tax, or fee to capture: (i) computation method (ii) assessment & valuation method (iii) payment method

(iv) tax accounting, (v) security & deferment facilities (along with conditions of deferment), (vi) exemptions from taxes (along with conditions for exemption) (vi) Post-release reconciliation.

» Create standing organizational structures [committees, working groups] to ensure that all new border-related tariffs for duties taxes and fee and changes to existing tariffs are reported adequately in advance to the Single Window operating organization.

» Co-ordinate with border infrastructure providers to report on the basis of fees for different types of services. In collaboration with the domestic commodity taxation agencies, create an enabling environment for assessment and collection of domestic taxes on imported goods.

» Document the conditions of collection or deferment of goods and services taxes at the border.

» Co-operate with corporate taxation authorities on investigation of transfer payments between related parties and support customs valuation investigation through such co-operation.

» Co-ordinate with all relevant border regulatory agencies to put together information on disputes and case management. Respond to disputes in a comprehensive manner by clarifying the administrative authority to decide on disputes.

» Create mechanisms collaboratively by sharing of data and by the analysis of industry value chains with a view to locating hidden revenue opportunities.

» Monitor, track and analyze industry value-chains

» Institutionalize the sharing of tax compliance profiles between agencies

» Collaboratively manage privacy concerns that may arise in sharing of data between agencies.

3. Transportation & logistics

3.1 Key functions

» Participate in the creation and management of border infrastructure [For example, Customs **Role** →'**Consulted**']

» Ensure quick, safe and orderly movement of means of transport

» Ensure efficient & orderly unloading/loading of containers & cargo at ports & airports

» Ensure that storage, inspections, screening, and examination take place in safe and secure facilities and delivery takes place with minimal disruption to the flow of cargo and at the least cost to trade.

» Ensure that bonded cargo is securely held in the warehouses or under transportation.
» Ensure that means of transport used in cross-border activities meet regulatory requirements

3.2 Single Window Services

Provide online information to traders and transporters regarding:

» Access and approach by road to the ports, airports and land crossings;

» Location of warehouses, terminals, cargo services and regulatory (Customs/ Quarantine etc) facilities.

» For each facility, provide a list of services, service hours, service levels and service fees.

» Provide Single Window electronic facility for filing conveyance report -enabling entry and exit clearance formalities for customs and other regulatory agencies

» Enable the sharing of electronic information through the Single Window (registration and certification) on means of transport with the relevant regulatory authority.

» Provide online services that guide traffic through the land air and sea facilities at the border. [navigation, terminal gate control].

» Provide real-time waiting time and queuing information.

» Establish online exchange of customs response to conveyance reports with traffic controllers at the border.

» Provide Single window services to deal with allocation of loading and unloading bays/ berths, scheduling of cargo operations, regulatory inspections and other services indicated in the purpose of conveyance call.

» Provide single window services to deal with the licensing of bonded storage and handling facilities.

» Provide single window service to manage binning and storage locations of cargo in order to enable safe storage, retrieval and examination of cargo. Storage location of cargo should be visible to the identified stakeholders.

» Provide access to cargo manifest data to all relevant warehouse operators to enable temporary storage and inventory keeping of in-bond cargo.

» Provide online registration service for enrolling and retiring means of transport.

3.3 Tasks of interagency Co-ordination

Logistics is largely the responsibility of transport authorities and the private sector players. The interagency co-ordination tasks whether initiated by Customs or by the Transport authorities could stem from any of the following issues:

» Co-ordination during the construction and management of border infrastructure.

During the design and development phase specific customs requirements for space and equipment need to be figured in. It is linked to the suitability of the facility as a Customs bonding facilities/ Authorized Economic Operator Status for the airport operator.

» In the operational phase of the logistics facility, collaborate with transport authorities and private sector players to align business processes and working hours etc.

» Co-ordinate with controllers of road & rail, air traffic maritime traffic to ensure security of incoming and outgoing means of transport.

» Partner with security agencies in the securing the border facilities. Especially, perimeter security of border facilities and cargo security are vital for cargo clearance operations.

» Co-operate on entry, exit and access of personnel to sensitive facilities.

» Collaborate with traffic controllers to establish joint operational control centers to enable customs to exercise exceptional control of traffic flows and to facilitate interception of traffic for routine or exceptional examination.

» Promote real-time sharing of conveyance release information with other regulatory agencies to enable smooth flow of traffic.

» Develop a formal inter-agency emergency response procedure and disaster recovery plan for the airport, sea port and land border facilities. Establish a disaster preparedness chain of command.

» Co-ordinate with cargo handlers for working out the physical aspects of the smooth release of cargo.

» Collaborate with border agencies to regulate bonded storage and handling facilities. Licensing of these facilities often requires approval of multiple agencies. Such approvals processes should be co-ordinated and synchronized among the relevant agencies.

» Regulation of fixed/mobile facilities and equipment to operate in the bonded area, which may require general customs oversight.

» Co-ordinate with security agencies on service vehicles moving in and out of the secure facilities at an airport. Such vehicles require customs control in order to prevent connivance/ collusion.

» Co-ordinate with port authorities to register tugs and pilot vessels or feeder vessels that are meant solely to handle cargo from mother vessels, where such vessels also required to be registered/ licensed by Customs for operations in the customs area.

» Collaborate with warehouse and logistics operators to facilitate examinations and share control results. Co-ordinate with warehouse operators and security agencies, local police to prevent and control pilferage and smuggling from warehouses.

» Co-ordinate with transportation standards bodies to share and manage information on ocean-going and coastal vessels, registered scheduled and non-scheduled flights, registered commercial means of transport that is authorized to ply on international road routes.

» Agreement on the agency that maintains data on the registration and certification of means of transport.

4. Trade Policy Administration

4.1 Key functions

» Implement trade policy measures including tariff & non-tariff trade measures & trade facilitation programs

» Provide accurate trade data to support trade policy development

» Implement customs measures concerning bilateral, regional and multilateral trade agreements and agreements on economic co-operation.

4.2 Single Window Services

» Provide online Single Window portal that provides tariff and non-tariff trade measures for all tariff lines and commodities

» Provide a single window service to all regulatory agencies for delivering trade data and statistics.

» Provide online services for application of import and export licenses, and permits.

» Provide transactional and post release verification of licenses, permits and certificates.

» Provide online services to implement individual trade regimes as required by Regional Trade Agreements (RTAs).

4.3 Tasks of interagency Co-ordination

» Collaborate with the Trade ministry to reach agreement on the role of each CBRA in maintaining the online information

» Collaborate with Trade ministry during trade negotiations in order to present a cogent national position on border measures.

» Co-ordinate with Trade ministry to secure effective implementation of customs measures at border including measures for trade facilitation.

5. Economic Security

5.1 Key functions

» To prevent misuse of trade and travel for illegal movement of money across borders

» To implement the legitimate measures for protection against dumping and other countervailing measures.

» To promote flows of investment by meeting industries needs for supply chain facilitation.

» To ensure that counterfeit articles (including counterfeit currency) do not reach markets to the detriment of genuine holders of IPR

5.2 Single Window Services

» Provide online facility for currency declaration by travellers

» Provide online information on countervailing and protective duties

» Provide online information on trade and supply chain facilitation measures and other investment promotion measures.

» Provide linkages between Single Window for international trade with other Single Window or online e-government services for businesses.

» Provide online facility for right-holders to register their IPR.

5.3 Tasks of interagency Co-ordination

» Collaborate with other enforcement agencies that are authorized to take action against money laundering.

» Collaborate with the Financial Intelligence Units to implement measures against trade related money laundering.

» Co-ordinate with the competent agencies to help investigate commodities that require anti-dumping and Protective duties

» Collaborate with other government agencies to provide a comprehensive package for potential investors.

» Collaborate with other government agencies to align & simplify business life-cycle processes.

» Collaborate with right-holders help report goods susceptible to IPR violations

» Inform other government agencies about the detection of IPR infringements.

6. Public Health, Safety & Environment

6.1 Key functions

» Implement admissibility & border measures for goods concerning consumer and industrial safety, environment and public health

» Prevent and defeat drug-trafficking and human trafficking

» Implement regulation on the movement of hazardous waste.

6.2 Single Window Services

» Provide online information about goods that pose safety, environment and public health hazard

» Provide online information about the dangers of narcotic and psychotropic substances.

» Provide for electronic reporting of regulatory information concerning handling and movement of hazardous waste. (Basel Convention).

6.3 Tasks of interagency Co-ordination

» Collaborate with regulatory agencies to provide information to traders on admissibility & border measures.

» Collaborate with public health authorities to implement border measures so that trade and travel do not pose danger to human and animal health.

» Collaborate with law-enforcement officials on prevention of drug-trafficking

» Collaborate with concerned agencies to get certification of port facilities for handling hazardous waste.

7. Supply Chain Security

7.1 Key functions

» Implement border measures (inspection, scanning, vehicle rummaging) to prevent movement of arms, ammunitions, explosives and WMD.

» Implement programs on export control of dual-use items

» Implement passenger control processes to prevent transnational crime including smuggling and terrorism.

» Implement programs to provide assurance that supply-chain players and facilities are trusted and secure and are used only for legitimate trade.

7.2 Single Window Services

» Provide online information on licensing of dual use equipment and technologies.

» Provide online information to citizens concerning customs and border controls.

» Provide online filing facility for passenger manifests.

» Implement passenger profiling and risk assessment using passenger data.

Tasks of interagency Co-ordination

» Collaborate with security agencies (as is appropriate) for monitoring, detection and post detection activities on Customs violations that have security implications and assist in the efforts of partner agencies in similar investigations launched by them. .

» Collaborate with coastal and land border security agencies to help optimize resources used on routine border surveillance.

» Work with the security agencies at the border to apprehend people suspected of terrorism and serious crime.

» Partner with enforcement agencies to share intelligence and to enhance controls.

» Collaborate with partner agencies for the implementation of supply chain security programs.

Not all Customs Services will have the same set of priorities. Some of the functions would received more importance than other functions. But priorities change over time and in a 20 year time horizon for a Single Window implementation, this aspect needs to be kept in view.

So, even as country A and Country B present a completely different picture in terms of priorities, the sovereign responsibilities will remain for both countries. These responsibilities may vary over time during the lifecycle of a Single Window.

8. Conclusions

The above exposition has demonstrated that by their very nature, the functions of a Customs organization involve intensive collaboration with other government agencies. Whether or not Customs implements a single window solution, it is required to engage deeply with a number of government departments and private sector agencies in order to fulfil its roles, goals and mission. The World Customs Organization recognized this unique challenge for Customs in the future and identified 'Co-ordinated Border Management' as a key building block for Customs in the 21st Century.

As we examined the logical connection between 'Customs functions', 'Single Window Services' and the 'Tasks of Interagency co-operation', we noted that not all Customs administrations share the same profile of responsibilities. The traditional allocation of business among government departments, the historical role played by Customs as a public services agency and the strategic place provided to it by the political leadership may vary across geographies and economies. The self-assessment framework provided in this Chapter may be used to quickly establish an accurate map of functions that are nationally mandated to a Customs administration. This functional map would then help identify the

portfolio for services ("collection of inter-related services") to be delivered through the Single Window Environment.

The desire to perform and excel in these services must fit-in with the overall strategic map of the Customs administration, an aspect which is discussed in the following Chapter. The interagency co-ordination tasks are far more complex than the technical and engineering aspects of building the Single Window Environment. As Customs engages with other agencies on different aspects of co-ordination, it would need the continued support of the policy leadership. Chapter 4 discusses the ways in which such support can be secured and the policy momentum can be maintained.

Chapter 3: Single Window as part of Customs Modernization

In this Chapter, we will deal with the following questions:

- ✓ How does 'Single Window' fit within the national strategy for Customs Modernization and Trade Facilitation?
- ✓ Why is strategic planning important for the development of a Single Window Environment?
- ✓ What specific strategic initiatives must Customs undertake in order to develop a Single Window initiative?

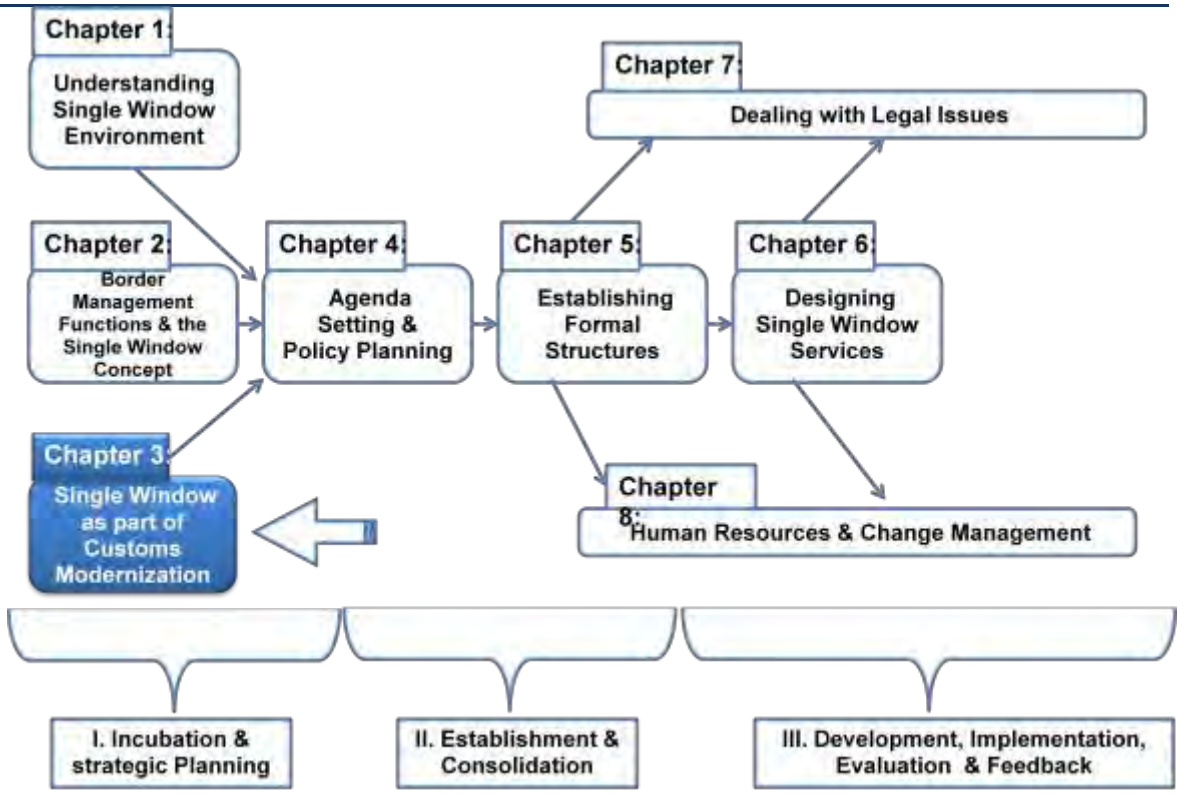


Diagram1: Layout of Chapters for Volume 1

1. Why Strategic Management?

In the previous chapter, we noted that customs is widely recognized for the key economic role that it plays in the management of the international supply chain, providing social protection, maintaining streams of revenue, and generating valuable statistics for policy making.

Over the years, Customs has discharged these roles effectively but the political and economic forces of the 21st century have created new drivers for change. Governments must respond to the industry needs arising out of rapid globalization and continued growth in trade volumes, sensitivity of trade to costs, geographical mobility of trade flows and the proliferation of trade agreements. Industry is growing impatient with inefficient and out-dated border procedures and is expecting governments to create conditions that enable it to follow modern logistics practices leading to predictable flows in the international supply chain.

Additionally, governments are getting increasingly concerned about supply chain security. Apart from disrupting trade flows and causing loss of human life, a terrorist incident can result in disastrous economic consequences for the affected trade lanes. These factors have created another set of drivers that influence regulatory policy on cross-border trade.

In the previous Chapter, we have seen how the Single Window concept impacts different customs roles and functions. The aforementioned drivers have significantly altered the manner in which Customs will discharge its responsibilities. There has been a shift in the role of Customs from an agency that collected duties and taxes to one in which it has larger border management responsibilities. Even in those countries where Customs is still a significant source of revenue, it is increasingly being called-upon to provide wide-ranging support to government policy especially in the area of international trade and the protection of domestic industry and economy.

These challenges make **strategic management** an essential condition for the building of a modern Customs organization that is capable of fulfilling its mission. The following sub-sections will look at strategic management in the Customs context and how Single Window fits into this context. There is a need to be client focused, not just to elicit suggestions from trade but also to seek their participation in promoting regulatory compliance. Customs needs to join hands with the trade in a partnership that helps utilize traders' own capabilities to further its regulatory objectives.

What is Strategic Management?

Strategic Management is defined as the process of creating an operational strategy for an organization, based upon a mission and a vision in order to keep the organization in track with its goals and objectives. Government's priorities and its national and international obligations will shape Customs operational strategy. The development of the Customs organization rests entirely on the foundation of its mission, vision and strategy.

A strategy setting out a vision for trade facilitation for a period of 3 to 5 years would typically cover the following four business areas:

- *Institutional framework*- This includes the strengthening of regulatory agencies involved in trade facilitation and the co-operation between such agencies, infrastructure for trade, and consultation mechanism with the private sector.
- *Legal framework*- This covers import and export procedures, clarity in trade legislation, tariff and non-tariff restrictions and compliance requirements.
- *Electronic business & documentation:* This covers procedures for submission of data by traders, electronic filing infrastructure, workflows processes for import, export & transit, submission of supporting document and digitization.
- *Specific Trade facilitation programs* such as trusted trader/ Authorized Economic Operator, measures to balance controls and risk, and measures to reduce release times etc.

1.2 Being client-focused

Placing Single Window in the strategic framework implies examining the impact of the initiative on the various trade facilitation policies of the government. In the preceding sections, several categories of programs were mentioned. A theme that runs through all these programs is the need for Customs to remain 'trade-friendly'. The following are the key pillars of this approach:

Regulatory Transparency

The norms of regulatory transparency require trade to be allowed to have a say in the way a regulation is formed. Experts say that the establishment of consultative processes reduces the costs to trade while improving efficiency in implementing regulatory policies. Regulatory transparency improves further when Trade has a legal right to regulatory information. Likewise, governments that are legally obligedto publish such information *suo mottu* also helps.

Consultation

Consultation should cover all aspects of trade including gathering of ideas on regulatory policies, proposals on procedural legislation and operational aspects of services delivery. Provisions of the revised Kyoto Convention (World Customs Organization 1999) mandate industry consultation. The principles of an early notice of proposed regulations or legislation and that of a public consultation process involve giving a formal hearing to the interested parties on policy proposals. These principles are already being widely followed in several countries. Theseprinciples are vital to a Single Window project . While enabling trade input, these processes of consultation deepen the trust among CBRAs and between CBRAs and trade .

The individual cross-border regulatory agencies should deepen their consultation on service design and delivery. This becomes all the more necessary in the future, as regulatory single window solutions will rely increasingly on the trader's own data and processes. This implies an understanding of the trade chain from the industry perspective. A single window project has a better chance of success where partnership with the industry is deep and wide and covers all aspects of the project.

Client Outreach

The WCO SAFE Framework of Standards promotes the concept of the Authorized Economic Operator as partners with regulatory authorities in facilitating security and speed in trade. Client outreach enables us to expand the circle of voluntary partners. Businesses that have both the capacity and willingness to monitor their own activities provide the logical starting point for Client-outreach programs for promoting voluntary compliance.

Aligning Regulatory Goals with Business Goals

The following table illustrates the possibilities of close strategic alignment between the strategic goals of regulatory authorities and goals that businesses would to set for themselves in self interest. .

Strategic alignment between Business Goals & Regulatory Goals

Business Goal	Regulatory Goal
Product Recall Capability: The ability to withdraw or remove products from the supply chain for business reasons	**Consumer Safety:** To monitor and control cross-border movement of products, which are potentially unsafe to consumers.
Product- life-cycle management: (*This applies to different product types differently.*) The ability to track product information from the conception & design stage, manufacturing, shipment, delivery all the way until its consumption and disposal.	**Regulatory classification of products:** The ability to determine the exact product composition for a particular production batch. **End-use monitoring:** The ability to track and report end-use – for example of high-technology dual use items.
Inventory Management: Control over delivery schedules – Just-in-Time delivery.	**Supply Chain Security:** The ability to locate a consignment with a view to subjecting it to inspect and control. Enhanced possibilities for control.
Fast turnaround of vessels: The ability to rapidly and efficiently unload and load containers.	**Maritime Safety & Security:** To locate and isolate unsafe containers. To apply the correct handling procedures for dangerous cargo.

The above table illustrates that there can be programs and arrangements that works to the mutual advantage of Customs and trade. The more the traders are in control of their logistics and regulatory processes the better they are in a position to help CBRAs exercise controls. The more visibility the trader has on his traded products, trading parties, and consignments, the more opportunities the authorities will have for applying regulatory controls. If businesses can convince Customs authorities that their internal control processes can support and supplement those of Customs and that Customs can have access to these 'internal' controls, then a bond of trust is established between customs and the trader. The 'authorized supply chain' emerges when businesses along the entire supply chain are included in the 'trusted' category.

1.3 Where does Single Window fit in?

What is the relationship between Single Window and other components of a national strategy on Customs modernization and trade facilitation? Experts agree that the development of a Single Window Environment is a key strategic element that links-up a number of trade-facilitation initiatives. Because Single Window impacts all stakeholders in international trade, it has far-reaching implications for Customs. The trusted trader concept, Authorized Economic Operator regime and the authorized supply chain need to become part of the business architecture of a Single Window solution. The information models supporting traders' own processes and activities can also be leveraged by Single Window solutions. The Single Window Environment needs to be an integral part of this process of engagement between Customs/CBRAs and trade.

In Chapter 2 we saw that the services of a Single Window cut right through the major customs functions and have a horizontal impact on the entire Customs organization.

Customs is the largest and most important Cross-border Regulatory Agency. It is involved in every transaction in international trade. It has wide-ranging responsibilities and it intrudes into every international trade transaction, both in the physical sense of examination of cargo and by way of information gathering. Customs has the natural reach to border processes and well-developed competencies in border regulation. This has encouraged Governments to see Customs as the natural agency to take-up the initiative on Single Window. The recent WCO Survey held in 2010 has revealed that in the majority of cases Customs has been chosen to lead and orchestrate Single Window projects. Even in those countries where customs does not 'own' or 'run' the Single Window, it is the major stakeholder simply owing to its wide business coverage at international borders. The Survey further revealed that Customs oriented business processes dominated Single Window functionality. Therefore, pursuing the Single Window concept is a strategic decision for Customs.

Provided that Customs has the political backing, the urgency, budgetary authority and the necessary knowhow, it could strategically take-up a leadership role in the Single Window initiative. That said, there is a need to follow the strategic management process in order to define alternatives and appropriately positions the choices in relation to Single Window.

The Single Window initiative should be placed within the larger strategic framework for customs. The issue of ownership and responsibility in a Single Window is a complex process. Decision making in relation to the precise role that Customs could seek in a Single Window project also falls in the territory of strategic management. The Chapter on Human Resources & Change Management is devoted to this aspect and provides strategic guidance.

To obtain political backing and budgetary support for its chosen role, Customs needs to document its strategic business case that represents Single Window as a part of the organizational strategy for effectiveness. Experts recommend that organizations should follow the strategic management cycle shown in the diagram below.

2. Current Strategic positioning of CBRAs

The activities of diagnosing the current situation and developing the strategic plan [shown in the above figure] are part of the strategic management process. The process helps the executive management in finding a place for the organization in the future, while taking into account the current environment and projections for the organization in time horizon. . Also called strategic positioning, it requires a systematic analysis of contemporary trends that influence the organization's future.

For determining the strategic position of the organization in relation to the development of a Single Window, one of the considerations is the as-is position defining current arrangements of service delivery. These current arrangements will have major impact on the consideration for developing the 'to-be' services. Section II of Volume II (Initial Functional Assessment Guide) describes the methodology for capturing the as-is position in respect of current regulatory responsibility and functional capabilities of each participating CBRA. The as-is framework meets the current set of regulations in force and will also have to be supported in the Single Window environment. The current operational interfaces and modes of engagement between customs and trade will define the baseline for the 'to-be' service design. Any change from this base-line would require a re-design of business processes.

Another consideration is the legislative support to the 'to-be' process. Does legislation permit the 'single window' mode of submission data by the traders? Can one government agency make legally valid decisions based on data received in the course of a process defined in the legislation of a partner government agency? Is sharing of data permissible according to national privacy legislation?

Similarly, there are considerations for the interoperability of IT systems providing the interface between government agencies and traders. Many of these IT systems belonging to different government agencies were implemented in the past when hardware, software and data networking were combined to create monolithic IT systems with a rigid architecture. Achieving inter-operability by interconnecting such systems provides a unique set of challenges.

Most importantly however, current policies and programs of each Cross-border Regulatory Agency will heavily influence the to-be processes and consequently the design of services. Each such agency will have a strategy for trade facilitation and service delivery approach for the future. It is quite likely that all partner agencies will have their own long-term goals and programs along with political direction and budgetary support.

It may be useful for Customs to study documents from other participating CBRAs describing their current strategic outlook and their proposals for a 3 to 5 year period for facilitating trade. If there is no such document in existence, the current strategic position of these agencies may be derived from the major policy pronouncements made by these agencies in the past 3-4 years.

The analysis of the strategic position of Customs and the partner agencies would easily reveal the different strands in strategic planning for modernizations. The next section discusses the strategic aspects of Customs modernization initiatives.

3. Inside a Modern Customs Organization

A brief examination of the performance on trade facilitation by major industrial nations would reveal that 'Single Window' has historically not been an important factor in achieving success. Over the years, most countries that have been assigned high ranking in the World Bank's trade performance scale called "Doing Business, Trading Across Borders" (The World Bank Group 2010) either did not have a Single Window solution or they are still in the process of developing such a system. These countries have been operating advanced logistics systems to support rapid flow of goods. Included in the general picture for these countries are modern customs practices such as Risk Management, Post Clearance Audit and Trusted Trader programs coupled with traditional EDI based inter-agency messaging, but seldom a Single Window solution.

On the other hand, by simply establishing the single window concept for international trade, a country can potentially climb-up in the widely followed measures on logistics efficiency (such as the World Bank's Logistics Performance Index). The available data from these indices suggests while Single Window is just one aspect of effectiveness in trade facilitation, it may be quite an important one.

Governments that have already implemented a Single Window only in the sense of an electronic facility are progressively adopting further programs for introducing risk

management, post clearance audit, trusted trader programs and client outreach. This way, there is a better chance of achieving high levels of trade facilitation.

A study of the regulatory environment in some of the advanced industrial nations would reveal that the key performance measure for trade facilitation - '*Short & Predictable Release Times* -' is achieved only when a number of interlinked policies and programs come together in a mutually supportive manner. The rest of this section uses a strategy framework developed by Michael Porter to illustrate this aspect of strategic management.

3.1 Distinguishing features of modernized Customs

We begin the examination of Customs administrations by producing a simple tick-list of the defining features that an analyst of trade and logistics infrastructure can easily find in any advanced industrial nation, which isperforming very well on the measures of trade facilitation and logistics. This tick-list can be used as a self-checking exercise.

Table: Distinguishing features of a modern customs administration.

Sr no.	Defining characteristic	Observable features	True	Partly True	Not True
	Cargo release is mostly automatic	Most of the cargo is released on the basis of declaration and without regulatory examination at the time of release. Intervention is by exception. Documents are not examined at the port/ airport/ land border while cargo awaits release.			
	Simplified procedures	Release on minimum documentation; Two step declaration process where the first step involves submission of release data; Separation of release from clearance; Accelerated release procedure for accredited or certified clients.			
	Simple tariffs & clear regulations	Low variability in rates of duty; Few types of duties and taxes; Transparent methods of tax computation, facilitating automation; Few conditional exemptions to duties and taxes; Low tariff rates [most found in industrialized economies];.			

Effective use of risk management	Risk Management is an organization-wide process with a systematic effort to implement risk-based controls. Risk Management is embedded into Strategic, Tactical and Operational processes Organizational structure supports risk management Automated systems help risk assessment and selectivity Intervention is by exception
High capability for compliance	Government takes proactive steps in publishing compliance information Voluntary compliance is supported through client outreach programs Members of the trade remain invested heavily into compliance management. Traders have organized themselves to receive automated logistics information
Developed post-audit controls	Maintaining client account information is an organizational routine. Organizational units and skills exist for post clearance audit. Theassignment of audit tasks follow the principles of strategic risk management. Post clearance audit is the basis for compliance tracking and measurement. Legal support for on-premises audit and for access to client's own information systems and data.
Certified Client-base	Trusted trader / authorized operator programs exist. Transparent norms of certification based independently verifiable audits.

Efficient information exchange	Electronic data interchange systems interlink various stakeholders – connecting traders, port/airport, logistics providers, regulatory agencies and banks.
Standard and simple electronic messages	Highly standardized and simplified messaging has been implemented. Messages cover a broad spectrum of business needs related to regulatory clearance
Support for supply chain visibility	The entire community has invested in features that facilitate the transparent discovery of the status of declarations and release, vessels, cargo, and container movement
Progressive build-up of data	Systems don't demand the submission of all data at once Data is allowed to be built in stages matching with the corresponding actions in the trading and logistics business.
Reliable & orderly cargo delivery	Low idle-time for cargo handling resources at terminals and warehouses. Low waiting-times for delivery trucks. No visible clogging or queuing in the cargo facility. Effective communication links between cargo handling units and the dispatch systems.
Highly automated Cargo delivery	Real-time, graphics-enhanced container storage yard information supports highly reliable capability to locate containers. Automated binning in the warehouses helps rapid storage/ placement and retrieval of cargo
Excellent logistics capability	Inland hauliers are able to automatically schedule the delivery and collection of cargo at the airport, port or inland freight station. Low waiting times and loading operation times for trucks
Real-time exchange between customs & logistics operators	Release and release status information provided instantaneously to importer, forwarder and port and airport authority and warehouse operators. Carry-in and carry-out gate permissions are automated and managed through online connectivity.

3.2 Putting the jigsaw pieces together: Activity Systems

Michael Porter introduced the notion of strategy as an activity system (Porter 1996) (page 74) (Harvard Business Review, Nov-Dec 1996, 60-80) that creates a strategic fit among the organization's activities. A system is defined by its elements and the interconnections that exist between them. *Activity systems* are non-linear ways of thinking about these interconnections. Each interconnection reinforces the organization's strategy and together the map brings out the defining features and capabilities of the organization by the reinforcing patterns of activity systems.

Achieving Short & Predictable Release Times

The above table describes of the some of the defining characteristics of a modern customs administration. These characteristics can also be visualized as a network of **dependency** relationships.

For example, 'short and predictable' release times cannot be achieved without high levels of automated release of consignments. Physical handling of Cargo by the logistics facilities must ensure that cargo moves rapidly and reliably through the border facilities. Predicable and quick release has no meaning if the logistics processes cannot keep with the pace of regulatory release. The regulatory and physical processes come together with support from IT systems based timely flow of information. The diagram below depicts this relationship.

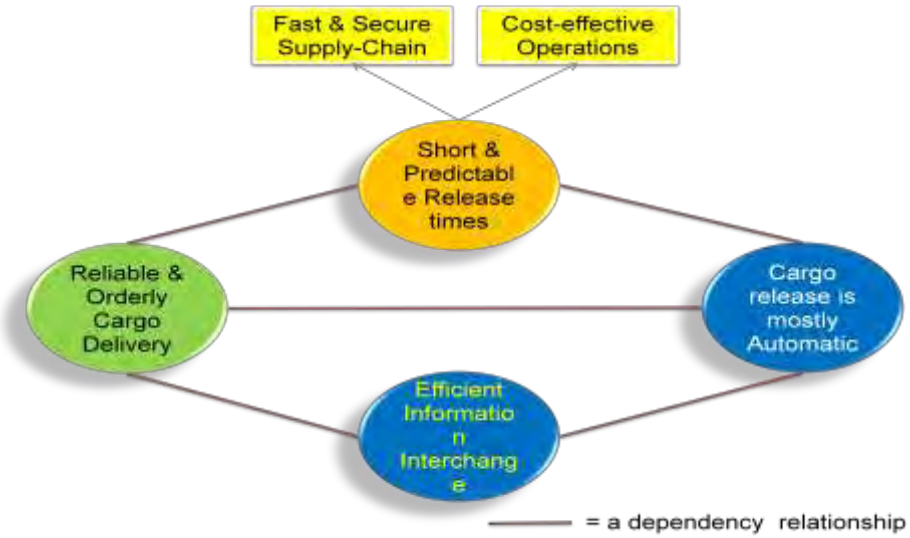


Diagram : Typical characteristics of an effective cargo clearance facility

The above diagram shows the interconnection between some of the key features of an advanced cargo clearance system.

Please note the used adjectives in the phrases '*reliable & orderly*' cargo delivery, '*efficient*' information interchange, and '*mostly automatic*'. Even if one of these adjectives is to be

replaced by its opposite, the outcome of whole system (of Short & Predictable Release Times) will be in jeopardy.

Indeed, this exploration provides an insight into how most of the advanced industrial nations that have already achieved high standards in the border processing of cargo. This goes to show that besides providing a Single Window solution, there is much that needs to be accomplished in order to achieve the targeted efficiencies in cargo clearance. The management of expectations from a single window project is vital and the existence of other elements that form the underpinnings of high-velocity of trade must not be lost sight of.

What goes into Automated Release of Cargo?

A further drill-down of these features would reveal a clearer picture of the entire system comprising individual strands of policies and programs. To begin with,for cargo release to be mostly automatic, it needs to be accompanied by low rates of inspection and documentary examination upon arrival of cargo in the real-time flow of cargo. Low inspection rates cannot be achieved without the effective use of risk management, high recorded levels of compliance by clients and reliance on post clearance audit (PCA) by Customs. In all such cases, Customs follows simplified procedures and providing guaranteed release on minimum documentation. Industrialized nations tend to have low tariff levels along with simple tariff regimes. Added to this, the non-tariff restrictions and regulatory requirements are made transparent, allowing traders to easily access to regulatory compliance information on commodities and be effectively prepared to meet these requirements.

Diagram : There is a lot that goes into fully automated cargo clearance

Further, economic operators who demonstrate high-levels of compliance would not just have to remain invested in their internal capacities to comply with regulation but also maintain a clean track-record. Customs can promote high levels of compliance by programs of client outreach, training and certification. *A certified client-base* provides reasonable assurance of compliance. The reliability and quality of the process of certification of clients is ensured through the formal and legally backed initiatives and programs such as 'Authorized Economic Operator (AEO)', AEO programs are in operation in several countries.

The processes of providing regulatory authorization should not fall behind the physical processes of cargo movement. That can be assured only when the declaration for goods and cargo are submitted in advance besides having an efficient information exchange facility.

Efficient information interchange

Standardized and simplified data is the basis for efficient information flows. Non-standard data and messaging create islands of information and increase the effort and complexity involved in maintaining interconnections between information systems. Standardized information is also the basis for building logical and meaningful collection of information. These blocks of information are useful in data interchange when they follow the logical order of information creation in business operations involved in trade and transportation transactions. The progression of actions and operations in trade and transport transactions leads to the progressive build-up of data. Contemporary studies on time release point to the process of document preparation for import and export as the major source of delay. The principle of progressive build-up leads to the gradual completion of information needed by regulatory agencies, cutting the lead time dramatically in document-preparation. In the absence of the use of electronic means for the progressive build-up of data, there is usually a last-minute scramble for information collection. The need for the trade chain and the logistics chain to maintain confidentiality in their respective pools of information has implications for information flow, access channels and timely availability of information fo regulatory purposes. All players in trade and transport do not have simultaneous access to all pieces of information that the importer / exporter or his agent needs for preparing regulatory declarations. The lack of awareness about the anticipated supply chain transactions and current status cargo movement prevent the 'regulated parties' from making advance submission of information. Therefore, support for *supply-chain visibility* is a key factor in the enablement of rapid clearance. The following diagram looks at the key aspects of electronic information interchange.

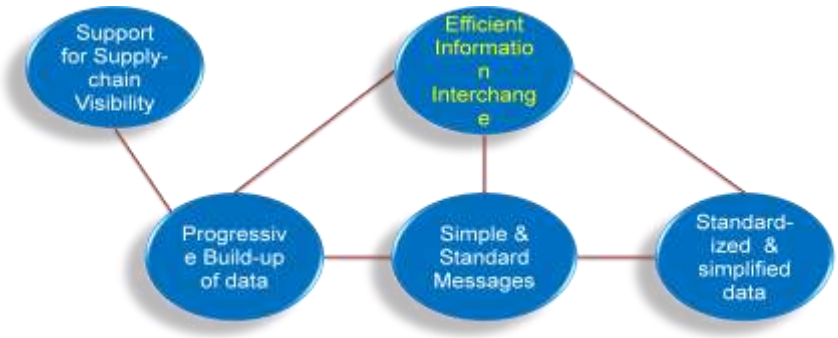


Diagram: Efficient information exchange implies standardized data processes

Efficient supply-chain logistics

Lastly, the physical and logistics side of operations must match with the pace of the regulatory clearance. There are many aspects to this activity. The services that form the onshore infrastructure include tugging and pilotage, terminal handling, container yard management, tally & accounting, intra-terminal and intra-port-facility movements, and warehouse management (binning & retrieval). The diagram below depicts the inter-relationships.

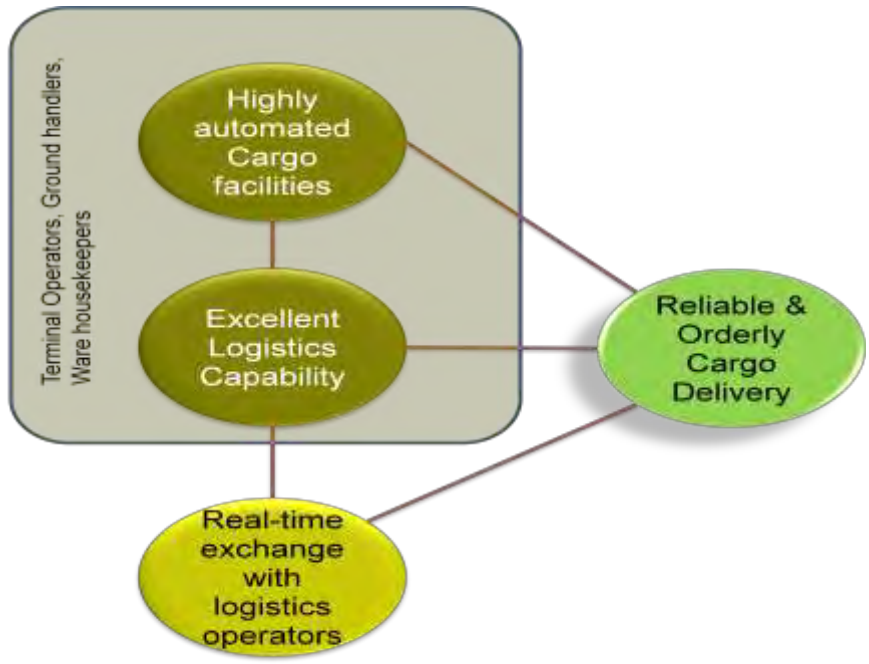


Diagram : The role of logistics operators is vital

Experts have documented (Clark, Dollar, & Micco, 2004) that poorly-performing ports have a direct negative impact on trade volumes and this is visible in smaller and less-developed economies. Studies have reported that the quality of onshore infrastructure is an important determinant of transport costs. Port infrastructure is a major determinant of transport costs. Quoting from the above-mentioned paper on poorly performing ports, these costs accounts for up to 40% of predicted transport costs for countries with a coastline and up to 60% for landlocked countries. Also, if a country that is currently burdened with relatively poor infrastructure (say, in the bottom quarter) is able to upgrade it to the same level as that of the top quarter, "it can result in the reduction of transportation costs by as much as 20% to 50%".

Therefore, investment in port and airport modernization clearly pays-off and has to go hand in hand with a number of other initiatives in regulatory simplification. These investments are large and complex. They involve the use of high-technology and long gestation periods. Return on investment is typically spread over decades.

The analytical framework of 'Activity Systems' used in this chapter provides a clear perspective on the strategy for customs modernization. The expectation of short and predictable release times is the result of a series of inter-dependent activity systems ranging from port

infrastructure to simplified customs procedures and is mediated by several inter-dependent factors.

The following diagram summarizes the entire picture of activity systems. This diagram was put together by aggregating the foregoing diagrams into one single frame. Customs executive management must recognize that there is a need to work simultaneously on different aspects of customs modernization, as the chain is as strong as its weakest link. The framework also provides the opportunity to arrive at a strategic positioning on each component of the activity system.

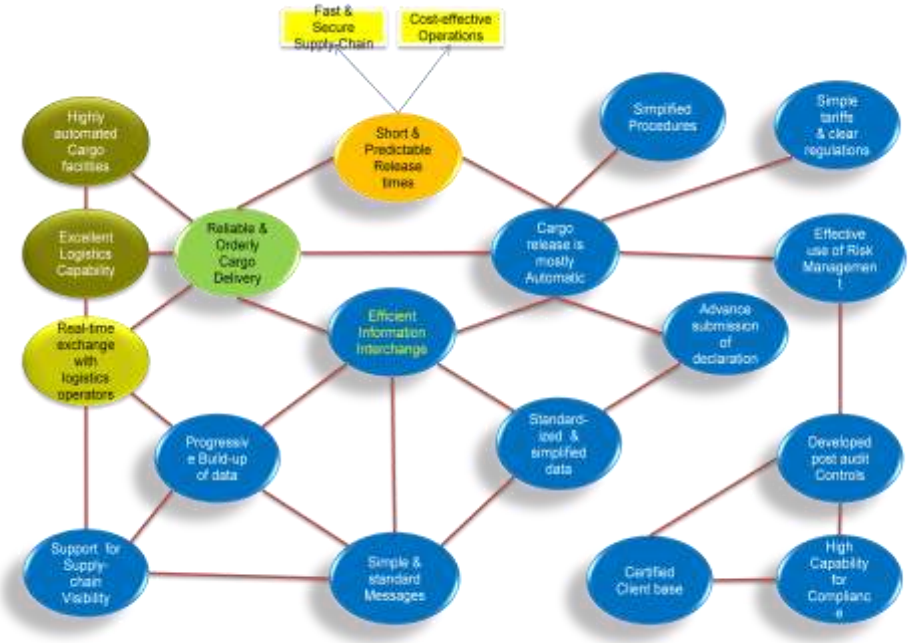


Diagram: Activity System of Country X that has a highly effective cargo clearance system

4. Implications for Single Window

In all of this, where is the Single Window Environment? A Single Window project can be used as a vehicle for enabling or promoting each of the ovals in the above diagram (save the two olive-green ovals in the top left corner, which are the preserve of logistics infrastructure, and therefore not of concern to Customs). The Single Window initiative can impact a number customs modernization initiatives. On the other hand Single Window projects could help in enabling the strategic components of a modern customs administrations. Single Window projects can have a positive impact on the different strands of modernization. Likewise, when a Single Window project is launched, it will be an important 'given' in formulating various programs for customs modernization.

The key principles of Customs modernization become normative for all participating CBRAs in the Single Window Initiative. For instance, if Customs follows risk management practices, it would become imperative for other government agencies to follow suit. The same logic applies to Trusted Trader (or AEO) regimes, Post Clearance Audit programs, client outreach programs and the regimes of simplified procedure. A Single Window program ensures that participating CBRAs will be able to share their best practice with each other.

5. Conclusion

The establishment of clear and accepted strategic goals for the organization is vital for the Single Window environment. 'Single Window' is not just about creating a facility that receives import, export and transit related regulatory information at one point but a strategic response of the organization in order to meet its trade facilitation and security objectives.

The WCO Capacity Building Compendium provides a series of analytical frameworks for the strategic management for organizational development, which is relevant in preparing the strategic business case for the Single Window Environment. This chapter recommends that any project on Single Window must position it as an integral part of the organization's strategy for effectiveness. Available data suggests that Single Window projects alone cannot produce the desired outcomes in trade facilitation. A comprehensive program for responding to the needs of businesses and governments must include a wide range of measures including adoption of inter-agency co-ordination in risk assessment and control procedures. The deployment of international data standards architecture leading to integrated paperless trading using such standards, improved inter-agency co-ordination incorporating an effective balance between border security and trade facilitation with mutual recognition of authorized/ trusted trader schemes are all part of the big picture. In this background, the relationship between Single Window and the key WCO instruments like SAFE Framework of Standards, revised Kyoto Convention, Coordinated Border Management, WCO Data Model and Time Release Study and WCO UCR can be seen as instruments of strategic value.

The Single Window Environment is capable of facilitating trade by improving velocity and efficiency but 'Single Window' solution needs to be seen in the context of a broader thrust towards customs modernization, which has many dimensions. As an IT solution, it needs to be seen in conjunction with recent innovations that make it possible to radically transform the way regulatory authorities can exercise control over the supply chain.

Chapter 4: Agenda Setting && Policy Planning

In this Chapter, we will deal with the following questions:

- ✓ What are the policy considerations in relation to a Single Window solution?
- ✓ How to get 'Single Window' into a government's agenda for action?
- ✓ Which are the critical areas requiring policy analysis and preparation?
- ✓ How to convert political will into policy routine?
- ✓ How to manage stakeholder communication in the policy planning phase?

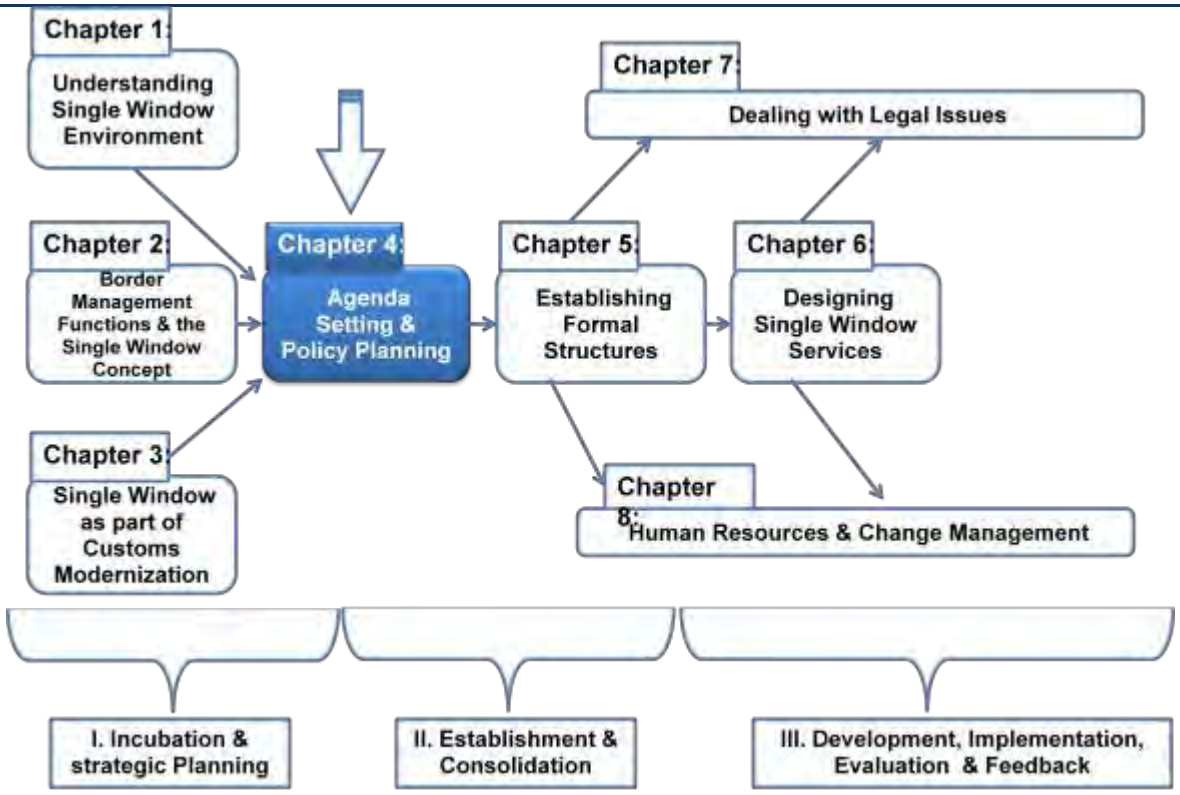


Diagram1: Layout of Chapters for Volume 1

1. Introduction

Having already discussed the concept of a Single Window environment in Chapter 1 and relating that concept with the wide spectrum of Customs Functions in Chapter 2, in Chapter 3 we concluded that Single Window needs to be pursued as part of a holistic strategy for Customs modernization. This chapter is aimed at providing Customs executive management with an overview of the policy considerations in the development of Single Window solutions, enumerating the key considerations that could facilitate a discussion on the topic among the key stakeholders and policy makers. This Chapter will also highlights the different openings or 'policy windows' that help sustain interest and attention of the policy leadership on the development of a Single Window Environment.

Although there is universal acknowledgement of the need for policy reform aimed at trade facilitation, the practical measures on trade facilitation have always been difficult to implement. There is virtually no incentive for governments to perpetuate slow, unreliable and inefficient processes at the border, and the political leadership strongly favours the construction of a robust cross-border regulatory infrastructure. However, it has not been easy for the political leadership to create committed organization structures that pursue this topic over a sustained period of time. It requires a persistent policy push in different wings of the Government. It also calls for an engagement model with stakeholders, supported by a communication plan that can sustain the project by reaching out to diverse organizational cultures. The leadership should promote sustained interagency efforts at the harmonization

of procedures, and the dismantling and re-alignment of existing systems. Program managers should be assured of support through the ups and downs of the initiative. Very often, a simple statement of intent on the part of the political leadership is treated as the sign of political will. A desire at the highest level to launch a Single Window may not be enough as it has to be backed by established policy routines that persist with an agenda for action.

The following section describes the challenges and hurdles that are faced by the policy leadership. The subsequent section deploys a policy development model to examine how and why Single Window would get into the government's agenda for action. It is followed by Section 4 that highlights some key points that help maintain the policy momentum. The Chapter concludes by stating that Customs executive management must become fully aware of all the problems that may give rise to the demand for a Single Window, the policy areas that contribute to the development of this initiative and the importance stakeholder communication in achieving its policy objectives.

2. Why 'Single Window' is a complex policy question?

2.1 Involvement of multiple agencies

The Single Window concept envisages a common virtual interface between businesses and the government. Different government departments have to play the role of service providers through this common interface. Issues discussed under a Single Window have to pass through different ministries and departments. A survey conducted by APEC (APEC Secretariat , 2007) on Single Window revealed that there is a significant number of Government Agencies involved in international trade regulatory processes. By its very nature, inter-departmental issues are very complex.

2.2 Battles for turf

Owing to their defined role defined in laws and regulations, Cross-border Regulatory Border Agencies enjoy monopoly presence at the border. Agencies have a strong incentive to perpetuate their hold and not enough incentive to co-ordinate. These agencies view their traditional areas of responsibility as their 'turf'. This 'turf is not to be given-up or shared with another agency. Myths may surface about Single Window being a power grabbing exercise by another department and raise further difficulties for the project.

The sophistication in the development and implementation of trade regulation may vary between countries. The geographical and political make-up of a country would also have an impact on the relative importance of government departments and their functional portfolios. This variety makes it difficult to generalize the problems and solutions involving battles of turf. It has long been recognized that for Single Window projects, a 'one-size fits all' approach will not work.

2.3 Linkages with existing programs

As was explained in the previous chapter, Single Window is in itself not a silver bullet. It is one of the many aspects of trade facilitation. The Single Window program has to somehow fit within the overall program of customs modernization, infrastructure upgrade, human resource development, integrity management and the broader development of trade regulation.

These issues are not just for Customs. All participating government agency will face similar challenges with their respective projects and programs. When a Single Window project is mooted, all the departmental projects and programs will be the focus of attention, and the managers of the respective projects and programs will be under pressure to explain their *raison d'etre*. *B*usiness processes and regulatory procedures will be subject to close scrutiny and organizational cultures will be dissected and analyzed.

In government, years of traditional incremental budgeting have led to a culture in which, managers routinely justified budgetary allocations. Existing programs and budgets have tended to be self-perpetuating. Such an organizational culture works strongly in favour of the status quo.

The new 'Single Window' approach would require each Cross-border regulatory Agency to review its own existing programs. The principles and assumptions based on the current programs will be challenged by the new, Single Window-based concept of operation forcargo clearance. Likewise, the proposed architecture of information technology (IT) under a Single Window project would not only challenge current investments in IT but also subject existing IT resources to new demands.

2.4 Long gestation periods

Single Window projects involve complex and time-consuming interdependent activities involving several government departments. Development of border infrastructurerequires extensive co-ordination and high level of investment. The procedure for making legislative changes is also prolonged. Business process analysis and data harmonization have to be carried out by dedicated technical resources belonging to different government agencies and trade bodies. These collaborative and consultative processes need to be sustained through multiple iterations over a long period of time.

Issues concerning physical infrastructure in and around ports and airports are not easy to resolve and may sometimes involve multiple agencies from federal, provincial and local governments. In cases of land borders, these issues call for international coordination. Additionally, Single Window projects would require large budget outlays and complex financial arrangements and therefore would be subject to the oversight and control based on elaborate procedures set out by government's financial controllers.

2.5 The avoidance response

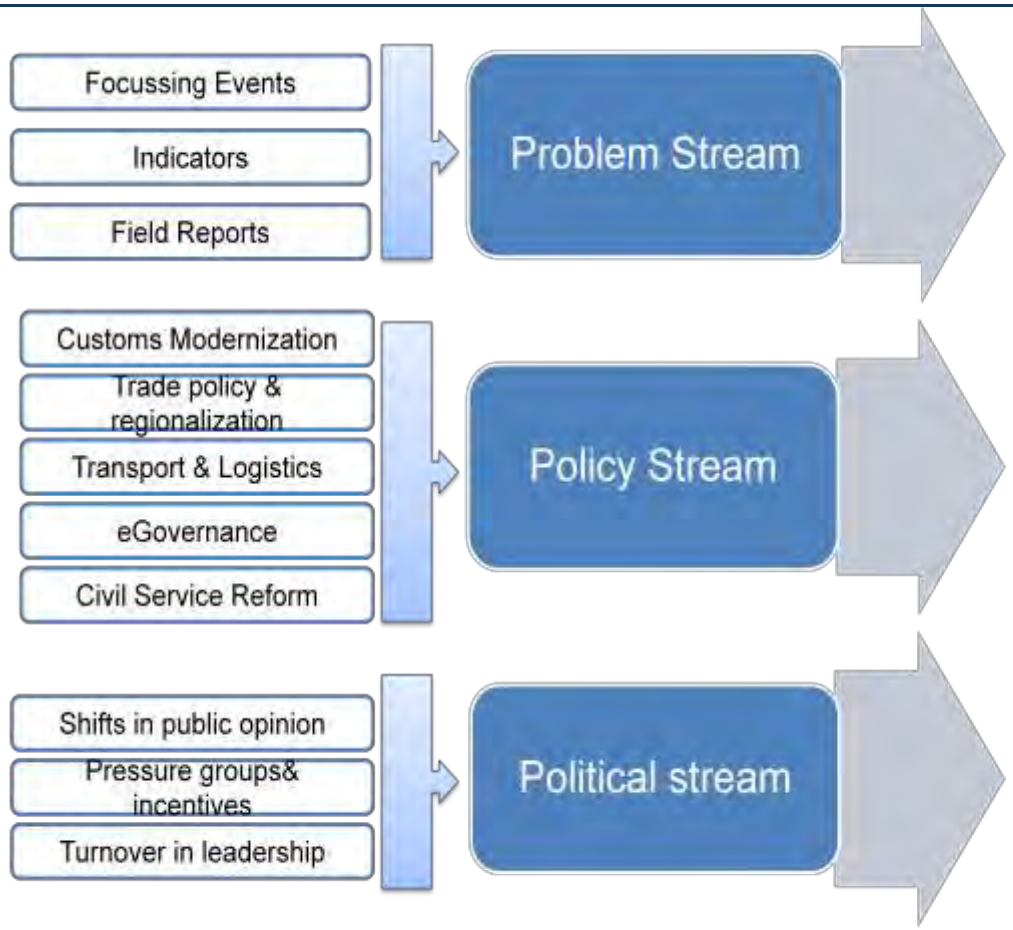
The issues cited above have the potential to divert the executive attention of the heads of Cross-border Regulatory Agencies to other more 'pressing matters' needing immediate attention, ensuring that the proposal for a 'Single Window' does not surface strongly on the Agenda for action. In cross-border trade, there is no dearth of such 'pressing' problems and the executive management has enough 'justification' not to take-up one more initiative like the 'Single Window' in the face of existing challenges. It is content with keeping the 'big monkey' of Single Window off its back. Another reason for avoidance may be due to misconceptions about the coverage and size of the potential Single Window project and the lack of appetite for such large projects within the executive leadership of a cross-border regulatory agency.

The points listed above constitute the biggest policy management problems in the area of Single Window. These problem presents itself as a high threshold at entry. Part of the answer lies in the political processes leading to the formulation of the project. The political mandate, policy structures and routines, project governance and stakeholder engagement models add up to a package that can help create conditions for sustenance of the Single Window project.

To understand these processes, it is necessary to establish why and how Single Window would get into a government's agenda for action. It is not enough to get it on the government's agenda but also to sustain the momentum of policy development. The following sections examine the different types of discourses that could lead to the considerations for a Single Window.

3. Getting 'Single Window' on Government's Agenda

Experts have suggested that there are three process streams (Kingdon, 2002) that must converge in order to bring about major policy initiatives. These streams are the problem stream, the policy stream and the political stream. These streams exist independently but come together at crucial moments to produce structured policy decisions. The following sub-sections examine these three streams in the context of a Single Window in order to locate the success factors in consensus building and the enactment of policies.



Adapting the 'Three Streams' model to the policy development in a Single Window Environment

3.1 The 'Problem' Stream

The 'problem' stream comprises identification and recognition of a set of related problems. The problem stream can emerge from organized events, published indicators and reports (feedback) from the field. The problem stream is focused on providing a high level of clarity to all stakeholders about the issues involved.

Focusing Events

Events that focus the government's attention on the gap between existing conditions and the desired state often create this stream. There is no dearth of such events in the area of trade facilitation as national and international bodies work ceaselessly to highlight bottlenecks to hassle-free trade. Seminars, workshops, trade negotiations, and investment road-shows etc fall into this category.

Indicators

Apart from focusing events, key macroeconomic indicators are published by international organizations that often help highlight the problem areas. The "Doing Business" Report that is published annually (The World Bank Group, 2010) ranks economies on their capacity to facilitate business, claiming to provide objective measures of business regulations and their enforcement. A portion of this report titled "Trading across borders" is dedicated to issues concerning trade facilitation. It has drawn the attention of the political executive all over the world. Governments are developing programs that are aimed explicitly at overcoming the handicaps highlighted in this report.

The World Economic Forum produces a Global Competitiveness Index in its 'Global Competitiveness Report' (World Economic Forum, 2010). This report assesses the ability of countries to provide high levels of prosperity, which in turn depends on levels of productivity achieved nationally. The index assesses a nation's competitiveness and posits it as the key determinant in international trade. Defined as a set of institutions, policies, and factors that determine the level of productivity in a country, competitiveness assessment is based on publicly available data and executive opinion. By including tariff levels, trade barriers and burdensome customs procedures into its calculus, the report draws attention of the policy makers to a nation's ability to compete in global trade.

The Logistics Performance Index is produced by the World Bank (Avris, Munstra, Ojala, Shepherd, & Saslavsky, 2010). This index positions itself as "a comprehensive statement that has been created to help countries identify the challenges and opportunities they face in trade logistics performance." This report helps highlight problems in the areas of transportation, warehousing, cargo idle-time and border clearance, and payment infrastructure.

Transparency International produces a Global Corruption Perception index that projects corruption in the Public Sector. Owing to their monopoly position, high public visibility at the border and perceptions of corruption, cross-border regulatory agencies are particularly susceptible to being attacked on integrity issues.

The Single Window concept having recently gained currency among the policy elites will spring to surface in the light of these publications.

Problem reported from the field (or feedback)

The above indices and indicators contribute to a top down flow of the problem stream. There are equally potent streams of information that arise from the grassroots and flow all the way to the top. The reporting of problems from the field contributes to this bottom-up flow of information. The private sector, through formal and informal consultative processes, provides the necessary input to the regulatory agencies on the current regulatory problems and there is a steady flow of reports from

the operational managers to the policy makers. Systematic efforts such as the time release study also provide clear indicators on the time taken by various agencies.

Problems may sometimes be reported at the highest levels. Investors, both domestic and foreign may complain about the time taken to clear goods and report the lack of a conducive environment as the major obstacle for committing serious investment.

Each of these reports points to a series of problem areas, often involving both public & private sector players, institutions, regulations and hard infrastructure. These reports and globally published indices attract media attention and create public awareness. The concerned public authorities are brought under pressure to explain why national performance is so poor. Stakeholders will use the statistics and indices as a means to support analysis and justify the need for change.

3.2 The 'Policy' Stream

Governments establish policy programs in different areas of governance and different sections within government are tasked with the formulation of policy alternatives and proposals in their respective areas. These organizational units give shape to new ideas or policy proposals that generally require the government's attention. In this stream, the decision alternatives for the policy agenda are formulated. While the problem stream is largely factual and based on hard evidence on the ground, the policy stream is the intellectual analysis of policy options and alternatives. Experts suggest that the big ideas exist in hidden clusters within government departments, external think-tanks and industry research bodies. Some of the individuals within these bodies can step-up their involvement and play the role of the *policy entrepreneurs* (Kingdon). Policy entrepreneurs are called thought leaders because of their 'deep and abiding commitment to a particular change'.

The policy streams that are relevant with Single Window processes can be located in the Customs modernization Policy and the process of setting-up the vision, mission and goals for Customs. This is the only stream that is under the direct supervision and control of the Director General of Customs. There are other policy streams that are directly linked to the Single Window initiatives, where career civil servants with years of professional expertise in diverse areas serve. Some of these areas of policy expertise that are linked to Single Window are listed below. Senior executive in customs should actively seek their collaboration in Single Window projects and seek appropriate counsel from them.

Trade & Regionalization Policy

Government policy on trade facilitation is usually directed by the ministries of trade and the question of single window may in some cases squarely falls in the Trade ministry's purview. Similarly, the related questions on regionalization & border trade policies are largely within the purview of the trade, external affairs and border police where customs is often the key facilitating department. Owing to their leading role in trade negotiations, Trade Ministries may sometimes find themselves holding a brief on Single Window related issues.

Logistics Planning & Industrialization Policy

Trade logistics planning is a specialized area that requires expert input to government. In several economies, there are dedicated units that help governments identify industrial zones and location that could be the source of goods for international trade. To keep-up with the flow of goods, there is a need to plan for the freight transportation infrastructure. Creation of industrial parks and freight corridors call for long- term investment of a high order.

APEC Supply-Chain Connectivity Framework Chokepoints

Chokepoint 1: Lack of transparency/awareness of the full scope of regulatory issues affecting logistics; Lack of awareness and coordination among government agencies on policies affecting logistics sector; Absence of single contact point or champion agency on logistics matters.

Chokepoint 2: Inefficient or inadequate transport infrastructure; Lack of cross border physical linkages (e.g. roads, bridges).

Chokepoint 3: Lack of capacity of local/regional logistics sub-providers.

Chokepoint 4: Inefficient clearance of goods at Customs; Lack of coordination among border agencies, especially relating to clearance of regulated goods 'at the border'.

Chokepoint 5: Burdensome customs documentation and other procedures (including for preferential trade).

Chokepoint 6: Underdeveloped multi-modal transport capabilities; inefficient air, land, and multimodal connectivity.

Chokepoint 7: Variations in cross-border standards and regulations for movement of goods, services and business travellers.

Chokepoint 8: Lack of regional cross-border customs-transit arrangements

Capacity planning for logistics infrastructure depends upon assumptions on cargo dwell-time (which is the flip side of release times) and efficiencies of cargo terminal operations. These assumptions that usually labeled under 'port efficiency' are major factors in determining the installed and operating capacities and can influence investment decisions. High cargo dwell-times along with high variability in clearance time have an impact on port facility planning. Policy planners in the area of transporation and logistics may find Single Window as the solution to the problems of 'port efficiency'. For example, logistics specialists in APEC member economies highlighted the following logistics chokepoints, while a few related to infrastructure, nearly half of the chokepoints refer to customs (highlighted by this author) and Cross-border formalities (APEC Secretariat, 2009).

Builders of large scale infrastructure, such as ports, airports, expressways, and land-border stations etc will inevitably look at the soft regulatory issues that support or hinder the steady flow of cargo.

Development of a Single Window will likely emerge as a policy option that links the national logistics infrastructure with the overall national vision for competitiveness in the logistics domain.

Human Resources & Civil Services Reform Policy

In many economies, the rationalization of the size of the civil services is a major area of concern for governments. Reduction in public expenditure on account of salaries and benefits to public servants is a standing policy item in most governments and forms a key area of long-term policy planning. Policy managers in this area prepare for the opportunity when governments agree on the need for undertaking comprehensive human-resources restructuring programs. The reasons for restructuring may be downsizing of the overall strength. Restructuring may also include the creation of a new government departments or agencies for achieving a better structure with the strategic priorities of the government.

While in a majority of the cases, Customs is the coordinator, playing a leadership role Single Window Projects, there are some countries like Columbia and Peru where Single Window projects (VUCE or Ventanilla Unica Commercio Exterior) are being steered by their national ministries of external trade. There are Central American countries like Guatemala where and El Salvador where that facility is being managed by the Central Bank.

Large scale re-deployment of manpower due to merging of functions or reallocation of business between organization units presents itself with a significant opportunity to introduce the question of the Single Window.

Governments around the world have given high priority to electronic governance. It is well known that electronic governance helps improve the overall quality of governance. It raises the quality of life of citizens and reduces costs of doing business. Most countries have central units that manage the overall policy on eGovernance. These units monitor the use of electronic means to(of ?) delivery of services, investigate long-term policy and vision and help formulate both short-term and long-term projects that may be taken-up by individual government departments. This wing of the government also seeks to maintain alignment between projects being run by different government departments in order to ensure that services delivered through different programs are non-overlapping and each of project ultimately delivers the long-term vision of the government.

eGovernance policy

EGovernance policy is not just about services provided by different government departments. It is also about technical standards to ensure interoperability and the common infrastructure for eGovernance. Governments are keen to optimize infrastructure resources such as data centres, networking, hardware, software, contact centers, citizen service centres by enable their shared use between government departments. This shared use would not only optimize resources across government departments but also foster the concept of joined-up services. These are some of the themes for policy development on eGovernance policy. Single Window for international trade could easily be one such area where the managers of eGovernance policy have a natural role to play.

It is important for the Customs executive management to maintain a direct link with experts in this area, to be aware of the master-plans for eGovernance services to businesses and the government wide standards that are being promoted. It is beneficial to collaborate with these experts as places for incubation of the concept as it supports their job of promoting all national programs on eGovernance.

3.3 The 'Political' Stream

The political stream represents the visible clusters of support for an agenda. It is in this stream that the actual government's agenda (the list of issues for decision) is formulated. Items of economic governance and industrial regulation have always been high on any government's agenda. With growth in the number of active trade lanes and the increase in the variety and volumes of trade, problems of cross-border regulation and the security of the supply chain have become very complex. In today's information driven world, businesses expect government to address these complex problems through faster and more effective processing of information. Therefore, it is not difficult for political leaders to pick-up 'single window' and put it on the Agenda.

However, Single Window is a problem that straddles across traditional departmental boundaries. Each ministry/department is under separate political oversight, supported further by a network of organizations that have diverse stakeholder interests. Each department will have its own budgeted government programs that its bureaucracies administer. Interest groups create and maintain their respective hard-fought turfs.

The Single Window concept is not a zero-sum game. The key to resolving issues in the political stream is through negotiations and compromise based on the principle of *Pareto Optimality*, where one CBRA could 'gain' from a change in allocation of responsibility and resources, even as other agencies do not lose theirs. The politics behind allocation of business/authority arising from the Single Window initiative can be channelized through structured discussions. A matrix of responsibilities, accountabilities and levels of engagement for different ministries, departments and agencies can be used to untangle the realities of trade regulations at the national frontiers.

Fighting for the leadership role often about cornering resources and about a sense of prestige and pride for the organization. It is also about the not so apparent agenda to corner resources without assuming responsibility and accountability. The following matrix is an example where the Trade ministry is given the lead role. The matrix gives an opportunity to establish clearly that responsibility, accountability and authority have to go hand-in-hand. The matrix can be used to assure individual agencies that their roles have not been or will not be taken away when the Single Window comes into being. For the sake of discussion, the roles for different agencies can be re-arranged experimentally to assess the impact. The changed situation would bring the focus back on questions of competencies and the track-record of different participating agencies. Here the perceived strategic roles and the allocated areas of business assigned to each agency by the

government level also play a part. There are risks involved in changing from current roles in terms of lost capacities but change creates opportunities by way of organizational innovation.

Claims to the 'Lead Agency' and positions of authority should be matched by the willingness to assume responsibilities and the readiness to be held accountable for the outcome. Track record in performance and competencies could help make the task decision-making easier. It will bear out that 'Lead Agency' is a highly differentiated role and that there is not much scope for exclusivity.

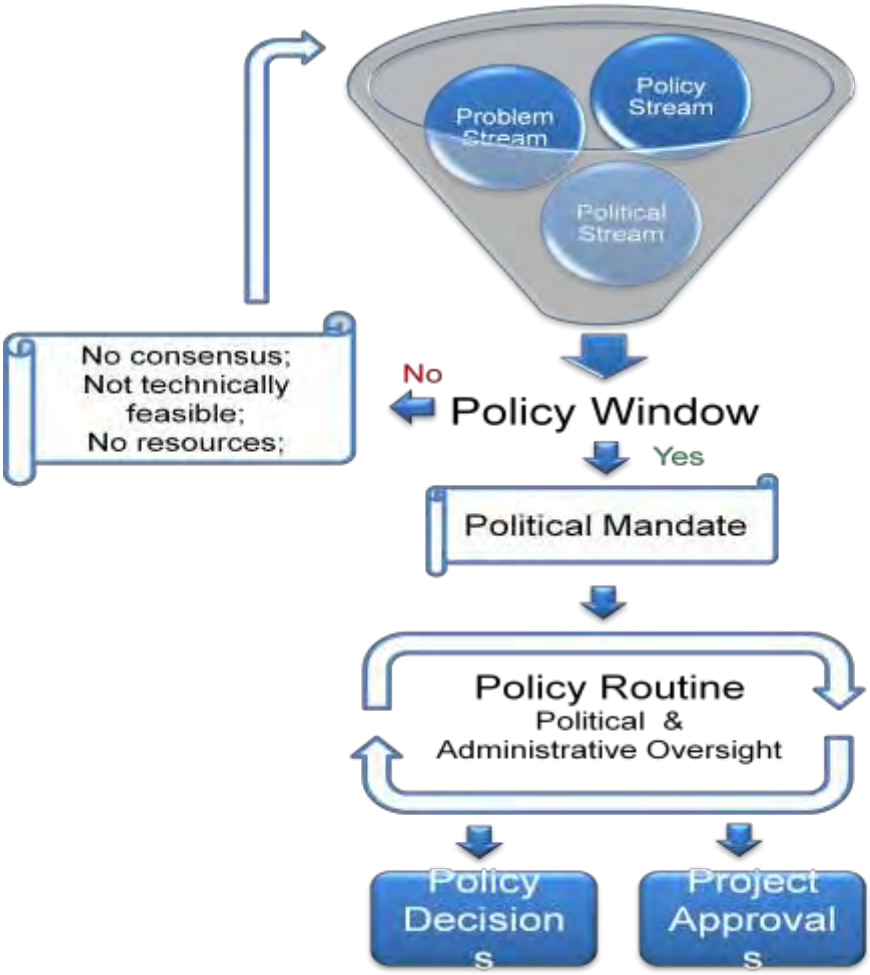
Leadership Area *(can be made more fine-grained)*	**Strategic Role in the Single Window Environment** (An example of where trade ministry takes the lead role)				**Impact of Change from Current Role/ Co-ordination mechanisms**
	Customs	**Trade Ministry**	**Transport Ministry**	**Others… *(please add)***	
Policy	Responsible	Accountable	Responsible		
Project	Responsible	Accountable	Consulted		
Technical	Accountable	Responsible	Not concerned		
Operational - Business	Accountable	Consulted	Responsible		
Operational – IT	Consulted	Accountable	Consulted		

The recognition by the political leadership that there is fragmentation of problem ownership and responsibility is half the solution. But unlike in the past, the issues can no longer be pigeon-holed and contained within individual agencies as businesses are increasingly demanding better co-ordination among government agencies. In fact businesses are expecting government agencies to harness information technology to deliver a seamless experience and sooner or later the political leadership will pay attention to these demands.

Customs executive management could find itself facing the political fall-out from uncoordinated handling of trade or security-related issues. Principally, the 'political stream' of the demand for a 'Single Window' could emerge from a persistent negative reporting or adverse publicity on cross-border procedures. The highlighted inefficiencies will attract more criticisms when these are associated with a fragmented response from different government agencies leading to even greater demands for transparency and co-ordination. In one case, the inability of enforcement agencies to 'join the dots' nearly cost several hundred lives. Therefore, around the world – especially the industrialized

economies, several strategic initiatives are underway to establish coordinated border management and 'joined-up' government services.

The political stream can also build-up in the course of other high-profile, government-wide initiatives. These include a major overhaul of fiscal policy, 'stabilization' of the external sector, sometimes supported by multilateral agencies, government 'transformation' projects, and industrial 'corridor' projects.



4. Maintaining the policy momentum

In the last section, discussion is centered around three independent streams that inform policy making processes. Policy decisions emerge when the three streams converge under right conditions.

Government's decision to implement a Single Window will first come out as a policy decision. This decision could be the outcome of a strategic business case presented to the

government. At this stage the government's in-principle approval of a Single Window solution is obtained. The policy decision of the government will be followed by preparations for establishing the preferred project (or projects) that creates the Single Window Environment.

There will be a considerable time-gap between the policy decision and the identification of the single window project and its implementation. This period is crucial for rallying the support of the stakeholders behind the strategic business case. The much abused term "lack of political will" is really the inability of the political executive to "dirty its hands" thrashing out issues of responsibility and accountabilities, and getting all agencies to be engaged effectively in their assigned roles.

The degree to which the leadership supports the execution of the preferred project is also a question of political will. It is in this stage that the political fall-out of the project will be felt and the premises of the project will be questioned. This process needs to be carefully managed through a series of steps discussed below:

4.1 Create a brand

Single Window projects are often known by a short title or an acronym which in itself tends to become a brand. It is not enough to create a charter for the single window project; every project has a charter. It is absolutely necessary to create a set of precepts that should be repeated like mantras in the course of meetings and discussions. Project titles and acronyms shouldn't become brands by default. Brand creation should be the result of a professionally produced communication plan.

The Single Window brand can be built by putting together a set of ideas and images that embody the Single Window outcomes. For instance, the brand image that the WCO Data Model, a project to promote the use of harmonized data for a single window is "*Cross-border Transactions on the Fast Track*".

An attractive project branding can help draw and maintain the attention of the stakeholders. The key ideas behind the single window can be captured in simple precepts that will act as guiding principles and help maintain continuity in the flow of ideas. Logos, slogans and other visual design can equally contribute to the brand. The project precepts or principled statements are of immense value to the entire project as they help bring sanity to discussions.

4.2 Identify & involve Subject Matter Experts

In the preceding section, it was explained there were several policy drivers for the development of a Single Window project. Industrialization, trade logistics policy, human resource restructuring, customs modernization and eGovernance were identified as the policy areas that have a bearing on the development of the Single window concept. Each of these areas will have 'thought leaders' who can act as policy entrepreneurs, who can bring considerable professional expertise from their respective policy areas and are willing

to forcefully articulate their position. The Customs executive management is advised to cultivate such resources for achieving its strategic objectives. These experts can be separately or individually co-opted into structures that help the organization receive timely inputs.

4.3 Maintain visibility

Maintaining a visible presence for the Single Window concept is crucial. Public visibility among the stakeholder communities is the product of a formally developed Communication Plan. The plan should include both internal and external stakeholders. Single window being a complex undertaking has a variety of stakeholders and different packages need to be built for these stakeholders. The communication activities must flow from this plan. Periodic seminars, workshops, awareness raising events, brochures, mailers and other means of communication can be used to maintain a credible presence in the minds of the stakeholders. Making presentations at international events such as those organized by the World Customs Organization and the United Nations are also a useful measure to attract the right kind of attention.

4.4 Dip into existing stakeholder networks

Most customs administration follow a formal process of consultation with the private and public sector stakeholders in relation to matters of trade facilitation and operations. As a result, customs executives will have developed close interpersonal links with a number of influential stakeholder groups. Creating a momentum for single window will involve leaning on these contacts for a constructive engagement with Single Window concept and the development and implementation of the preferred project.

Existing stakeholder groups such as the working groups on Electronic Data Interchange (EDI) or port operations facilitation group could be involved. Different stakeholders will have different goals from a Single Window project and from these goals, concrete proposals will arise. Getting the stakeholders and decision makers to recognize the real problems is part of maintaining the policy momentum. Experts argue that the manner in which problems are recognized by government determines how they will be ultimately addressed.

Stakeholder communication for the express purpose of arriving at the executive mandate is a critical activity during policy modeling phase. What happens at the early stages of stakeholder mobilization has a decisive impact on the entire policy process and its outcome.

4.5 Seize Opportunities

Creating goodwill among stakeholders and seeking their support and involvement is an ongoing process. In the normal course, there will be occasions when support of the project will have to be raised with the audience that is sufficiently empowered to take decisions. These occasions could be routine formal meetings, seminars, workshops or speaking events. These events present the opportunity for the executive to promote the Single Window project.

5. Conclusion

Customs authorities the world over have to treat Single Window projects with utmost priority as they face increasing demands from public and private sector stakeholders for improvements in trade facilitation and performance. Trade associations, other government agencies and lending organizations among others will voice their requests and reasons for accelerating reform in trade procedures through 'Single Window'. It is therefore imperative for the Customs administrations to understand why and how 'Single Window' will get on to the Government's agenda for action. Based on this understanding, the Customs administration should pursue a calibrated course of action to create a policy consensus in favour of the chosen course of action.

To convert the wide understanding and deep knowledge of the Single Window concept into functioning systems, CBRAs go through processes that direct the thinking of the political leadership towards a Single Window Initiative. This Chapter discussed the ways of maintaining policy momentum and underscored the essence of the much misunderstood term "lack of political will". Converting the general support of the political leadership into sustainable *policy routines* is the key to success. The Chapter describes how the convergence of three independent process streams occurs.

(i) The *problem stream* deals with the process of imparting visibility and clarity to the problems of the present and the need to move to a different state of affairs such as a Single Window solution. This stream comprises the following:
   a. Focussing events , such as seminars, workshops and formal review meetings;
   b. Widely published international indices and rankings on trade facilitation and competiveness &
   c. Feedback & reports from the field.

(ii) The *policy stream* comprises "hidden cluster" of policy within government, which by themselves would not be able to start a Single Window project but are centres for thought leadership. In relation to Single Window, the chapter identifies four significant clusters of expertise that are typically external to the Customs organization which can have considerable influence on any Single

Window Initiative. These are Transportation & logistics, Trade policy & regionalization, E-Governance co-ordination & Public Services reform.

(iii) The *politics stream,* which represents visible clusters of support for the agenda is the actual process of getting Single Window into government's agenda for action. The peculiar political problem of allocation of responsibilities and accountabilities between departments is discussed under this stream.

Whether or not the political structure in our Member countries allows for Customs to wield influence on major policy issues, DG's and other executive managers will benefit from having a grasp of the strategic implications of Single Window. Whatever outcome eventuates, Customs is usually the key stakeholder (or perhaps driver) of Single Window development and implementation. Senior customs officials should prepare themselves to face up to the thought leadership their governments will expect of them in discussions that would take place in the course of the development of business cases in relation to Single Window .

Different stakeholders will have different goals from a Single Window project and from these goals, policy proposals will arise. In any given situation, Customs administrations will have to have the ability to draw the attention of the political executive on the key issues. Agenda setting is about getting decision makers to recognize the real problems. Experts argue that the manner in which problems are recognized by government determines how they will be ultimately addressed.

Stakeholder communication for arriving at the executive government mandate is a critical activity during policy modeling phase. What happens at the early stages of stakeholder mobilization has a decisive impact on the entire policy process and its outcome.

Chapter 5: Establishing Formal Structures

In this Chapter, we will deal with the following questions:

- ✓ What kind of governance structures are needed for the Single Window Environment?
- ✓ How to establish the formal structures?
- ✓ Private sector participation - what are the alternatives?

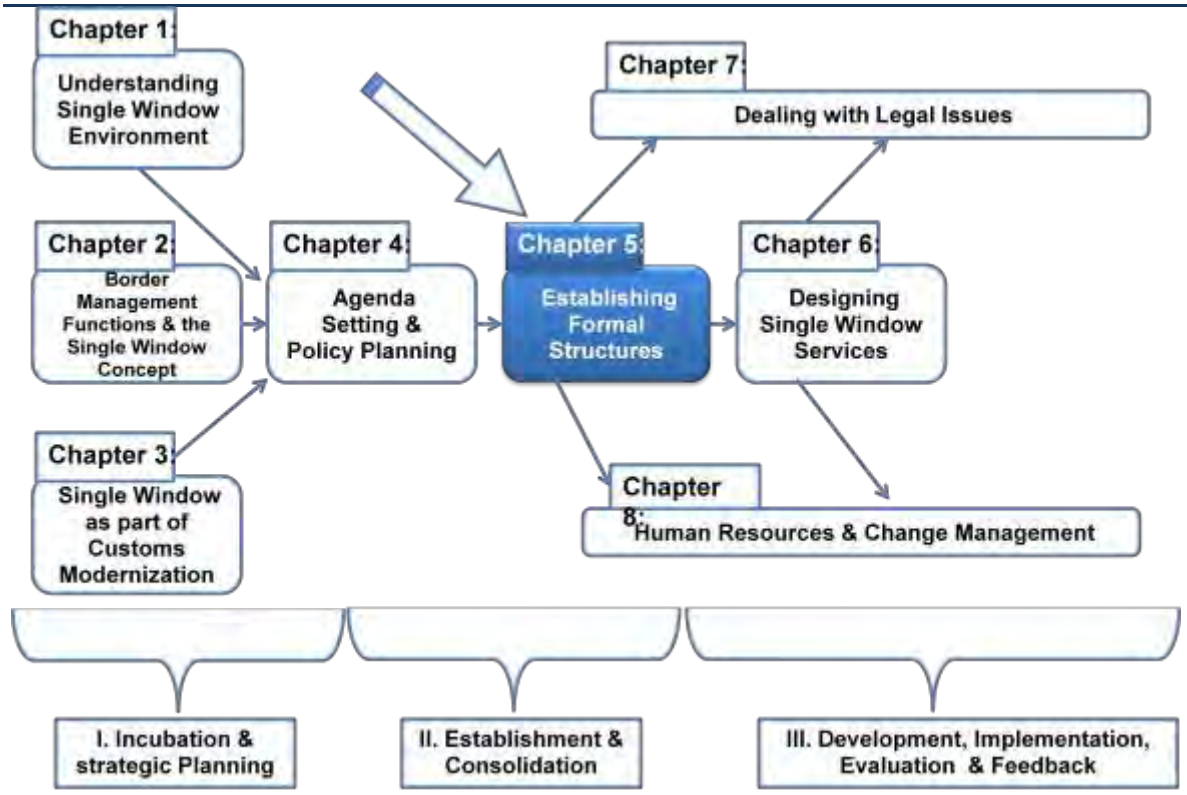
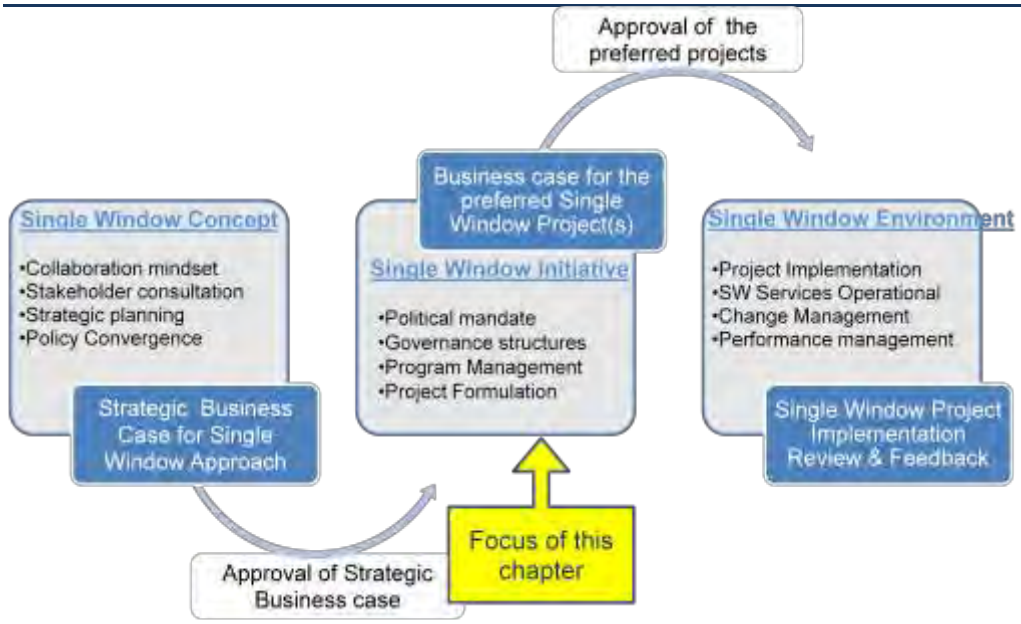


Diagram1: Layout of Chapters for Volume 1

1. Introduction

In the earlier chapters, the discussion was on preparing the ground and mobilizing support for the Single Window concept. It was explained that despite the challenges in policy planning, it was possible to obtain convergence of views and to build consensus on the way forward. When the political leadership is convinced about the need for a Single Window approach and demonstrates the willingness to steer different agencies to "the mindset for cross-agency collaboration" for future initiatives, it is time to act.

This chapter elaborates the concrete steps that should be taken in order to launch the Single Window initiative. In particular, the creation of political mandate and the establishment of governance structures will be covered. The question of financial governance and innovation in the partnership of the Private Sector will also be discussed.



The above picture explains the different phases involved in implementing a Single Window environment. When the top management in each CBRA develop a mindset for cross-agency collaboration and agree that adopting a Single Window approach would be in their strategic interest, they present a Strategic Business case to government. The approval of the strategic business case signifies the formal launch of the Single Window Initiative. The block in the middle will be the focus of this chapter.

2. Political Mandate

The mandate on a Single Window gives the *official* instruction or direction to proceed with its development. The mandate gives legitimacy to the adoption of certain clear policies and well-defined objectives, the establishment of new organization structures and the assignment (including reassignment) of technical financial and regulatory authority to achieve these objectives. The mandate has to be *political* since only the political leadership can support the far-reaching decisions that need to be taken to support the Single Window initiative.

The mandate can either be an Executive Order, a Decree, or an Act/Resolution by the appropriate legislative body. The mandate has to be legally valid and administratively sound. Broadly, the mandate for a Single Window initiative comprises the following:

- Statement of object & purposes
- Definition of terms used
- Activities/services covered by the Single Window concept
- Establishment of the Lead Agency organization and the identification of partner organizations/ CBRAs:
- Legal definition of the Lead Agency entity
- Financial dispensation for the Lead Agency& operating philosophy
- Lead Agency organization & consultative structures

- Powers vested to each of the identified organizations, including the Lead Agency to:
  - Approve projects
  - Recommend changes to legislation
  - Set service standards
  - Adopt changes to business processes
  - Adopt interoperability standards
  - Evaluate and review project implementation
  - Handle disputes.
- Date of applicability
- Schedules for the implementation of the Single Window Initiative:

The draft structure of the mandate needs to be presented to government along with the *Strategic Business Case* (please refer to Section VII) of Volume 2. It is essentially about identification of goals and objectives and re-allocation of authority. To the extent that the mandate is not clear, there is a danger that default organization structures, current allocation of power and resources and existing modes of operation will prevail. The extent to which the mandate can be explicit would perhaps vary according to the political and administrative cultures. The reader will find at the end of the Chapter, some samples from around the world of the political mandate for a Single Window Initiative.

Once the mandate is established, work can begin on identifying the preferred projects. The detailed process of drawing-up business cases for the preferred projects is discussed in Section 7 of Volume 2. The rest of this Chapter describes some of the concrete issues:

3. Creating Empowered Organizations

The identified objects & purposes and the activities/services to be covered by the Single Window form the initial part of the mandate. Chapters 1, 2 and 3 provide insights on how this government can go about identifying the objectives of the Single Window initiative and to determine overall scope of services.

The establishment of the Lead Agency organization and the identification of partner organizations/ CBRAs is the next big question. The Single Window environment needs a Lead Agency in order to co-ordinate decision making and to orchestrate the border management activities across multiple agencies. This question was briefly discussed in Chapter 4, where it was explained that being the Lead Agency came with a package of responsibilities and accountabilities and that package can be composed and configured in many different ways. Customs or its partner agencies have to elect or claim the roles they seek to play (based on their respective strategic outlook). In any case, the Lead Agency has to be driven by consultative and inclusive process of decision making. While the preceise outcome of this process will be reflected in the governance structures created under the mandate, the actual configuration will

require four key aspects of the proposed structure: (i) The extent to which it is an operator or an orchestrator (ii) The degree of organizational re-structuring and re-allocation of powers envisaged (iii) The legal characteristics of the operating entity (iv) The involvement of private agencies in the decision making and operational structures.

3.1 Single Window Operator or Orchestrator?

Responsibility of Single Window Lead Agency organizations can vary considerably depending on the answers to the the following lines:

Is the role of the Lead Agency primary role is to define, manage and enforce the interfaces, data standards, service standards and business process?

If the answer is yes, then such a Lead Agency is more of a Single Window Orchestrator than an operartor.

What is the degree of centralization and sharing of IT Systems between CBRAs?

If there is a high degree of centralization and sharing, the Lead Agency may find itself inthe role of the Single Window Operator, which to a great extent will be called upon called-upon to operate IT Systems as opposed to letting the individual CBRAs to operate their own systems.

3.2 Re-organization of CBRAs

The Single Window Initiative presents a unique opportunity before the government to re-organize regulatory functions. Reorganization is a strategic decision. The extent to which regulatory authority for examination, intervention and release is vested in the Lead Agency is one of the issues of re-organization. Centralization of regulatory authority would lead to the so-called 'Single Authority Model'.

These significant dimensions were briefly discussed in the UN/CEFACT Recommendation 33. What appears from the various implementations around the world is that there is no single model, which is universally applicable and there could be variations along the dimensions described above. The pertinent point is that authority and accountability goes hand in hand. Lead Agency authority should be assigned only to that body which has the ability to deliver. It could be an existing body such as a government department. It could even be an inter-agency body created specifically to fulfil the mandate and has the legal and administrative authority to act. The issues concerning re-organization have been discussed in Chapter 8.

3.3 Legal personality of the Entity

The above discussion provides two different aspects to understanding the functional role of the Lead Agency (i) how involved is the Lead Agency in the operational aspects of the Single Window and (ii) to what extent will the Lead Agency possess functional authority.

The configuration of this functional role would influence the options for the type of legal entity that needs to be created for the Lead Agency. The legal entity could take the following corporate forms:

- ✓ A government department with defined in law or regulations with specified executive and agency powers & responsibilities
- ✓ An autonomous entity created through an Act of legislature
- ✓ A entity established by company law, whether private or public
- ✓ Any other voluntary association of entities covered by other national legislation
- ✓ Joint Venture with commercial entities.

There are however, possibilities for the involvement of the private sector in the operation of the Single Window. This issue is discussed in detail in the following sub-section.

3.4 Public Private Partnerships (PPP)

The involvement of the Private Sector can take many forms and would influence the financial and operating governance of the Single Window Environment. The form of Public Private Partnership would determine the extent of involvement of government in financing the capital and revenue expenditure and the structuring of the inflows and outflow of funds owing to the Single Window Initiative. The forms of PPP can vary along two dimensions – the increase in the degree of Private Sector risk and the degree of Private Sector involvement especially when it comes to dealing with the operating infrastructure. As each form is described, the common underlying theme remains - t*he regulatory authority and accountability for regulatory compliance still remains with the government, regardless of the form of PPP*.

The following diagram lists out the options for PPP. The italicized items in the diagram describe the choices available to government.

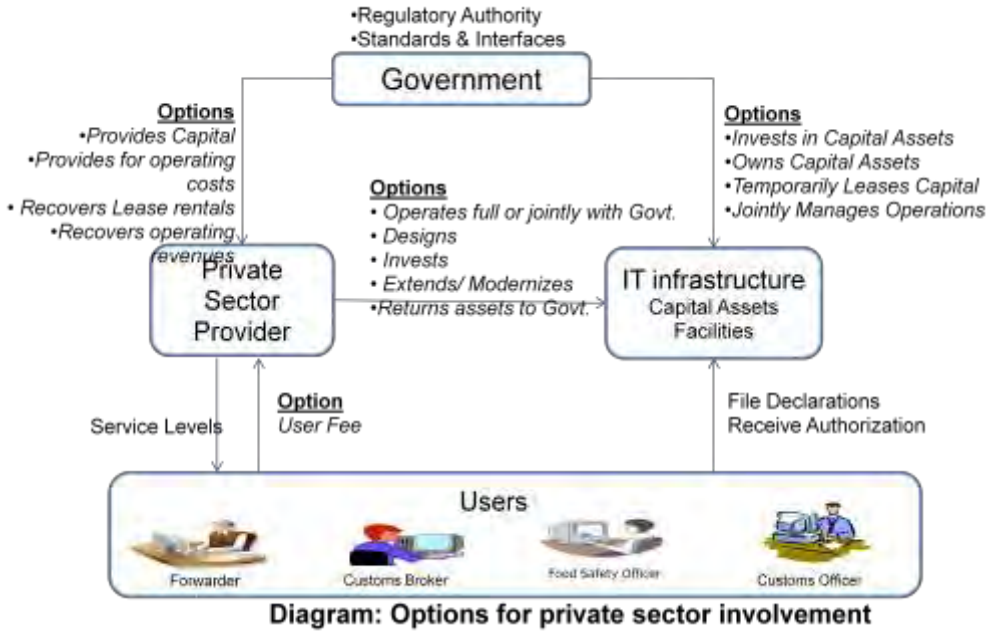


Diagram: Options for private sector involvement

the essential forms are (i) Operations & Management Contracts (ii) Asset acquisition or leasing deal (iii) DBFO (Design-Build-Finance-Operate) (iv) BOO (Build Own Operate) (v) BOOT (Build,-Own-Operate-Transfer) and Joint Venture. The reader is referred to widely available literature in this area.

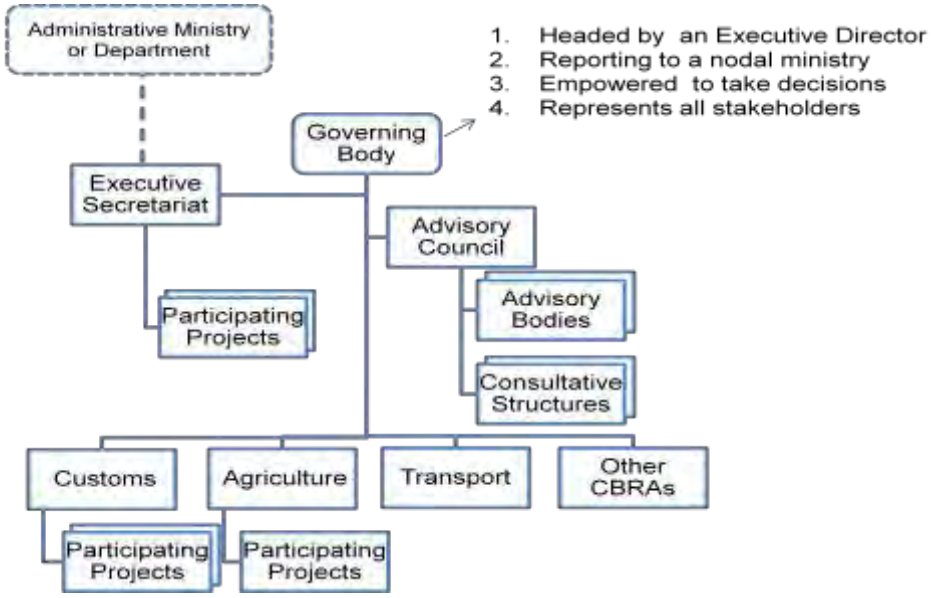
One of the above forms PPP will emerge based on a careful analysis the following questions:

- Does the Private Sector take-over existing assets involved in the Single Window project, whether through acquisition or lease?
- Will the existing assets that are leased to the Private Sector be returned at the end of period of operation of the lease or contract?

- Is the Private Sector is permitted to acquire additional capital assets or will only government decide on capital investments?
- Will the operating expenditure be met through revenue streams by charging user fee or will there be government fund partially or fully the operating costs?
- In the asset acquisition cycle, will the Private Sector also be involved from the design stage?
- Will the government and the Private Sector jointly build and operate the unit where risks and returns are shared?

4. Structures of Governance

Governance is about allocation roles and responsibilities. It is also about clarity and transparency, how risks are managed, who is accountable for what. The mandate that creates the empowered organizations also needs to specify minimally the structures of governance. There are several ways to describe these structures but for the purposes of analysis, this section uses the following diagram to explain the issues involved:



In this example, the political mandate creates a Governing Body as the Lead Agency to run legal entity, which is headed by an Executive Director who formally reports to the nodal ministry (for example, the Ministry of Finances). The Governing Body, which has members from all major stakeholders has been empowered through the Mandate on Single Window to take all policy decisions including approval of projects, management of standards and interfaces, Interchange Agreements, Memoranda of Understanding between CBRAs, service levels etc. It has defined financial powers along with allocations in the public budget. Further, it is assisted by an Executive Secretariat, which provides administrative and technical support.

The projects that participate in the Single Window Environment are governed by the Executive Secretariat either directly in its Capacity as the Single Window Operator or in its role as the Orchestrator. A few major projects would constitute the core of the Single Window on which, the Executive Secretariat has direct control, but on other projects that are run by the respective CBRAs, it may be involved in indirect supervision.

Box

The example given below provides a clear view of how the Lead Agency of the Single Window Initiative is engaged in managing multiple projects.

To illustrate the need for the Single Window Orchestrator to deal with multiple projects, and the main participating projects and the responsible agencies in Country X is listed below:

- Building blocks of eGovernance that support identity and authentication infrastructure for IT projects across government departments. [Responsible agency: Government CIO]
- Government Gateway that helps transport transactional data between government agencies [Responsible agency: Government CIO]
- Participating VANs that handle transactional data between business and government [Responsible Agency: VAN Operator[Private Sector].
- Automated Customs clearance systems operated by Customs authority [Responsible Agency – Customs]
- Cargo community system at each port/ airport operated by a private consortium[Responsible Agency – Cargo Community System Operator – Public Private Partnership].
- Maritime Single Window developed by maritime authorities [Responsible Agency – Maritime Single Window Operator –Port Authority].
- Licensing and inspection systems run by Veterinary authority [Responsible agency: Ministry of Agriculture]
  In this example, the Single Window Orchestrator does not deal with any project on its own but provides maintains the relevant standards and acts as the compliance police.

The illustration given above suggests that there a Single Window Environment could include multiple projects. Some projects within the direct operational control of the Single Window authority and others projects in which the authority merely specifies conformance standards of operation.

The organization structure that governs the Single Window environment would be different in different countries. The reporting structures, lead agency configuration and the distribution of executive powers within the structure would differ from country to country. In general there are 3 layers, the Consultative layer, involving representatives of the private sector, CBRAs and domain experts, the Decision Layer involving the governing body that has executive responsibility for approving standards and running projects and to make consultations happen. The execution layer is responsible for project execution. Responsibilities range from orchestration to operation. Not all projects that are part of the Single Window Environment would be operated by government departments or the Single Window 'authority'. In some cases, the legacy systems of government departments would also continue to play a role within the Single Window Environment.

A different view of the organization structures is also possible indicating the hierarchy. That structure too is a question of national preference. The complete organization structure providing clear roles and responsibilities and reporting structures is preferred.are

needed. Responsibilities within the structure need to be clearly specified. The mere fact that a particular department is acting as the Lead Agency and is servicing under an administrative ministry does not give it any special privileges. For any structure to be sustainable over a long period of time, the fine balance between authority, competence, responsibility and accountability needs to be maintained.

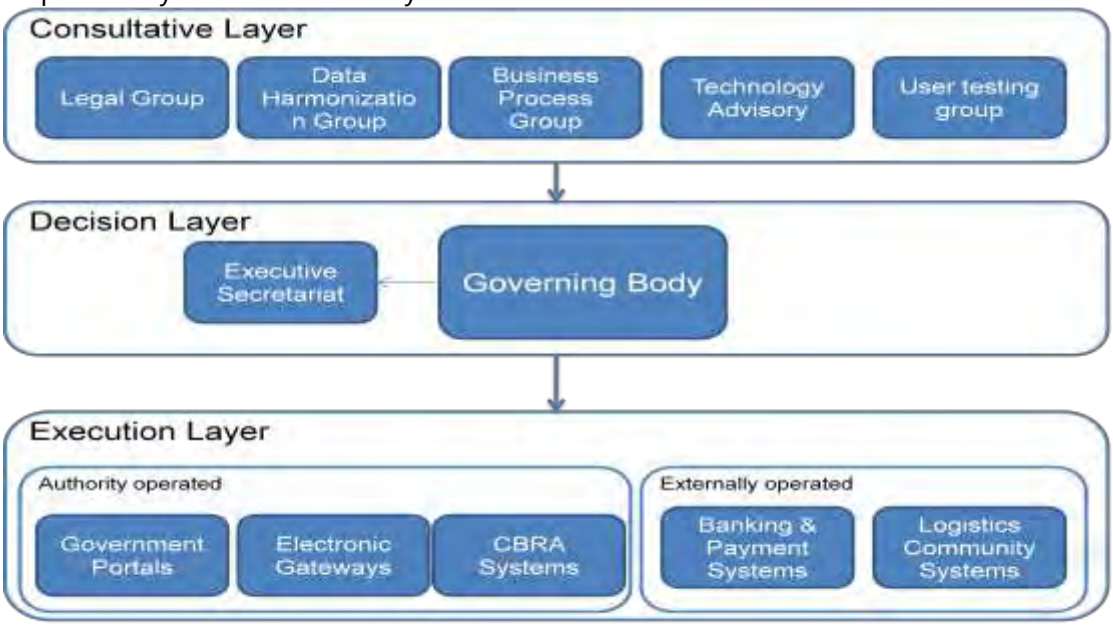


Diagram showing the Consultative, Decision Making & Execution layers

5. Conclusion

The successful political resolution of the main questions would lead to the launch of the Single Window Initiative. Chapter 5 discusses the creation of formal structures that would support the building of a Single Window Environment. After government approval for the strategic business case,, the political mandate is established, leading to the creation of high-level structures, with roles and responsibilities assigned to different agencies. The structures would assume the characteristics Single Window Operator or would serve as anOrchestrator.

The chapter enumerates the generic organizational types that would support the Single Window projects. For example, setting up new government departments that span across the traditional departmental boundaries is an option. Other examples cited are special purpose instruments for financial governance, empowered structures to support informed, inclusive and consultative decision making processes. Possibilities of private sector participation and partnership are also outlined and various models of public private partnership have beendiscussed. The Chapter also suggests that business cases for the preferred projects should be approved and implemented in stages, with each stage launching new Single Window services.

Chapter 6: Designing Single Window Services

In this Chapter, we will deal with the following questions:

- ✓ What are the design considerations for Single Window services?
- ✓ What factors go into user satisfaction and how are these incorporated at the design stage?
- ✓ What assures the executive management at the design stage that the service goals of the organization will be met?

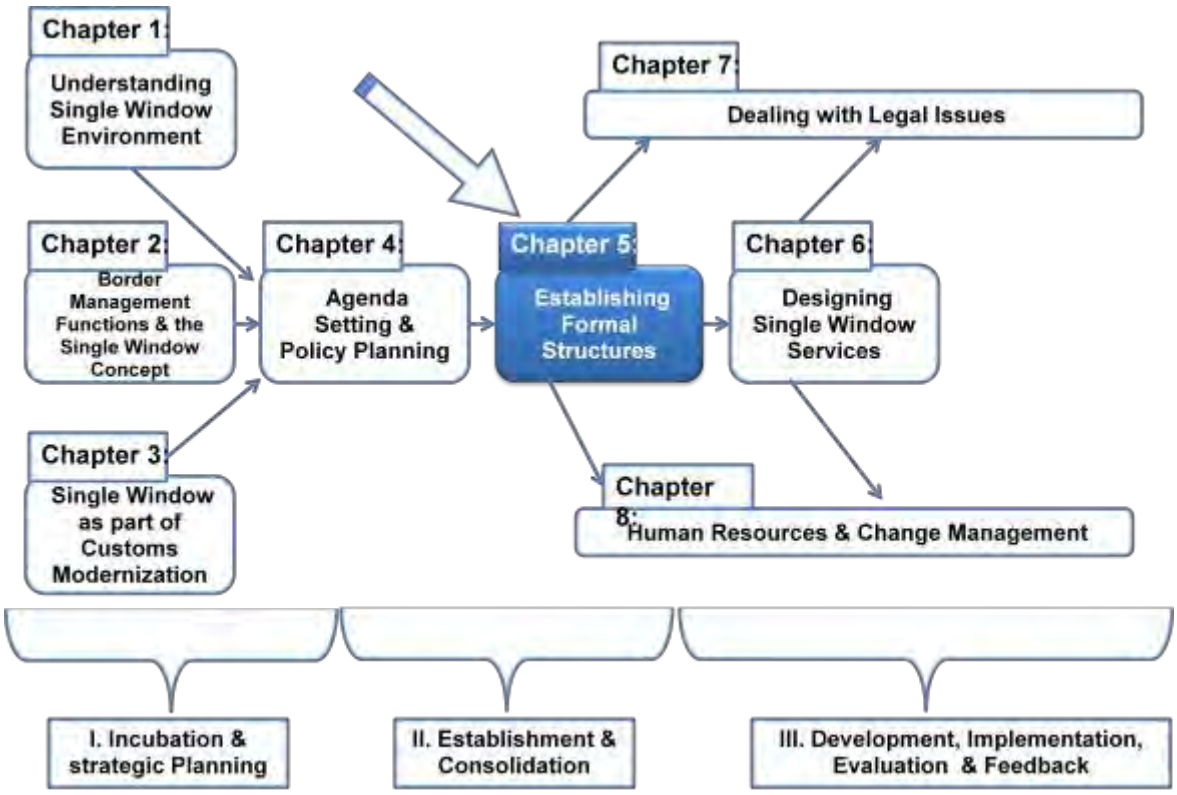


Diagram1: Layout of Chapters for Volume 1

1. Introduction

Regulatory authorities are service organization and the Single Window Environment is the medium through which services are delivered. Chapter 1 discussed the Single Window Environment as a collection of services produced in the course of interaction between the Trade and Cross-border Regulatory Agencies. These are aimed at simplifying Trade's efforts in meeting the requirements of cross- border regulation. If performed efficiently and effectively, these services can help preserve value in a supply chain. Participants in these service operations bring to bear a number of resources – technological and human, including skill, ingenuity and experience - in pursuit of value preservation.

Services are delivered through access channels. In the course of delivery of a service, the trader (and his IT systems) and the CBRAs personnel (and their IT Systems) participate in the creation of the service. The Single Window facilities are at the centre of this complex process. Like any system, a Single Window also involves a complex a combination of *people, processes* and *technology*. Any improvement in these systems must necessarily involve all three components andthe initiative for improvement must begin at the design stage.

In Chapter 1, we briefly examined the linkage between different aspects of service design and noted that *interaction design* was an important part of it. Interaction design requires a combination of inputs:

- Business process models
- Technology architecture
- Functional & non-functional requirement specifications
- Physical Evidence

Any design process must consider the question of business value. Features of a Single Window solution that adds to costs without adding value need to be identified and eliminated.

1.1 Understanding 'business value' in border services

Before diving into the question of designing services, it is perhaps necessary to understand the nature of the 'business value' in a Single Window Environment. Cross-border Regulatory Agencies tend to define the business value of their services purely in macroeconomic terms. Protection to society, maintaining the streams of government revenue and keeping danger out of national borders are the terms often used by Customs and its partner agencies in order to describe the contribution to the economy and the society. At that level, it is difficult to visualize 'business value' for the individual economic operator. For the individual firm engaged in cross-border trade, regulatory services are normally viewed as processes to be endured and as mandatory operational expenses. Regulatory authorities are not given to pleasing their clients and the economic operators must not be found on the wrong side of law. This however is a limited view of regulatory services.

In various ways, cross-border regulatory services help preserve value for the economic operators. Cross-border regulation, which are often seen as necessary for the greater good of society and the economy are now increasingly aimed at benefiting the individual consumer of goods that are traded across borders. In any case, these regulations cannot be wished away. Regulatory services, if efficiently performed, can improve the predictability in delivery times and reduce logistics costs. Variability in delivery time and costs leads to increase in the operating expenses and therefore diminishes the economic value for the consumer.

The costs of non-compliance with regulation on duties and taxes are obvious. Non compliance could lead to avoidable financial strain on the firm by way of fines, penalties and legal expenses, to name a few. Such non-compliance may due to ignorance of legal provisions or plain negligence on the part of the economic operator. The financial consequences of non-compliance result in a definite loss of value to the firm and consequently to its customers. While most cross-border regulation is aimed at protecting the health and well-being of society as whole, increasingly, these are being directed at product safety and quality, which are attributes that add tremendously to customer value. In that sense, regulatory verifications that are envisaged in the international supply chain provide assurances on customer value. Apart from financial losses, non-compliance may also result in loss of reputation of the firm which has even greater economic consequences for it. This aspect makes cross-border regulatory services not just cost centers but as points in the value chain that help assure and preserve customer value.

To conclude, design begins with the idea of value maximization and value in cross-border regulatory services is achieved by preventing unnecessary consumption of resources or unwanted change or damage to the normal flow of cargo. Each useful part of the web-portal provides accurate information, each feature that reduces effort and cost of data entry and each interaction that leads to a predictable process add to value for the participants in the supply chain, which ultimately adds to customer value.

2. Designing Interactions

Bringing services "under one roof" involves a collaborative effort on the part all CBRAs in redesigning interactions between the trader and regulatory agencies. This redesign of interactions must be carried out from the trader's point of view. Interactions can happen through multiple access channels but can broadly be divided into two -virtual and physical. Online submission of information and documentation are in the virtual domain and the face to face interaction between the trader and officer forms the physical part.

Convenience and accessibility of the location of service outlets, the layout and the service counters, waiting times in queues, dead time between operations, and physical conditions at the service counter are all important questions for interaction design. But more important are the 'soft' issues which can only be addressed at the design stage. For a

specified type of interaction between the officer and the trade, if there are multiple and highly subjective outcomes, then there is a potential for user dissatisfaction. 'Built-in' complexity and variability in interactions reduce the level of predictability, and increase the chances of manipulative or corrupt behavior. In such types of interaction, the trader will get feeling of not being in control of the transaction. The effort therefore should be to identify such situations at the outset and to eliminate them as far as possible. The following section deals with questions of interaction design.

2.1 Classifying interactions:

The ultimate success of a project will be assessed through feedback received from stakeholders, which will be assessed on the basis of the achievement of pre-defined service metrics. Interactions of the trader with the IT systems interface is a key aspect of the service experience. The other type of interaction is with the personnel at front offices of CBRAs. Together, these interactions will determine the overall character of the stakeholder feedback. Therefore, it makes sense to pay attention to both these aspect at the design stage.

Understanding service interactions:

The following is a simple list of interactions that take place in a cross-border regulatory system.

- ➔ Broker's back-office enters details of the invoice into the online form for filing declarations;
- ➔ Customs Broker's employee approaching a warehouse to seek release registers his declarations and statements;
- ➔ Truck driver crosses no man's land to approach a border post to seek release of cargo.
- ➔ Transporter enters the terminal gate to report goods for export.
- ➔ Exporter checks web portal to find out the status of goods;
- ➔ Importer waits with his documents for examination by a customs official
- ➔ Live-stock grower calls-up on phone to the veterinary officer to fix-up an appointment for the certification of live animals.

Is there a way of classifying these different types of interaction? The discipline of service management provides some answers in understanding and classifyng. Project Managers are designers of Single Window services need to focus on these processes at the design stage.

Interactions occur in space and time and in cross border regulatory services, time is the biggest variable. Time has to be counted as money. The discipline of interaction design introduces time and 'ease of use' as two important variables in user experience and seeks constant improvements in both. Overall user experience is the sum-total of the entire process and includes several tangible and intangible aspects of design. Fundamental to interaction design are the business process models. These models define the state of the process which outlines the settings. Business process models provide the platform for defining the 'functional specifications'. The non-functional specifications can also be provided as part of the requirements. In the diagram, the human factors of design can be easily identified. The factor 'variability of output' refers to the various possible outcomes

of interaction. The higher the variability of output, the greater the challenge to management. Consequently there is greater a chances of user dissatisfaction and loss of predictability. This should be a point of great interest to the executive management. Reducing the the complexity of tasks involving user interaction is an essential aspect. Complexity can be reduced by defining scenarios and establishing routines. Intensive user training can improve the competence of individual users in dealing with both physical and virtual interactions. The following diagram describes the context of interactions.

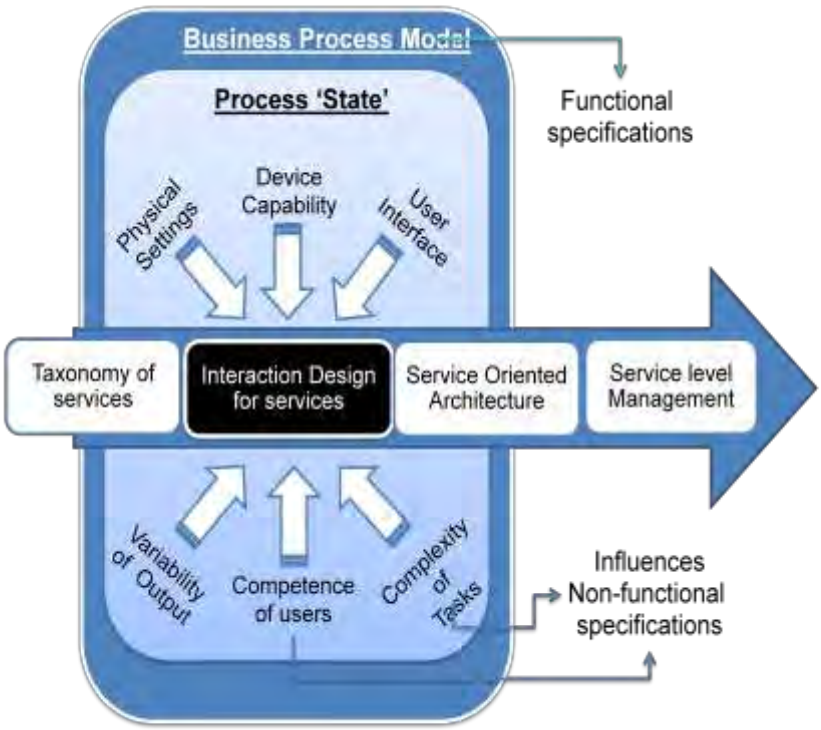


Diagram: Interaction design is about the user's touch-point with the Single Window Environment

Standardizing cross-agency controls

Different cross-border regulatory agencies define controls differently. Each agency has priorities based on its perception of risk and practices of risk analysis and mitigation. Benefits of a Single Window Environment cannot be fully realized until controls by different agencies are not co-ordinated. Co-ordination of controls is a process of co-determination of priorities. This can be done either through integrated risk assessment systems which process harmonized risk rules drawn from different agencies provide prioritized instructions for control. Alternatively, each agency assesses risk separately and priority and choice of control methods is determined through co-ordination. In either case, there is potential for delay in choice of control methods and priority of action which

can pose serious problems for the trader, who will stay on 'no man's land' until regulatory agencies decide on a course of action.

In addition to agency priority, there is also the question on application of standardized controls. Guidelines to Chapter 6 (Section 7) of the revised Kyoto Convention (World Customs Organization 1999) provide detailed explanation on different types of Customs controls. Performance of documentary, physical, and non-intrusive controls, and methods of drawing of samples are activities that can be standardized to fair degree. Nuances of control depend on skill and knowledge about modus operandi would include specific variations. Regardless of the situation, for every context in control, performance and output should be standardized as far as possible. Variability, vagueness and uncertainty in the performance of control activity can lead to negative outcomes for trade as well as for regulatory agencies. To a great degree, risk assessment monitoring depends on feedback from a standardized process of control.

2.2 Co-creation & self-service

Each party in the international supply chain can help another party in achieving value. The customs broker will save time if the supplier can reliably provide the correct HS classification and other regulatory attributes of the traded product. The customs broker is then able to prepare accurate goods declarations. Coming from a reliable broker, regulatory authorities will be consider such declarations as reliable. Over a period of time there would be reduced the levels of examination for transactions of this kind. This benefits the broker by helping him in conserving resources required for the preparing declarations. It benefits regulatory authorities too as they can use fewer resources in verifying such declarations. Both parties can benefit even more by directing resources to areas of non-compliance, creating a virtuous cycle of value preservation.

Each party has a perspective on what helps protect value in the course of regulatory clearances. The gains are often complex and subjective and are mediated by knowledge-intensive processes. It depends on whether the parties have an understanding of the application of laws, regulations and technology. In the supply chain, each party has to ensure that the exchanges of information are correct, accurate and timely. Every exchange that has these attributes saves money for everyone down the line. The processes also involve bartering for value – the more compliant an economic operator the less 'trouble' there will be from regulatory authorities. The quicker the forwarder provides information, the faster, the declaration can be filed and the greater are the chances that the haulier gets the delivery of goods at the appointed time. This bartering often takes a formal shape in the form of Service agreement among the parties involved. Even the regulatory authorities have formally established programs that certify efficient and compliant traders as 'authorized' economic operators, an arrangement which guarantees value preservation. The Single Window services play a critical role as they provide the crucial platform for all these exchanges and should therefore be seen as the hub for value preservation.

Co-production process

The cross-border regulatory services involve collaborative exchange of information. Supply chain process requires exchange of information between the participants through Business-to-Business collaboration platforms. Such platforms help co-produce information needed by participants along the supply-chain. There is also a role for CBRA systems in the Single Window environment. Regulatory information and controls are interspersed in the normal flow of cargo across borders.

Time Release Studies (TRS) have revealed that the preparation of the goods declaration consumes the maximum amount of time, effort and cost for traders. CBRAs treat the processes involved in gathering data to fulfil the exacting regulatory requirements as part of the trader's responsibility and are content with defending their record of time taken to process declarations and to examine goods. It is however not well understood that CBRAs can influence the process of preparing regulatory declarations. Information required in respect of different commodities, data validation process for making complete and accurate declarations, guidance on data quality and procedures etc which only CBRAs can provide, are extremely relevant to the whole process. CBRAs can provide interactive facilities that help prepare goods declarations. Providing such facilities does not in any way inhibit the CBRA's capacity to hold the trader accountable for his data submissions.

The following diagram illustrates a hypothetical process involving a facility that permits collaboration between the trader, carrier, broker and CBRA. The data required for a declaration is gradually built by the broker as he gets access to different data sets from the trader and the transporter. Information is allowed to be accessed collaboratively and with the progression of the 'state' of the transaction, incremental data gets generated. Each piece of data adds to the information that CBRAs seek to collect. In a system that promotes real-time collaboration, there is access of relevant information to all concerned parties and thus no time is lost between the business event and regulatory reporting. The use of web services technology makes the realization of these exchange scenarios in simple and affordable procedures.

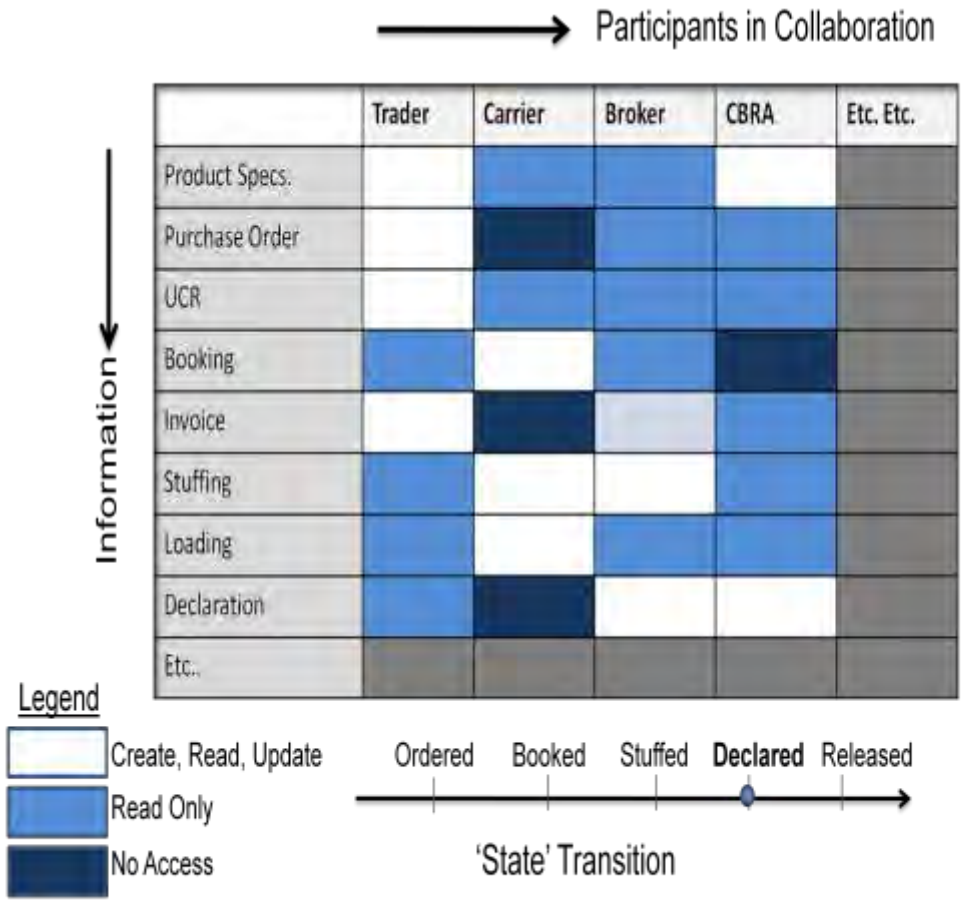


Diagram: State change & information access rights in a Single Window Environment

Contrast this with the paper or email based systems where the broker receives a number of faxes which have to be interpreted and transcribed onto computers. Such processes are time-taking, error-inducing and non-transparent. The design of the solution for Single Window Environment should not only encourage real-time collaboration it but also actively provide for real-time data exchange.

Progressive Build-up of data

One of the principles of system design of Single Window is to provide for a progressive build-up of data so that the burden of document preparation is minimized. The order of information creation is crisply depicted in the following picture.

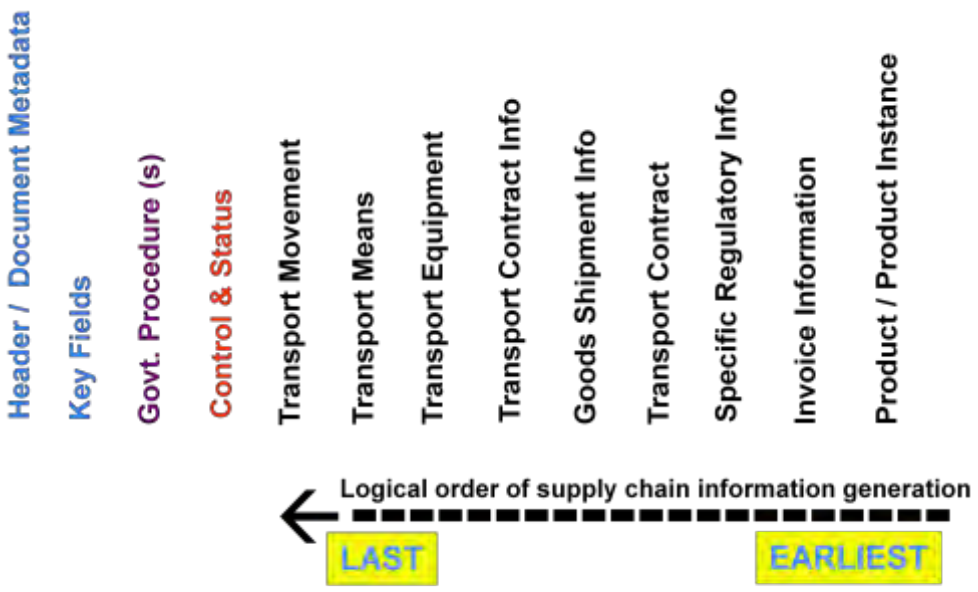


Diagram: Government Cross-border regulatory message (GOVCBR). The Structure depicts the logical order for the creation of supply chain data.

Following this logical order of information creation in trade and transport, it is possible to develop small messages that incrementally provide regulatory information to government. That is the essence of WCO Data Model Version 3.0 for the Government Cross-border Regulatory data and the electronic message template called GOVCBR. GOVCBR is a United Nations standard message which was established as part of the WCO Data Model project.

WCO UCR: The electronic access key

Information about a about a cross-border transaction grows with each trade and transportation event. For efficient transactions, it is necessary to re-use information that is already stored in the computer systems of traders, transporters and in community systems. Easy access to information depends on access keys. Document references are a good way to access information about the contents of the document content but in order to move away from documents and to directly access meaningful units of information, it is necessary to use other identifiers such as UCR, product identifiers, package identifiers etc.

The following diagram highlights the importance of UCR as an access key. Once a UCR is generated in the early stages of the transaction, it remains a very stable access key throughout the transaction.

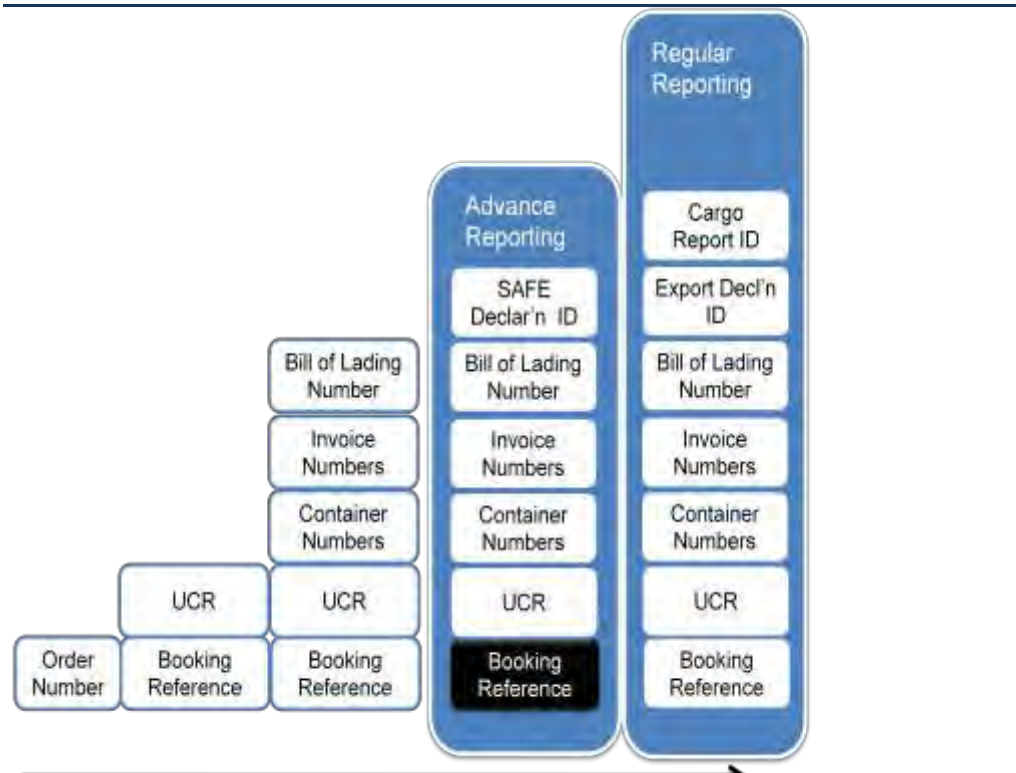


Diagram: Reference identifiers for information access: WCO UCR makes it easy

2.4 Transparency

The design of information systems can impart transparency by providing timely information to members of the trade. Transparency is the basis for accountability. The following paragraphs discuss the design concepts that impart transparency to trade:

Publication of regulatory information

A number of services listed in Chapter 2 relate to publication of information. Most information should be presented and published in such a way it can be easily used by automated systems. Tariff and non-tariff requirements for goods need to be presented unambiguously. Information requiring a high degree of interpretation, ambiguity and fine print promotes discretion and should be avoided as far as possible. If the user is able to understand where to find information, and can reach the right resource for help, this also promotes confidence of the user.

Wizard-based interaction

Wizards are interactive tools on the user's screen that guide the user through a procedure from start to finish. Providing clear information about the current position of the user in the chosen procedure, wizards can also offer an estimate of the time required for completing the procedure. Wizards promote transparency. For the trader, they promote a sense of being 'in control' of the transaction. This is especially important since in a Single Window Environment, routing of some transactions will involve workflow and movement

of control procedures between government agencies. Due to differences in regulation, separate procedure wizards may be necessary for some commodity groups.

Access to decisions & time stamps

Transparency is improved by providing users with access to regulatory decisions and time stamps of events. Capturing timestamps not only helps conduct Time-Release Studies (TRS) , it also provides a way of assessing the promptness of actions by officials. As far as possible and as normally required under regulations all decisions have to be reasoned and fair. Standard 10.3 of the revised Kyoto Convention (World Customs Organization 1999) General Annex requires that the affected person should be given upon request, the reasons for decisions or omission. Providing reasoned decisions clearly adds to transparency and fairness.

2.5 Accountability

In a Single Window Environment, accountability primarily is about after-the-fact verification of regulatory authorizations given by the system in relation to import, export and transit. It is also about role and contribution of individuals and systems to service levels or the lack of it and the information trail that reveals points of delay and inefficiency. The mechanisms of accountability rely on the audit of information stored in the data bases of IT systems.

The ability of the system to call to question individuals for their action is dependent on the trustworthiness of the system. A system would be treated as 'trusted' if it has the necessary security controls, and this 'trusted' characteristic of the system needs to be certified. This is true for any system and not just for those that are the Single Window Environment.

In EDI, auditing mechanisms were developed and incorporated as part of the protocol in the interchange agreement. Since the Single Window Environment also involves extensive interaction between the IT systems controlled and operated by partner CBRAs, similar mechanisms in place. To summarize, design for accountability, involves the following considerations:

- What would be the agreed audit protocols?
- How do we define the power of auditors?
- What is the responsibility of the officers (defined during the design of interactions)?
- What requirements do these aspects of audit place on communication and computing resources?

There are trade-offs involved in producing answers to these questions and these are management decisions. It is a good idea to involve the formal audit structures within government and/or professional information systems auditors at the design stage and to

get their endorsement on the audit mechanism. At the design stage technical, input from the apex national statutory audit body is useful and may even be relevant.

The advantages of Single Window Environment where paper is avoided, human intervention are reduced and there is no rekeying of data for filing declarations. The lack of a paper trail should not result in a loss of auditability. After all, lack of document review due to high-levels of automated release also does not imply loss ofcontrol, since customs relies extensively on linking-up transactional information for post audit purposes.

Through effective design, the management should not only be able to detect fraud faster but also be able to prevent defects and losses through better internal controls. True, the Single Window Environment provides the ability to substitute automated controls for manual ones but it is the management's responsibility to ensure that these controls are built in at the design stage, and implemented by the Vendors. Rigorous testing of these controls must also be performed and software should be certified through qualified professionals.

3. Designing for interoperability

In order to ensure that the investments into information infrastructure fetch value for money, the executive management must ensure that it follows mature processes that make the information systems interoperable, reusable and scalable. The question of reusability and scalability are also discussed in detail in Section 7 of Volume II of this Compendium.

Interoperability is broadly categorized into platform, data and process interoperability and can be invoked by the participating companies on an ad hoc basis to support the normal flow business. (Ulankiewicz, et al. 2010). Much like *utilities* that can be tapped and used easily, and interoperable systems should not require heavy customization and integration effort. The 'interoperability vision' is realized when interaction between systems become cheap, fast and reliable. Interoperability lets software applications running on different technology platforms communicate with each other using various communication protocols. The lack of ability to share information between computer systems is often a question of cost.

THE MEANING OF INTEROPERABILITY

The structure and most of the content in the text below is based on the work of the European Union Commission Directorate General DIGIT / ISA Unit. It is published in the EU Commission Communication "Towards interoperability for European public services" (http://ec.europa.eu/isa/strategy/index_en.htm see document Annex II – EIF).(Virpi Mäkinen.)

The focus is in:

* The four levels of interoperability (pages 21-23 of the EIF document). This analyses the different aspects of the concept.

* Implementation of interoperability (pages 24-28 of the EIF document). This part proposes an approach to facilitate cooperation.

Interoperability is a wide concept and encompasses the ability of organisations to work together towards mutually beneficial and commonly agreed goals. In the sense of public services it has been defined as *"the ability of disparate and diverse organisations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organisations, through the business processes they support, by means of the exchange of data between their respective ICT systems"*.

Interoperability is multilateral by nature and is best understood as a *shared value* of a community. It is both a prerequisite for and a facilitator of efficient delivery of cross-border public services.

FOUR INTEROPERABILITY LEVELS

EIF: 4 levels of interoperability
(Subset of chart by the European Commission / Directorate-General for Informatics)

The establishment of a new public service is the result of direct or indirect action at political level. For effective cross-border interoperability efforts, all cooperating partners must share compatible visions, agree on focused objectives and align priorities. This is why interoperability initiatives (such as establishing a single window environment) must be brought to a political context.

Legislative alignment

In most multilateral projects each public administration contributing works within its own national legal framework. Sometimes, incompatibilities between legislations make working together more complex or even impossible.

When information is exchanged, the legal validity of such information must be maintained across borders and data protection legislation in both originating and receiving countries must be respected. Legislation should be aligned so that exchanged data is accorded proper legal weight.

If the establishment of a new public service is the direct consequence of new legislation, the scope, priorities and resources needed to establish and operate the service may be defined when the legislation is adopted.

Coordinated process and organisation

This aspect of interoperability is concerned with how organisations, such as public administrations cooperate to achieve their previously and mutually agreed goals. In practice, organisational interoperability implies coordinated business processes and related data exchange.

Different administrative entities may need to align their existing business processes or even to define and establish new business processes to be able to work together efficiently and effectively. Business processes should be agreed and documented in a way, so that all implementers can understand the processes and their role in it.

Organisational interoperability aims to meet the requirements of the user community by making services available, easily identifiable, accessible and user-focused. Service orientation, on which the conceptual model for public services is built, means that the relationship between service providers and service consumers must be clearly structured.

Semantic interoperability

Semantic interoperability refers to precise meaning of exchanged information which is preserved and understood by all parties. It enables organisations to process information from external sources in a meaningful manner and ensures that the precise meaning of exchanged information is understood and preserved throughout exchanges between parties. Semantic interoperability is about the meaning of data elements and the relationship between them. Achieving semantic interoperability assets requires agreed processes and methodologies for the developing sector-specific and cross-sectoral communities.

Syntactic interoperability is about describing the exact format of the information to be exchanged in terms of grammar, format and schemas.

Using sector-specific sets of data structures and data elements as a starting point, the different linguistic, cultural, legal, and administrative environments may pose significant challenges. This is why public administrations establishing public services should verify at an early phase of any given project whether existing semantic interoperability assets can be reused.

Technical interaction and transfer

Technical interoperability involves planning of technical issues in linking computer systems and services. It includes aspects such as interface specifications, interconnection services, data integration services, data presentation and exchange, etc. While public administrations have specific characteristics in relation to other aspects of interoperability, at the technical level there no specific features.

2 IMPLEMENTATION OF INTEROPERABILITY

Political support and sponsorship is needed even if new services to be established are not directly linked to new legislation but are created to provide better, more user-focused public services. The practical implementation for cross-border or cross-sectoral services requires each of the four levels of interoperability to be taken into account. For each interoperability level, the organisations involved should formalise cooperation arrangements in *interoperability agreements*. Agreements should be drafted with sufficient detail to achieve their aim.

At legal level, interoperability agreements are rendered specific and binding via legislation or bilateral and multilateral agreements. Participating administrations should carefully consider all relevant legislation relating to data exchange, including data protection legislation. Specific legal initiatives may be needed to remedy contradicting situations.

Definition of organisational relationships involves finding instruments to formalise mutual assistance, joint action and interconnected business processes. Examples of such instruments are Memoranda of Understanding (MoUs) on joint actions and cooperation and/or Service Level Agreements (SLAs) signed between participating public administrations in order to specify the obligations of each party. Interoperability agreements at organisational level will define expected levels of service, support/escalation procedures, contact details, etc., referring, when necessary, to underlying agreements at semantic and technical levels.

At semantic level, interoperability agreements can take the form of reference taxonomies, schemes, code lists, data dictionaries, sector-based libraries and so forth. Semantic interoperability includes developing a vocabulary to describe data exchanges.

At technical level, interoperability agreements include interface specifications, communication protocols, messaging specifications, data formats, security specifications or dynamic registration and service discovery specifications.

To insure interoperability, these agreements should be based on existing formalised specifications, or, if they do not exist, participating agencies should cooperate with communities working in the same areas.

The result of collective work parties that produce or consume parts of the service, change management processes across administrative levels are critical to ensure the accuracy, reliability and continuity of the service delivered to other public administrations,

businesses and citizens. Agreed change management processes ensure continuous service delivery.

Standards, openness and reuse

The implementation of interoperability is often based on standards and open platforms. When trying to implement interoperability agreements, at technical or semantic level, there may be a choice between a number of equivalent, competing specifications, all of which may be able to provide a basis for such agreements. Public administrations may decide to support multiple formalised specifications or technologies to communicate with citizens and businesses.

Decisions on what formalised specifications and technologies to use should be based on transparency, fairness and non-discrimination. One way to do this is to agree on a common assessment methodology and selection process. These should be based on objective criteria, primarily related to functional needs.

When several formalised specifications meet functional interoperability needs, additional criteria on quality of implementation, market support, potential for reusability and openness can be used. The level of openness of a formalised specification is an important element in determining the possibility of sharing and reusing software components implementing that specification. If the openness principle is applied in full, all stakeholders have the same possibility of contributing to the development of the specification and public review is part of the decision-making process and the specification is available for everybody to study.

In some cases, public administrations may find that no suitable formalised specification is available for a specific need in a specific area. If new specifications have to be developed, public administrations may either develop the specifications themselves and put forward the result for standardisation, or request a new formalised specification to be developed by standards developing organisations.

Even where existing formalised specifications are available, they evolve over time and revisions may take a long time to be completed. Active contribution in the standardisation process mitigates concerns about delays, improves alignment of the formalised specifications and can help keep pace with technology innovation.

Definition of interoperability architecture may be useful as working towards a common vision. Setting up common infrastructures and developing common services may support such architecture.

Interoperability Governance

In the context of standards and formalised specifications, it is necessary to stress the importance the governance of the basis.

Due to cross-border and cross-sectoral characteristics, governmental agencies operate in a complex and changing environment. Ensuring interoperability is a continuous task, as it is disrupted by changes to the environment, i.e. to legislation, the needs of businesses or citizens, the organisation of public administrations, business processes or technologies.

Even if interoperability is maintained for a given public service, its delivery often relies on components that are common to many other services. Moreover, as the common components and interoperability agreements are the results of work carried out by public administrations at different levels, coordination and monitoring this work requires a holistic approach. Public administrations should establish a framework for the governance of their interoperability activities across administrative levels.

The Single Window concept is premised on efficient data exchange between business and government on the one hand and between CBRAs agencies on the other. For business data to be exchanged between two CBRAs, their systems should interoperate. Information Technology vendors often make exaggerated claims (Glushko and McGrath 2008) about the capability of modern technology tools to 'seamlessly connect' with each other. This is usually not the case. Even though, with each new tool and technology, the productivity in the processes of interconnecting between information systems has improved, there are clearly many problems, which need to be addressed.

CBRAs operate different IT systems that may have been built over several years. Technological platforms, application software, business processes and business semantics may vary across systems. The more mature the individual IT systems the more difficult it is for them to interoperate.

The information models of the CBRAs must match with each other and in mature IT systems, models are already frozen at the time of commissioning and there is little that can be done to undo the models. In other words, the earlier the systems are developed, the more difficult it becomes in the future to work with each other. ,

Regardless of whether we are dealing with legacy systems or new systems for development, the most challenging type of interoperability is semantic interoperability, which is at the foundation of a Single Window Environment. Even though data collected by CBRAs is roughly about the products, locations, facilities, means of transport, etc, semantic differences prevents a CBRA from using data collected by another CBRA. Bridging these differences is essential for promoting collaboration. This can be addressed through the methodology provided in WCO Single Window Data Harmonization Guidelines. (Section 4 Volume 2)

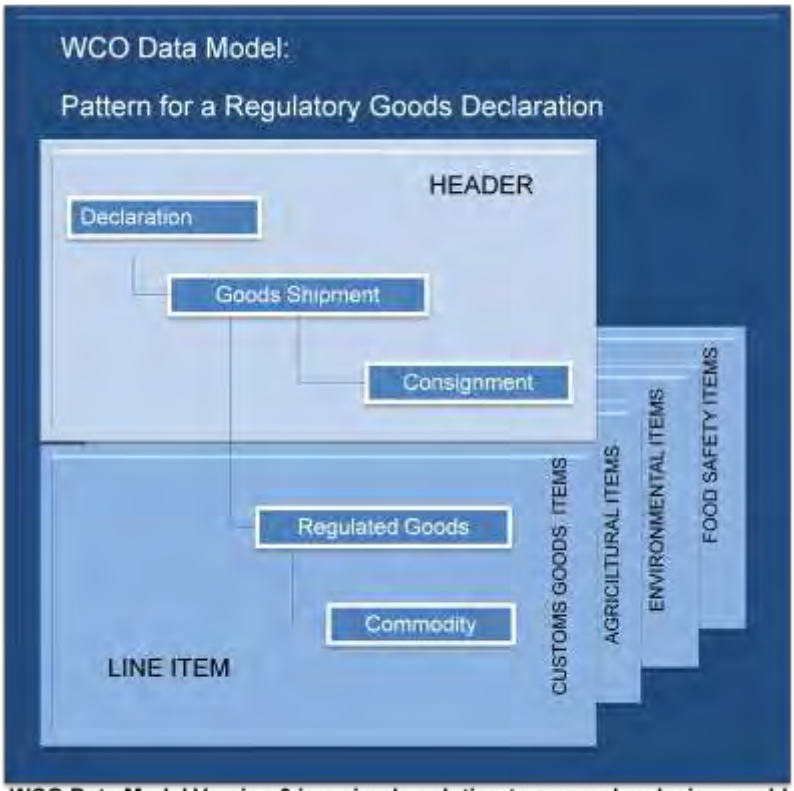
The process of arriving at interoperable data sets (semantic assets) is a complex one and requires sustained support from the executive management, which should provide opportunity for collaboration, provide platforms to share data standards through a repository. Participants in the Single Window Environment should be able to access the repository and produce conformant implementations.

3.1 WCO DATA MODEL

The WCO Data Model *"is a maximum set of carefully combined and harmonized data requirements derived from cross-border regulation. These requirements are mutually supportive and will be updated on a regularly basis to meet the procedural and legal needs of cross- border regulatory agencies such as customs, controlling export, import and transit transactions."*

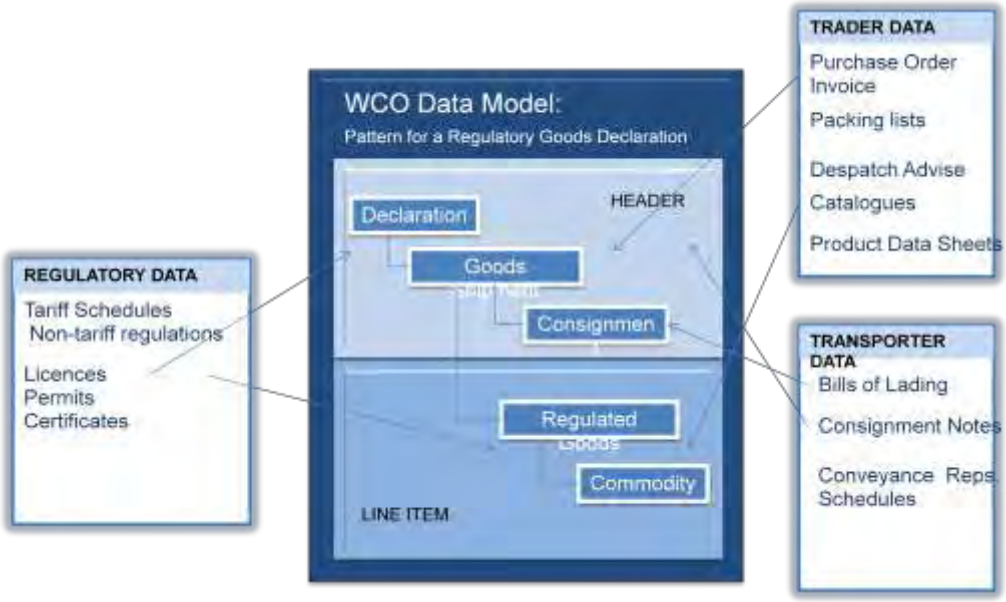
The WCO Data Model is based on the Revised Kyoto Convention which requires customs administrations to request minimal data to ensure compliance with customs laws. Customs administrations will therefore at most require the data elements that have listed for each customs procedure in the respective data sets. These self- imposed limits discourage future increases in data requirements.

Version 3.0 of the WCO Data Model captures the basic patterns of a Cross-border regulatory declaration. To avoid repetitive submission of data, it is necessary to have a harmonized data set. The process of arriving at a harmonized national data set is explained in Section IV of volume II – which contain the WCO Guide Data Harmonization Guidelines. Using the simple solutions provided by the WCO Data Model, it is possible to put together a common declaration format for all regulatory goods.



WCO Data Model Version 3 is a simple solution to a complex design problem. Diagram depicts the structure of a Cross-border regulator goods declaration

Besides making the common regulatory declaration possible, the WCO Data Model also inspires re-use of information. The Data Model also provides common patters of reuse. The following diagram suggests the possibilities of reuse within the WCO Data Model.



The discipline of using the WCO Data Model ensures that any new data requirement for Cross-border Regulatory procedures follows a thorough analysis of the need and decision based on international standards. It should also consider the Trade's ability to provide the information in the normal course of its business.

4. Assurance process in Service Design

This section addresses the processes available to management for obtaining assurances that the envisaged project meets the user expectations. The purpose is to arrive at a documentation that holds the delivery team responsible for the outcome. There are several types of documents that the executive management must require from project teams. A few are listed below explaining the qualitative and quantitative aspects of design.

4.1 Business use cases & User stories

Business processes can be documented in many ways and can be studied at different levels of abstraction. Business process documentation enables the analysis of process steps in terms of business value. It also identify key points of responsibility in the entire process flow. The goal is to identify and eliminate process steps that do not add business value and to locate main process points that are vital for the performance.

Use cases are increasingly being used for capturing and communicating detailed, functional requirements from the business managers to the information technology solution providers. Business processes models can be drawn at different levels of abstraction. For the executive management, business use cases are of value as they describe at a very high level the processes and the expectation of the stakeholders. Use

cases need to include functional and non-functional requirements. Functional requirements are easy to understand and are rooted in business logic and government regulations, but the executive management should insist on clear and through specification of non-functional requirements such as usability, performance, security, adaptability along with clear metrics for acceptance. This is perhaps the most challenging area in requirements management.

Business use cases should be illustrated pictorially using simple diagrams explaining the exchange of information and the flow of decisions. Such diagrams come handy for stakeholder consultation. The functional and non-functional requirements together provide a good basis for service level specifications. Good business use cases are also the basis for solution acceptance procedures.

Distinct from use cases are 'User Stories', which are narratives for capturing in a few sentences in everyday business language what the user wants to achieve. Although this style of capturing requirements is preferred by certain types of software development methodology(eg. 'Agile' development), 'user stories' are can still be used as basis for requirements elicitation in an iterative fashion.

User story example 1:

"I <as a truck driver>, cross the no man's land, park my truck and swipe my card at the machine. Upon swiping the card, the machine displays my truck number and provides a sticker with a bar code. I apply the sticker at the designated spot on my import report document and wait for my turn. I enter the number on the touch screen kiosk, it displays the expected time at which my turn will come. After 5 minutes, the electronic display board announced my reference number and directed me to approach counter number 6. My documents were stamped and I proceeded with my truck to the exit gate."

This user story can be expanded and people can work on different stories to achieve different solutions for the same scenario with examples. User stories can help build the management's vision of the use of technology. Alternative user stories can be discussed iteratively and each interaction can be checked for improvements and opportunities for using self-service or technology-based interaction:

User story example 2:

I <as a truck driver> cross the no man's land and reach a point where I am greeted by a Border Guard who takes my document and scans the 2D bar code against it. He checks my passport and driving license and advises me to proceed for the baggage check. I remove my baggage from the baggage hold of the truck and walk into the room and the metal detector. In the meanwhile, the truck and the container on the trailer are scanned using a re-positionable gamma ray scanner. After I finish my passport control, I take the truck to the exit gate, where I again presented by 2D barcode at the scanning point and the gate opened

automatically indicating the release of cargo. I simply waved and smiled at the standing border guard before proceeding.

4.2 Service Blueprinting

Service blueprinting looks at a business process as a series of interactions and holds that tpositive experiences of the interaction will improve the overall quality of service.

Service Blueprinting refers to a design tool based on the process flow diagrams, in which the front office, the back office operations and all intermediate layers are described. Each man-machine and face-to-face interaction is described as it happens in a sequence For each interaction, the standard execution time, expected wait time, points of failure are captured. Alongside, the risks of failure or deviation are identified. Possible exceptional situations and failure points are also documented along with mitigation and service recovery strategies.

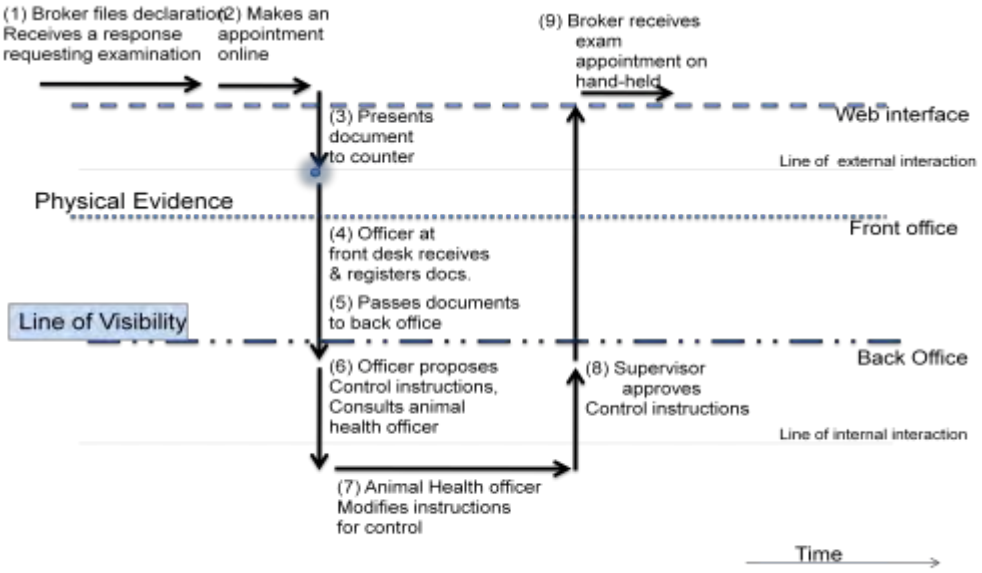


Diagram: Service Blueprinting of the part of Cargo examination process

Models are tools for communication and a 'service blueprint' is a service model. The above diagram is an example of the Service Blueprinting that defines the 'touch points' for users. Managers at the design stage can easily get an understanding of the 'to-be' picture, which they always use at the time of acceptance testing.

4.3 Service level specification

In the design of Single Window Services, service level specifications must be recorded in order to produce a common understanding of the availability of service (working hours of the window), performance, and quality in terms of minimum guarantees on the time take to perform each step in business. Service level specifications in business terms can become the basis for the specification of the underlying IT services, which are defined more in terms of uptime guarantees and Mean Time Between Failure (MTBF) , and Mean

Time To Repair (MTTR) in case of breakdown. Service level specifications can become part of service level agreements, which lies at the heart of contracted performance.

Cross-Agency Service Level Specification

If service level specifications are defined CBRA-wise for the whole transaction, then the purpose of the Single Window approach would be defeated. One of the key agreements that CBRAs must reach among themselves is the service levels they intend to provide collectively. It follows from this all service design will adopt a common approach to service design, starting from business process design, data modelling, interaction design, physical infrastructure and the service desk.

5. Conclusion

This Chapter described the process of designing Single Window services. The taxonomy of services helps identify and prioritize the sequence of deployment. Handling single window projects in terms business services helps executive managers to track the business value as the rollout of projects happen. When success criteria for projects are defined in terms of delivery of business services, it allows management to accurately estimate cost of services and to produce benchmarks. The services paradigm not only provide useful frameworks for solution architects (Service Oriented Architecture), it also opens possibilities for the using the discipline of Interaction Design, which can make all the difference in user satisfaction for the traders and government officers.

Service design covers online interaction between the trader and the web-portals. Traders may use a variety of end-user devices and access channels. Service design includes choreography of face-to-face interactions at service counters. The outcome of the design process will not only impact business processes, workflows and electronic form design, it will also significantly influence the project concept. The manner in which, information is submitted to Single Window is essentially a question for interaction design, where traders who are in possession of incremental information can seamlessly submit it to the Single Winsow and the submission will reflect a natural progression of 'state' in the trade or transport process. This results in a corresponding incremental change in the regulatory status of goods/ cargo. Undoubtedly, the WCO Data Model is an extremely useful instrument to support this concept.

When services are ultimately rolled out, IT enabled service management can be employed to track the project performance effectively, completing the full cycle for a Single Window service starting at the drawing board and going all the way up to production and realization of business value.

Chapter 7:Dealing with Legal Issues

In this Chapter, we will deal with the following questions:

- ✓ Why is it important for the Single Window Initiative to have a legally enabled environment?
- ✓ What are the legal issues in implementing a Single Window Environment?
- ✓ As the Single window initiative takes shape, what legal changes are required?

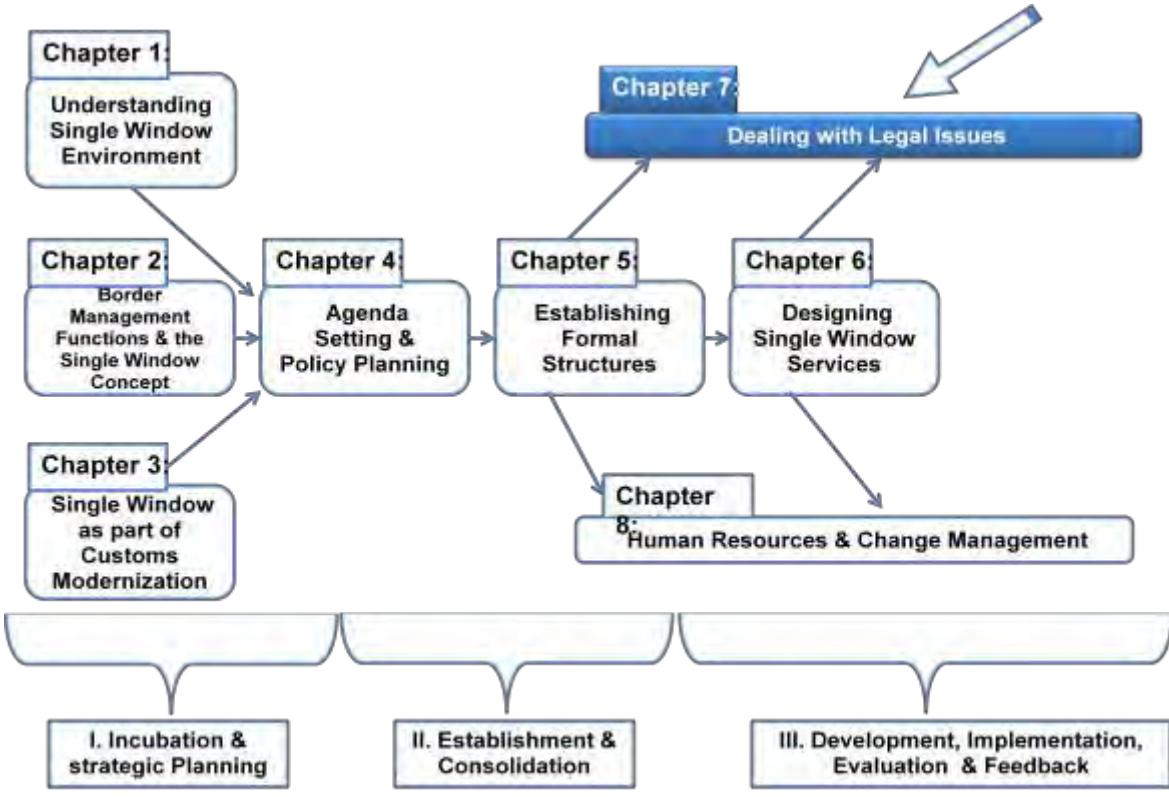


Diagram1: Layout of Chapters for Volume 1

1. Introduction

In this Chapter we discuss the legal issues in the building of a Single Window Environment and the ways of dealing with them. The Chapter begins with a description of the features of the Single Window Environment from a legal point of view. It moves on to cover the main topics and to finally produce conclusions. It also raises some questions for the executive management.

This text relies upon existing knowledge on the subject,such as UN/CEFACT Recommendation 35 while trying to distill some findings from Single Window implementations around the world. An attempt has been made to find a parallel with legal challenges being handled in a Virtual Enterprise and their corresponding solutions. Furthermore, this Chapter points out the most problematic legal questions, clarifying and illustrating the significance of certain legal issues.

The first section provides a description of the most striking legal characteristics of a Single Window and in which respects do these characteristics differ from those of the traditional, stand alone systems operated by a Cross Border Regulatory Agencies (CBRAs). The second section provides a life-cycle perspective to a Single Window starting with its business definition, its establishment as a legal being, its operations and finally into its renewal phase when there is a fresh look at its *raison d'etre*. The third section deals with legal issues that may arise from cross-border regulatory regimes and business processes in a Single Window Environment. The Chapter concludes by highlighting the main lessons for the executive management.

2. Single Window: Key legal characteristics

As governments take steps in establishing a Single Window Environment, they will be required to bring the initiative into a formal and legally defined regime. Cross border Regulatory Agencies that have been running automated systems in their own right *are already required* to handle the legal implications of their operation. The Single Window Environment comprising automated systems is also bound by similar requirements but may have certain additional characteristics that distinguish it from the traditional stand-alone CBRA IT systems.

2.1 Defined legal authority

Automated information systems and their public manifestation, e.g. web portals, interface specifications, access channels etc have to have a legally defined existence. Without such legal definitions, these systems cannot participate in the fulfillment of government's regulatory obligations. These facilities will be operating in a national jurisdiction and will

be governed by national legislation prescribing all legal requirements and limits for its operation.

Traditional stand alone systems have their roots in the authority vested in national legislation bringing certain regulatory services into existence. For example, Customs law and its subordinate regulation would provide for the existence of the IT system that operates customs clearance services. For example, Section 126D of the Australian *Customs Act, 1901*, by mandating the CEO to establish and maintain such information systems as are necessary to enable persons to communicate electronically with Customs, gives it legal sanctity. There is further expression of this mandate through legal provisions specifying the technical interface to these information systems.

Each organization participating in international trade has a distinct service to provide. But the possibility of collaboration with other agencies opens doors for participation in a Single Window Environment under which, different government agencies join forces to provide a complex service. Such operations could not have been handled efficiently if each agency on its own were to provide the service in a disjointed fashion. Information& Communication Technology functions as the engine that moves these connected entities, big or small. Howsoever the entities join-up to offer the service, delivery to citizens or business will involve a service offering under conditions, which must have the backing of a distinctly defined service provide that has a well-defined legal authority to offer the services by taking part in the associated transactions.

2.2 Legally Enabled Entity

The Single Window concept involves collaboration between several participating facilities. In an operational sense, these are information systems running certain services operated individual CBRAs or trade, each with its own legal existence. **In other words, the entity operating the Single Window should be fully established in law.**

The creation of an entity that is distinct and removed from these other entities is one of the possible approaches. Governments, however, have a choice as to the type of entity that needs to be established:

→A government department defined in law or regulations with specified executive and agency powers and responsibilities.

→An autonomous entity authorized by legislation or by executive order.

→An entity established by company law, whether private or public.

→Any other voluntary association of entities covered by other national legislation.

→Joint Venture with commercial entities.

Current trends [as evidenced in the WCO Survey on Single Window] point to the predominance of government departments and government control organizations as the entities that run the Single Window Environment.

UN/CEFACT Recommedation 35 emphasizes 'neutrality' as a defining principle for dealing with a Single Window. The Single Window Operator needs to maintain 'neutrality' or 'arms length' between regulatory agencies' and their automated systems.

If third parties in trade and transport transact with a Single Window as if it were a CBRA, then that would have to be formalized through a set of legally established relationships. The relationship between the Single Window Operator and the participating CBRAs ashould be based on sound legal principles. By notifying the Single Window operator as the sole carrier of data into and out of the CBRA, government is giving a distinct legal status to it. Observance of procedures by the regulated entities would depend on sound performance of the statutorily assigned functions by the Single Window operator.

The Single Window may be identified by its visible manifestation such as its web portal but it is the organization that it represents that matters from a legal standpoint. The Single Window operator or orchestrator will not only represent the participating organizations but also function as their enabler. This operator assumes liabilities both on behalf of the CBRA and the Single Window user from trade. But if the Operator is government-owned, it would enjoy sovereign immunities. The Single Window has to have a legal personality and a real identity. In the absence of these attributes, it cannot be held liable.

In the normal course, the Single Window Operator needs be an entity that is able to conclude a contract. For instance the Single Window Operator through its web interface should by itself be able to conclude contracts for user enrollment on behalf of the CBRAs.

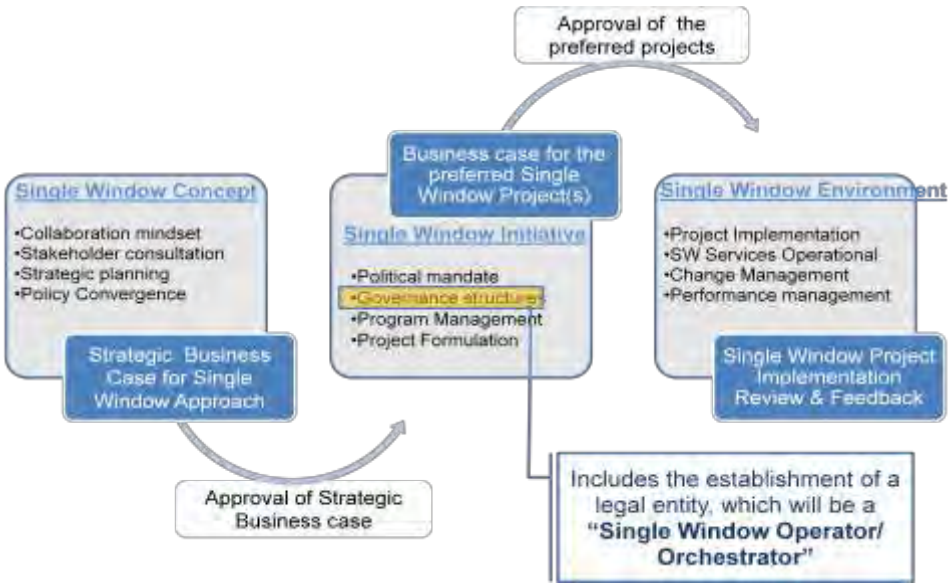
Rules of operation of the Single Window may require separate statements of responsibility for each participating CBRA. Alternatively, all participating CBRA could be held jointly and severally liable for Single Window operations.

It is not envisaged that there the Single Window operator would be liable for any damages caused to the trade. Normal cross-border regulation exempts bona fide actions of authorities. The same principle would apply to the Single Window Operator who acts in good faith on behalf of the CBRA. However, in order to bind the Single Window operator with responsibility and to hold him to consequences for his actions or omission, there need to be two kinds of agreements.

The 'master-service agreement' between the Single Window Operator (or Orchestrator) and a CBRA, which would include performance obligations, representations and warranties often supported by Service Level Agreements, Inter-connect Security Agreements (ISAs) etc.

The other kind of agreement establishes the client relationship between the Single Window Operator/ Orchestrator and the trade user. These agreements will be 'End-user/ Terms of use' agreements, IPR /licensing agreements and subscribing party agreements, that define service levels, performance guarantees, user fee, if any and administrative fines, penalties, remissions and refund policies.

The diagram below helps locate the stage at which the Single Window Operator is appointed.



Web technologies make it possible for the Single Window to maintain a virtual presence but it is still necessary to endow it with a legal personality and it should be a possibility to identify the members responsible for the Single Window.

Where the Single Window Operator is an extension of the government, its existence is fairly straightforward. However, if the Single Window Operator is an entity that has private sector holdings, it has to have an legally defined structure e.g. with a registered office, executive agents that have a legal personality for the third party entities in trade and transport to perceive the Single Window asa 'going concern' with which they can do business.

2.3 Interchange agreements / MoUs

The relation between CBRAs within a Single Window can be described as the set of rules, liabilities and duties that exist between them. These relationships can be based on MoUs. In the private sector context, these would roughly be the interchange agreements. Government departments are not given to being parties to legal agreements as they prefer to have administrative oversight as opposed to jurisdiction of courts. Therefore, they often enter into Memoranda of Understanding (MoUs) between themselves and those documents are treated as binding on the signatories. On the other hand, agreements involving private enterprises have to be at arms-length. In the event of a dispute, the court that is seized of an issue will have to determine whether it has jurisdiction to hear the case. Therefore, the interchange agreements have to specify the express choice of applicable law and 'exclusive jurisdiction' clauses. For the sake of discussion, MoUs and Interchange Agreements will be referred to in general as interchange agreements. These agreements would establish the set of rules governing the intra-agency relations between the CBRAs on the one hand and the Single Window Operator and CBRAS on the other. These agreements/ MoUs could include Service Level Agreements (SLAs) and Inter-connect Security Agreements (ISAs).

If interchange is envisaged with entities abroad then such interchange will also involve international agreements. In the international exchange scenarios, these agreements could be concluded as independent bilateral agreements or as separate Protocols for Amendment to existing Customs Mutual Assistance Agreements(MAAs). The Interchange Agreement may include *inter alia* data & messaging standards, service ontology and metadata registries. The following list is illustrative:

- ✓ Interchange Methods (Protocols, syntax):
- ✓ Electronic Data Interchange - data file transfer

- ✓ Flatfiles, Proprietary formats, EDI files, XML files)
- ✓ Shared databases (CBRAs and businesses providing database views to each other)
- ✓ Remote procedure calls
- ✓ Web service specifications for "push" and "pull" of data
- ✓ Agent based technologies for data transfers

UN/CEFACT Recommendation 26 has already included most of the anticipated legal issues that involved parties could encounter. Recommendation 26could be used as a starting point in this area. Recommendation 26 is primarily "commercial" rather than a 'government-oriented' model. It does not recognize the differences between administrative bodies for EDI. The text was principally used by Value Added Network service providers. The Recommendation might however be useful in identifying the key areas that require consideration in Interchange Agreements or MoUs .

2.4 Authority, privacy & data protection

Generally, all government information systems have to meet certain norms of privacy and data protection. In a Single Window, this is especially important as CBRAs interconnect with each other by electronic means. Interchange agreements basically imply sharing of data and the eventual disclosure of private, confidential and protected information. A Single Window construct must cover the main legal issues in the list below: :

Identification of databases – through a name and a title of the database in a way that clearly defines its boundaries.

Ownership of databases: All interacting databases in a Single Window environment must have names titles and ownership. That includes the specific databases of the Single Window operator. The legally defined entity that acts as the administrator of each database in a Single Window Environment must be identified and its registered office must be notified.

Creation of databases: The legal basis for establishment of the databases- from where does the administrator draw authority to establish and maintain the database.

Classification of information –

> *Classification by confidentiality:* (Confidential, restricted, unclassified, un-restricted) based on information government information classification scheme.
>
> *Classification for privacy categories*: Nominal and non-nominal data.
>
> *Authorization and access controls*

Purpose of collection, processing and usage of data and legal basis therefor. Long-term usage especially of nominal data.

Manner of collection of data and legal basis therefor – interface specifications.

Data management lifecycle policy, period of preservation restrictions, if any, on trans-national movement of data.

Insurance coverage against exposure.

2.5 Identification, authentication & authorization

The web portal providing online services that are accessible to the users of a Single Window is the proverbial tip of the iceberg. To provide access to disparate applications and business processes of the participating CBRAs, and to give the users of the single Window a feeling of seamless access, the single window solution must adopt a secure and legally sound solution.

UN/CEFACT Recommendation 35 suggests that identity management is a key aspect of a Single Window system that provides for "rule-based and role based access" to heterogeneous systems and identity management solutions that are based on open standards can promote interoperability by federating and managing identities of users across different organizations and to isolate and decouple the access control mechanisms from the under underlying application and database resources which may be hosted on disparate platform.

There is hardly any legislation which explicitly addresses Identity Management Systems (European Commission (TURBINE Project) 2009). However, privacy and data protection legislation squarely applies to data held in identity management systems. A number of other regions have also pursued paths to international standards in this area. The most notable being the APEC cross-border Data Privacy "Pathfinder" program. Be that as it may, the Single Window Operator will have to meet national legislation on privacy and commercial confidentiality.

There is a concern regarding the ability of Identity Management Systems to enable the available personal data in disparate systems to be linked-up and to observe actions of individuals even as the individual does not have the ability revoke his or her identity. Data Protection Authorities therefore lay stress on *unlinkability* of the information contained in an identity management systems, *unobservability* of actions and *revocability* of identity as legal principles that should govern identity management systems and federated identities.

These concerns need to be reconciled with the broader purposes of using Identity Management Systems in a Single Window Environment. Automated systems operated by authorities would in some applications legitimately seek to link-up information about economic operators for risk profiling purposes and therefore deliberately seek linkability. Further, they would also like to maintain observability and auditability of actions by individuals who would not be at liberty to revoke their engagement with the Identity Management Systems operated on the Single Window and in any case should not be able to repudiate their actions .

In the contracts that bring users onboard a Single Window System, these opposing concerns of individual privacy and legitimate business interests need to be reconciled. Having 'accepted' the terms of participation in a Single Window Environment, the economic operators waive their rights to privacy and commercial confidentiality to the extent that the information is for the legitimate use by CBRAs.

Identifiers issued to the individual user should be somehow linked to his or her *civil identit*y that is duly issued by the State. This is analogous to Economic Operators being identified based on their legally assigned identifiers (eg their Business registration number). CBRAs need to properly identify regulated entities in the event they would have to proceed against him in pursuit of cross-border trade regulations. Besides, it is a legal person that needs to be held to account for his or her observed actions on the automated systems.

Authentication and authorization are mechanism performed by the automated system. The former is the mechanism under which the system is securely able to identify the user and to ascertain whether the user is the person he or she is claiming to be. Authorization is about the level of access of a user and concerns itself with the question of whether a user is allowed to perform an operation (say a database update operation over resource, such as a particular database table).

Consistent application of identification, authentication and authorization procedures are vital for ensuring that the information system is secure and is delivering consistent, auditable service. Single Window services grow with the trust of its users that get accumulated through years of secure operations. The legal validity of actions performed by users will be challenged in the absence of a legally sound mechanism of identification, authentication and authorization.

The conditions under which electronic records, electronic documents and contracts will have probative value, is determined according to national legislation. Determinations in relation to digital evidence will be made in courts where experts will have to assist Judges in deciding on the evidentiary value of access logs – for instance whether such logs were authentic, reliable and intact. In the case of electronic records or documents valid digital signatures will have high evidentiary value.

Digital Evidence is an important legal issue. In some countries, digital signatures may not be given more probative value than other types of electronic signature. Further, there are costs and reliability issues associated with digital signatures that come into play in many national environments. Thus, while stating the digital signatures are technologically sound and figure in the WCO SAFE Framework of Standards, there are other means of securing data and the measures taken to protect data must be commensurate with the risks associated with breach.

3. Single Window - Life cycle perspective

From a legal point of view, the main phases are

(i)Exploration phase: In this phase, the purposes and motivations of participating entities are explored. This is the time to identify candidate services that will be covered by the Single Window and will coincide with the strategic planning, policy modeling and preparation of the Strategic business case.

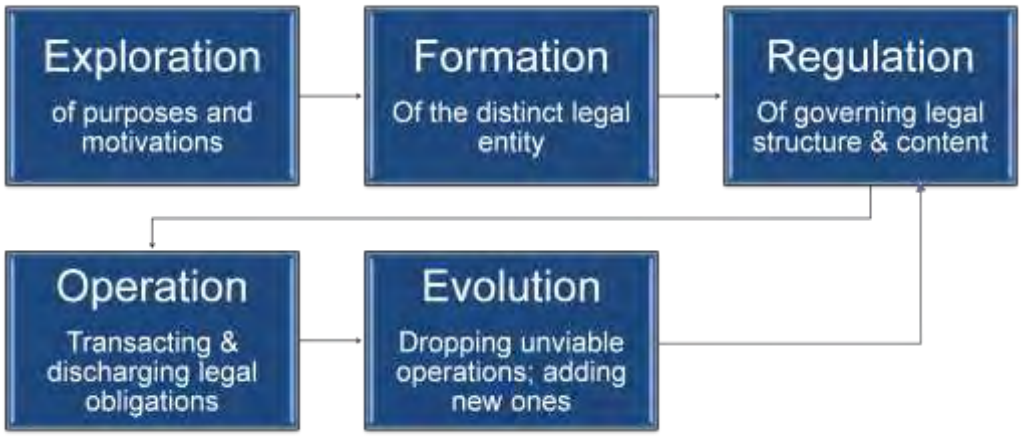
(ii) Formation Phase: This phase begins with the approval of the Strategic Business case and the delivery of the political mandate. A law or decree establishing the Single Window Initiative could be pronounced. Alternatively, a master agreement between the participants of the Single Window Environment is entered into. Whichever way a Single Window Initiative formally comes being, the entity becomes a legal person, which can begin to assume internal and external legally ordained responsibilities.

(iii) Regulation Phase: Single Window Operator or Orchestrator formally establishes its body corporate and its legally appointed executive officers enter into agreements on behalf of the Single Window Operator. The legal basis for establishing the Single Window Operator/Orchestrator and the collection of agreements (primarily, interchange agreements) with internal and external stakeholders constitutes the regulatory framework

of the Single Window Environment. [This is separate from the substantive laws governing cross-border movement of goods, movements].

(iv)Operations Phase: In this phase, the legal arrangements that were firmed-up in the formation and regulation phase operate formally and are therefore 'put to test'. If it is found necessary, these legal provisions are modified from time to time. In a changing environment, it is however important to provide predictability and *ex ante* certainty to the traders.

(**v) Evolution phase:** The agreement will show parties how to disengage from the Single Window and what are the anticipated steps.



Single Window legal issues: life-cycle view

3.1 Internal and external relationships of the Single Window Operator

The distinction between internal and external legal relationship in a Single Window Environment is useful in classifying the legal issues. Internal agreements are those entered between CBRAs and between the Single Window operator and CBRAs and would typically include interchange agreements, service level agreements, intellectual property rights, representations & warranties, Identity management, liability and Insurance, legitimate use of data, data protection and data life-cycle arrangements. Between government departments, MoUs are preferred over legal agreements as explained in previously. On the other hand, in the legal arrangements with external users of the Single Window, a

similar set of issues will dominate. These are privacy issues, data protection, service levels, identity management, liability and insurance.

3.2 Establishing the Single Window Operator

The establishment and operation of a Single Window Facility will include Single Window Operator/ Orchestrator as a legal entity will have to come into existence. Each country has to decide on the character of this legal entity will have to have to be decided. It could be a private of a public sector organization incorporated under national legislation as a joint stock company, a registered society, a not-for-profit organization, a trust or a partnership. It could even be a body that is independently established by law. This has implications for Single window operations.

4. Legal issues grouped by Business processes

In the previous section, the legal issues were examined according to the life-cycle of the Single Window operation. In this section the legal issues are examined from a business process perspective. Business processes in a Single Window are grouped into the following categories and the corresponding legal issues are listed out:

4.1 Registration/ Regulatory Authorization

The typical 'Customs Act' begins with a section on the definitions for entities that will have legal obligations in international trade where, how and by whom should goods be entered for import, export and transit. There are similar enactments supporting partner CBRAs defining entities that have obligations in regard to traded goods etc. These laws and regulations also cover means of transport and crew.

Starting with the first grouping, Registration/ Regulatory Authorization processes are at the foundation of the Single Window, as data about parties, locations, transport means etc are first recognized by the national Single Window operator. The registered entities have a legal existence in the respective legislations of the CBRAs. These registration processes may also be viewed in conjunction with regulatory pre-verification processes under which, the respective regulatory authorities get the opportunity to conduct verification of information provided by users as part of the registration process. These pre-verification processes may be determined by a combination of regulatory and administrative imperatives.

Before access is granted to any of the Single Window services, certain administrative requirements of the Single Window operator need to be fulfilled. These requirements are

described come under the registration processes, under which the Single Window Operator establishes a legal relationship the various actors that use the Single Window services. Typically, these would be legal agreements to be entered into by the responsible official from the Single Window operator with the responsible official on behalf of the registering entity. There could also multiparty agreements, for instance between the trade or transport actor as subscribing parties, Customs/ Partner CBRA parties (with authority to issue regulatory approvals) as relying parties, and the National Single Window Operator as the service provider. These parties with whom customs interacts are called actors. These actors are broadly divided into the following groups:

National Single Window Operator: It is assumed that a 'Single Window Operator' will be established as a legally enabled entity, with the mandate to provide Single Window Services. In describing the single window business processes, it is perhaps necessary to mention the existence of National Single Windows in different jurisdictions. There may be a national single window in existence at the country of origin (NSW at Departure), in the transit country (NSW at Transit) and in the destination country (NSW at Destination). The interaction between national single window operators provides the G2G dimension in a Single Window.

Economic Operators: Economic operators are parties from Trade and Transport that play a role in a single window environment. Economic operators are often facilitated by intermediaries called Agents, who play certain roles on behalf of the economic operators. These agency roles are defined in laws and regulations in cross-border legislation. Any compliance-related activity that is supposed to be performed by an economic operator can also be performed by its agent.

The business processes and the legal issues involved are listed in the table below:

Table: Registration/ Regulatory Authorization

REF	Business Process	Brief Description
R1	Register Cross-Border Regulatory Agency(CBRA)	The Single Window Operator captures the necessary information and performs certain actions to register a Cross-Border Regulatory Agency. [This use case describes how a CBRA is brought on board a Single Window Environment]. Legal Issues:

		→Regulation defining the facility provided by the Single Window Operator →Regulation that the facility is a legally valid means to fulfill regulatory obligations →Regulation defining the right of the operator to host Single Window Services and the operator's roles and responsibilities therefore.
R2	Register Single Window Service	The Single Window Operator makes arrangements to provisions a service on behalf of a CBRA. Legal Issues: →Obligations of the Single Window Operator and the CBRA in relation to the hosted services. →Legal agreement between the CBRA and the Single Window Operator on security, privacy, data management lifecycle, standards of service etc.
R3	Register Authorized Single Window users	The Single Window Operator makes arrangements to provisions on the Single Window information system, a user belonging to a CBRA or a user belonging to an economic operator that is the recipient of a service defined in R2. As user is an individual belonging either to an economic operator or CBRA that is an entity distinct from the Economic Operator for governance within a Single Window. Legal Issues: →Regulation covering onboarding procedures. →Granting rights to the users (individuals from the trade and CBRAs) for accessing the information resources (eg web/EDI applications) offered by the Single Window Operator. →Regulatory definition of what constitutes user identification and authentication, use of digital signatures etc. →User's conditions of participation in relation to each of the services.
R4	Register Economic Operator	The Single Window Operator in relation to a cross-border regulation captures all relevant particulars of an economic operator and registers the Operator for the requested services. The economic operator

		registration leads to the creation of a "Trader Account" which needs to be managed by the Single Window for the life-time of its existence. Legal issues: → Harmonizing legal definitions for business entities that deal with CBRA. → Regulatory verifications concerning economic operators, identity management processes. → Managing identities for different CBRAs →Managing identities between NSWs and Community Systems. →Managing identities globally between National Single Windows implemented in different regulatory territories. (ISW and GNC scenarios)
R5	Register Authorized IT System	The Single Window Operator makes the necessary arrangements to register the IT systems linked with the operation of Single window services Legal Issues: → Regulation granting rights to the IT applications and IT devices (belonging to Economic operators and CBRAs) for accessing the information resources (eg. web/EDI applications) offered by the Single Window Operator. →Regulation specifying the conditions of participation for each of the services.
R6	Register Regulatory Location	The Single Window Operator in relation to a cross-border regulation captures all relevant particulars of a regulatory location. Legal Issues: →Legally defined locations where goods (and transport means) are approved for crossing the border, for storage, warehousing, examination, testing or are dealt with otherwise in the course of international trade. Different CBRA legislation defines these locations differently in their respective legislations.
R7	Register Regulatory Facility	The Single Window Operator in relation to a cross-border regulation captures all relevant particulars of

		an regulatory facility. Legal issues: Same as those mentioned in R6
R8	Register Regulatory Product	The Single Window Operator in relation to a cross-border regulation captures all relevant particulars of a regulatory product. Legal Issues: →Regulatory processes that register products; recognize the product identities, attributes, regulatory classification, regulatory restrictions, conditions for import and export etc. → Each CBRA may have different ways of identifying and classifying tradable goods/products.
R9	Register Regulatory Transport Means	The Single Window Operator in relation to a cross-border regulation captures all relevant particulars of an regulatory transport means. Legal Issues: →Laws dealing with regulatory certification of transport means that are used to carry goods in and out of a regulatory territory. These are subject to global regulations.

4.2 Application for Licenses, Certificates, Permits/others

All movement of goods and means of transport across border are subject to tariff and non-tariff regulatory regimes. With the liberalization of trade, most traded goods in the world are not subject to quantitative restrictions. However, there still are a variety of non-tariff restrictions imposed by national laws and international conventions. These restrictions impose conditions that must be met before regulatory authorities permit imports, exports and transit. These conditions are often documented and expressed in terms of licenses, permits Certificates and other documents that suggest that the transactions meet these conditions. In spite of the variety of goods that are subject to such restrictions, use cases are very similar. The process include (i) Application for licenses/ permit / Certificate/ Others (ii) pre-issuance verifications (iii) transactional compliance checks at the import or export (iv)Post transactional compliance/ analysis.

The broad process of application and issuance of license, permit or certificate remains the same despite differences in regulation. These processes vary for different commodities but with the same underlying patterns. The table below describes the business process.

L1	Application of License, Permit, Certificate or Others	The economic operator applies to a Cross-border regulatory agency for a License Permit or a Certificate and receives a response. There are pre-issue verification, post-issue verification and transactional verification processes during which, the LPCO validity, applicability, quantities, amounts, etc are verified. Legal Issues: → Recognition of certificates and licenses issued in another country. →Delegation of authority for regulatory verification (where such delegation is envisaged).

4.3 Advance information

The mandate laid down by for customs under the SAFE Framework of Standards requires the collection of information on international supply chains in advance of the transaction. This framework requires advance information to be supplied to regulatory agencies at export and import respectively in the form of pre-departure and pre-arrival goods and cargo declaration. Information on the containers loaded on board the vessel in the form of a Vessel Stow Plan(VSP) and the Container Status(CS) messages giving information about the status of a container. The table below provides details of the processes for Advance Information

Legal Issues: common to all processes in Advance Information

→Enabling legislation for advance reporting.

→Where legislation authorizes 3rd parties to submit this information on behalf of the carrier, the liability of such a 3rd party needs to be legally defined.

→What is the legal arrangement for Advance Information that is submitted to the NSW at departure to be transmitted for onward use by the NSWs at transit and destination? (Considering that the question of feasibility and desirability such transmissions would be addressed separately.)

4.4 Goods Declaration /Cargo report/ Conveyance report

The processes are based largely on the revised Kyoto Convention with the assumption that the trade but with the possibility for Single Window type interaction. In addition to the above models, there is the response package model which depicts the business processes associated with a CBRA's response to a declaration. It is assumed that in Single Window environment, there will be regulatory data harmonization and the data exchange points between the economic operator and Customs will coincide with the relevant exchanges with a partner CBRA. This would imply that the standard regulatory reporting events for customs also be used as the reporting events for the Partner CBRAs. This is a logical conclusion from the principle that one time submission requires harmonized data and documentation.

•

Legal Issues: common to all processes in Goods Declaration/ Cargo Report and Conveyance Report

→Enabling legislation governing these declarations – not just for customs but also for partner CBRAs [legislation covering obligation to declare – definition of the taxable events, liability of duties taxes and fee, the manner and measure of the various levies etc].

→ CBRA specific legislation that enables the receipt of this data digitally, including logical and security controls specifically defined in the legislation/ regulation. Mandate of general e-governance legislation to move to digital or paperless processes.

→ Regulatory Procedures defining the place and timing of declaration to be harmonized between customs and partner CBRAs.

→ Authority to access data, use data and process data received are processes covered by CBR Agency-specific legislation. CBR Agency authority to view and make determinations based on data received in the 'pool' formed in the Single Window Environment needs to be addressed specifically. All these processes have to be tempered by

→ Inter-agency data exchange procedure and legal liabilities and obligations of agencies handling the data.

→Treatment of data received as part of declarations and reports which are subject to legislation of dealing with rival concerns of data privacy and information transparency.

→Action of checking of declaration, confirmation of verification and legally valid notification of regulatory determinations arrived at by authority.

→Legislation often authorizes a 3rd party to submit this information on behalf of the carrier or importer. Liability of such a 3rd party needs to be legally defined. Ability to use data and exchange data with Community Systems that act as legally authorized 3rd party suppliers of regulatory declarations and reports.

→Legal provisions in a multi-party agreement between the concerned parties to enable filing of declarations through or by a 3rd party is a pertinent legal issue.

→What is the legal arrangement for the declaration / reports data that is submitted to NSW at departure be transmitted for onward use by the NSWs at transit and destination? (Considering that the question of feasibility and desirability such transmissions would be addressed separately.)

5. Conclusions:

This Chapter discusses the legal aspects in a Single Window Environment, first by examining five main legal issues. Then, it goes on examines these issues from the point of view of the 'lifecycles' in a Single Window Environment. Lastly, it outlines the changes needed to legal regimes from a business process perspective.

Five distinct legal characteristics of a Single Window solution were discussed. For Single Window to exist, it has to have a defined and explicit legal authority, which is expressed through legislation. Then, it has to become a distinct legal entity that has to have the capacity to assume liability and powers to conclude contracts, chief among which will be interchange agreements. These interchange agreements would legally define and govern the acts of information exchange. Interchange agreements may contain data & messaging standards and service ontology which may have to be harmonized across multiple agencies. Such an exercise involves going back into the original legislation of the participating CBRAs. Additionally, these agreements would have the relevant normative interface specifications.

As it handles data from traders, the Single Window should have the legal authority to collect, posses, process and share the data for legitimate purposes. The privacy of the information would have to be safeguarded and sharing should be prohibited except as expressly permitted or provided for in the statute.

In order that the transactions on the Single Window have the same legal validity as manual transactions, the principles of identification, authentication & authorization need to be adopted. Supporting legislation on digital documents, electronic signatures and electronic contracts based on model codes from UNCITRAL are

helpful. In particular, Identity Management Systems lay at the foundation since all other Single Window services depend upon the identification and authentication. The Chapter discussed the common legal challenges faced in employing identity management systems, which can be overcome either through enabling legislation or through agreed terms and conditions that provide the necessary waiver from certain obligations. Multi-party interchange agreements should incorporate appropriate enabling provisions in order that identity management systems operate harmonious with the restrictions imposed by privacy legislation.

The Chapter examined legal issues from a lifecycle perspective and from the point of view of business processes in a Single Window environment. The executive management should identify and appoint qualified legal experts to help establish the enabling legal framework for the Single Window Environment.

Chapter 8: Human Resources & Change Management

In this Chapter, we will deal with the following questions:

- ✓ What does it *really* mean to be the "Lead Agency" in a Single Window Environment?
- ✓ What are the human resource implications for being the Lead Agency?
- ✓ In what ways could the Single Window environment impact the organization structure of a CBRA?
- ✓ What human resource challenges does a Single Window present and what are the key aspects of meeting those challenges?
- ✓ How does the executive management handle transition and change brought about by the Single Window?

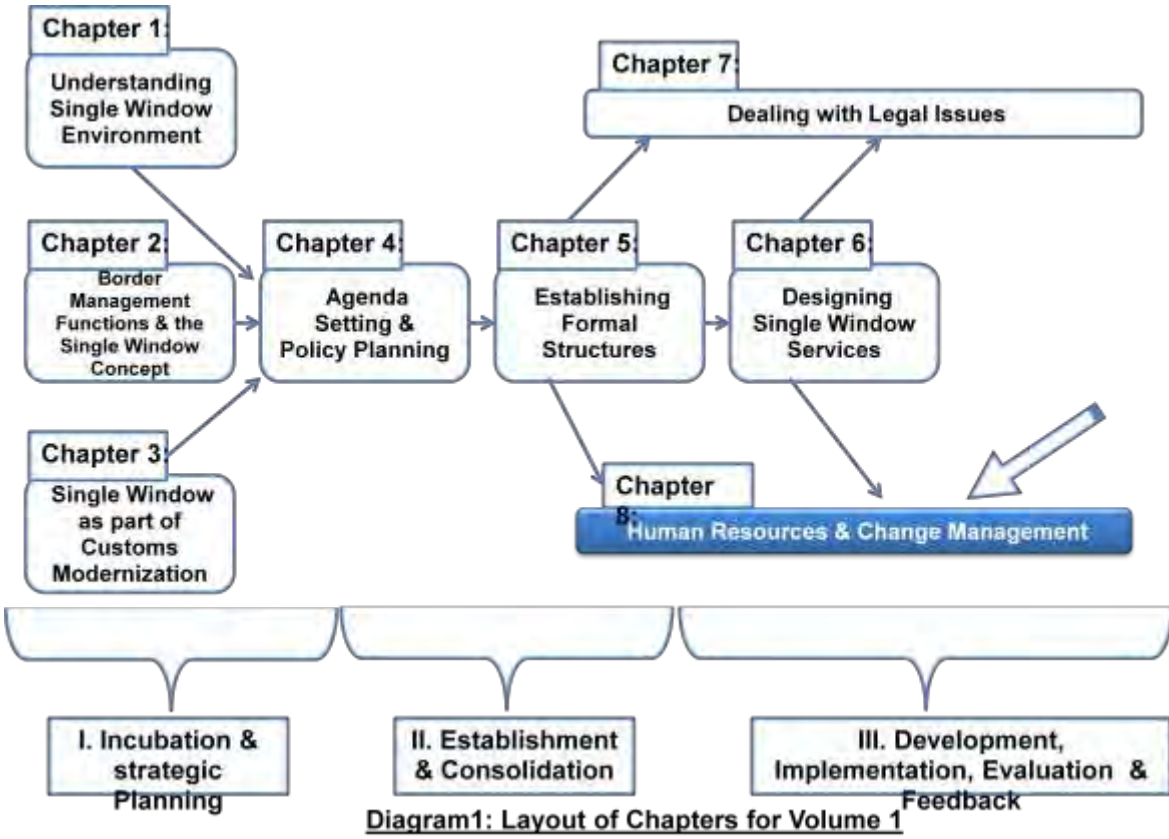


Diagram1: Layout of Chapters for Volume 1

Due to its strategic nature, the development of a Single Window environment may lead to changes in the organization structure of the participating cross-border regulatory agencies (CBRAs). The design of new service interfaces also have implications for organization design, which needs to be pursued methodically (Please refer to Chapter 5). The establishment of the Lead Agency and the project organization for Single Window development is a strategic issue that has an impact on the organization structure. Changes to the organization structure will result in the creation of new roles and the modification of existing ones. These are issues on which Customs is required to take a long-term view and create a roadmap..

Chapter 2 highlights that Customs deals with a number of tasks that are 'cross-cutting'. From both policy and operational perspective, this poses challenges to the hierarchy-bound government set-up. Enhanced coordination and integration between CBRAs is necessary and the actions of the participating CBRAs cannot be permitted to become disjointed. The strategic management process enables the alignment of incentives, organizational processes and cultures of authority in order to fit critical tasks within andacross organizational boundaries.

This Chapters considers issues of Human Resource & Change Management beginning with a systematic examination of strategic choices facing customs in terms of the roles it

can assume in a Single Window future. Thereafter, it considers the proposition that the emergent organization structure is the result of its strategic choices. The unique and core skills that Customs personnel possess will ensure that they continue to remain valuable in

Leadership Area	Function	Strategic Role (example)	Change from	Competency Profile & Impact

any reconfiguration of the workspace under Single Window. The Chapter concludes with guidance on the Change Management process.

1. The strategic role of Customs

Chapter 5 explains the process of project formulation. While the establishment of Lead Agency is a political process, it is also a strategic issue, which needs to be examined very early in the Single Window initiative. (Volume 2 Section VII).

1.1 Lead Agency Role

The term "Lead Agency" signifies some kind of leadership role involving the performance of strategic functions in relation to the Single Window Environment. All participating agencies need to analyze and decide as to what their precise role would be in the 'future state'. The template provided below facilitates this type of analysis. It is clear from the WCO Survey 2011 on Single Windows that a majority of business processes covered by a Single Window relate to cargo clearance procedures where customs is invariably involved. In any case, Customs will be heavily involved in its role as a user and a stakeholder in any Single Window initiative. Each of the interested agencies must determine their respective position in the RACIN matrix [Responsibility, Accountability, Consultation, Information Not concerned- Not involved].

Each type of role comes with the requirement to possess certain competencies. The policy and technical areas require certain knowledge-oriented competencies, where as project management and operations need a higher degree of process-oriented and technical competencies.

		Customs	Trade Ministry	Transport Ministry	Others…		
Policy	Support political oversight on single window	Informed	Accountable	Responsible		None	
	Establish the strategic business case	Responsible	Accountable	Consulted		Minor	None
	Maintaining policy momentum and ongoing support	Responsible	Accountable	Responsible		Minor	New roles in policy devt.
	Program Management	Accountable	Responsible	Responsible		Significant	New positions in program management
Project	Business case for the preferred project;						
	Project procurement and implementation						
	Project monitoring, evaluation, review and sustainability.						
Technical	Harmonization of laws and procedures including development new laws and regulations to support						
	Data harmonization and business process alignment;						
	Development of functional and normative structures of data interchange.						
Operational - Business	Trader account management						
	Managing Licenses, permits						
	Management of business operations - release decisions;						
	post release accounting/ post release enforcement						
	Risk Management in the integrated environment						
	Business Intelligence						
Operational – IT	Ownership of IT assets: data centre, hardware, software and data networks						
	Ownership of information assets: Data management and data life-cycle policies.						
	Management of IT enabled operations – operations management, change management configuration management etc.						

1.2 Strategic positioning

There are several aspects to being a "Lead Agency". Some functions like responsibility for the project procurement or control over IT resources are often misunderstood as the main roles of any relevance or substance. As important as these activities may be, they are also very demanding in terms of human resources and managerial attention. Each participating agency needs to assess its strategic role in the process of development of the Single Window Environment. Each agency has to perform a 'SWOT analysis' based on its current responsibilities, capabilities, strengths, weaknesses and shortcomings. The opportunities presented by the Single Window initiative must be weighed against possible losses to its current resource position.

Historically, the customs in many countries has delivered on data and procedural simplification in international trade. Its track record of delivery on projects is also well appreciated. These projects have substantial components involving information technology. Additionally, its initiatives on promoting and managing trade facilitation would make it the favourite for the "Lead Agency" role. In countries where Customs has established a reputation for technical and managerial excellence, it can expect responsibility for project management, business and IT operations and co-ordination of technical and legal aspects. On the other hand, if in some countries, Customs is not seen as an efficient deliverer of technology, it might lose its claim to the 'Lead Agency' role.

In all these determinations, the track record of Customs and other participating CBRAs will heavily weigh on the political executive.

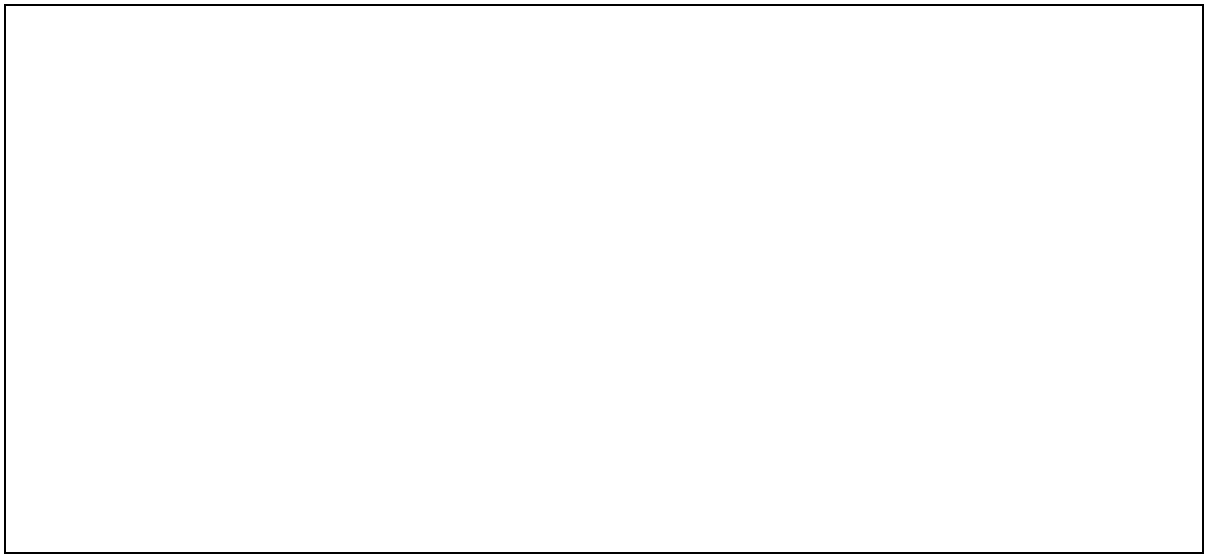
1.3 Impact of project structure

As explained in Chapter 5, there are innovative possibilities in project organization. A Public Private Partnership will require different governance structures from the ones where projects are entirely handled within government. Establishment of cross-departmental empowered structures for executive decision making will also influence the way policy decisions are made. Likewise, the creation of independent units for contract management, project management and program evaluation would also impact the human resource configurations for Customs.

The degree of strategic outsourcing in IT and services would determine the size of exetrnal human resources. The RACIN matrix development will help customs in positioning itself from a strategic perspective. It will help Customs answer the question of where it needs to be and what it needs to develop in order to achieve its strategic goals.

Increasingly, to decide on the question of lead agency, governments will take multiple points of view under consideration – not just the current allocation of business, the current business responsibility and accountability structures but also take a strategic view in the matter.

Regardless of Government's decision on lead agency, Customs cannot shy away from key responsibilities in any Single Window initiatives. Its traditional role as the indispensible agency at the border will dominant factor. The strategic positioning as defined in its mission, vision and strategic goals will define the limits of its engagement. Its current performance on the key government programs on external trade and border management will help establish the political case for its chosen role.



2. Implications for organization structure

A question that is often discussed in the course of the development of Single Window projects relates to the emerging organizational structure. Experts like Chandler have defined organization structure as the outcome of process through which organizational strategy is administered. When there is a change in organizational strategy, it would lead to administrative problems which need to be tackled by making appropriate changes in the organization.

Diagram 6 explains that functional requirements and strategy priorities should determine organization structure (source: WCO Capacity Building Compendium, 2010

Design of the organization is an important responsibility of the executive management, which needs to remain alert to the administrative difficulties that strategic changes may cause. These strategic changes invariably lead to new organizational roles and put pressure on different parts the functional portfolios. For example, implementation of cargo clearance based on risk management requires brings in new roles at all levels of the organization. The centralized structures that develop risk profiles and determine risk rules and a system-driven approach to risk determination will take over from personalized, distributed and transactional models of risk assessment, which will cause power-shifts within the organization. Such changes obviously call for organizational re-design.

Emphasis on post clearance audit and AEO programs will not only require new skills but create several new organizational roles. Typically, customs organizations will have to move away from or drastically limit the detailed documentary examination in the real-time to the post clearance phase.

Likewise, new structures will be necessitated by the need to co-ordinate the examination and release process at the border. The presence of numerous agencies at the physical border gives rise to tremendous co-ordination problems leading to administrative difficulties, disunity of

command and finger-pointing. Different countries have developed different strategies to deal with the question of re-organization.

2.1

Chapte
trade accesses Single Window services, the designing interactions between trade and the CBRA frontline staff and the complementary role played by electronic access channels such as web portal and voice-based service desks.

Changes to workflow arising out of operational co-ordination between CBRAs and back-office were also discussed. Essentially, implementation of Single Window will lead to changes in the way work-packages are formed and how work gets completed as outlined below:

- ✓ **Sharing the workplace** with agencies belonging to other CBRAs, federated control units and integrated risk management units, inter-agency targeting centres, contact centres and front offices.
- ✓ **Routing of work** between staff and involvement of staff from different agencies.
- ✓ **Empowering frontline staff** through cross-designation: Staff from one CBRA to receive and deal with some of trade's queries concerning of another CBRAs
- ✓ Empowering frontline staff through **better delegation of authority** so that it does more with **fewer hand-offs**, also leading to job-enrichment.
- ✓ **Co-ordinated and combined inspections,**
- ✓ **Co-ordinated interventions and release of cargo**

As a consequence of these changes, accountabilities for service delivery will be re-defined and reporting relationships will be re-drawn.

2.2 Re-structuring: Powerful tool, rare opportunity

Re-organization is a corollary to the redesign of services. It is a powerful tool in the hands of the executive management, which must use this rare opportunity systematically and effectively. The announcement of an impending organizational restructuring should be used carefully and with full preparation. On the one hand it helps the executive management to take concrete steps to gather resources and to launch internal and external communication. On the other hand the staff gets the hint that 'change is in the offing' and the trade and other key stakeholders also get the message that major changes are underway.

There is always the expectation that IT driven efficiency would free-up some human resources, besides producing better results from improved coordination among units that work together. This however, is not necessarily the case and should be verified especially with respect the actual configuration of work performed by the staff. The reorganized structure should match closely with needs, priorities and expectations of the to-be configuration.

The job specification of each employee needs to be reviewed as the administration transitions into a Single Window environment.

3. Human Resources

3.1 Human Resource Inventory

Human resource planning is the hidden source for a host of improvements. Government employment in CBRAs is characterized by permanent lifetime employment. Assured job security can be helpful because employees can remain assured that their employment will be intact no matter what changes are brought through in their job content. At the same time, assured employment can be inimical to enforcing discipline and favours employees over employers in their ability to bargain.

In several countries, Customs and other CBRA staff are vulnerable to bribery and irregular payment. In such countries frontline positions are assessed with a view to managing risks arising out of employee integrity. Any kind of sharing of power produces conflict and in cultures where frontline positions are ‘prized’, the notion of ‘sharing’ them with CBRAs would produce its own political fall-out. To be sure, the Single Window Environment can be used as a tool to undermine and defeat the abuse of authority and corruption and would put pressure on non-transparent ways of doing things. A sound strategy would be to use information technology to systematically undermine corrupt behavior.

Skill inventories will reveal gaps between current HR capabilities and requirements under Single Window. What have the employees been doing in their positions over the years?Are they ready to work in the changed environment? This brings us to the question of employee competencies which will be discussed in the following section.

3.2 Competencies of Management & Staff

In the Single Window Environment, the position of staff and management will have specific competency profiles, which need to be identified. For each area of competence listed in the section on Customs and its strategic role, several types of responsibilities can be identified. Each type of role has a competency profile. The desire to assume strategic roles in a Single Window comes with the requirement to possess or develop specific competencies. For example where Customs is called upon to manage the operational aspects of the Single Window Environment, its executives will require additional competencies involved in the management of inter-agency process and integration of IT systems both internally and externally.

3.3 Analyzing Training Needs

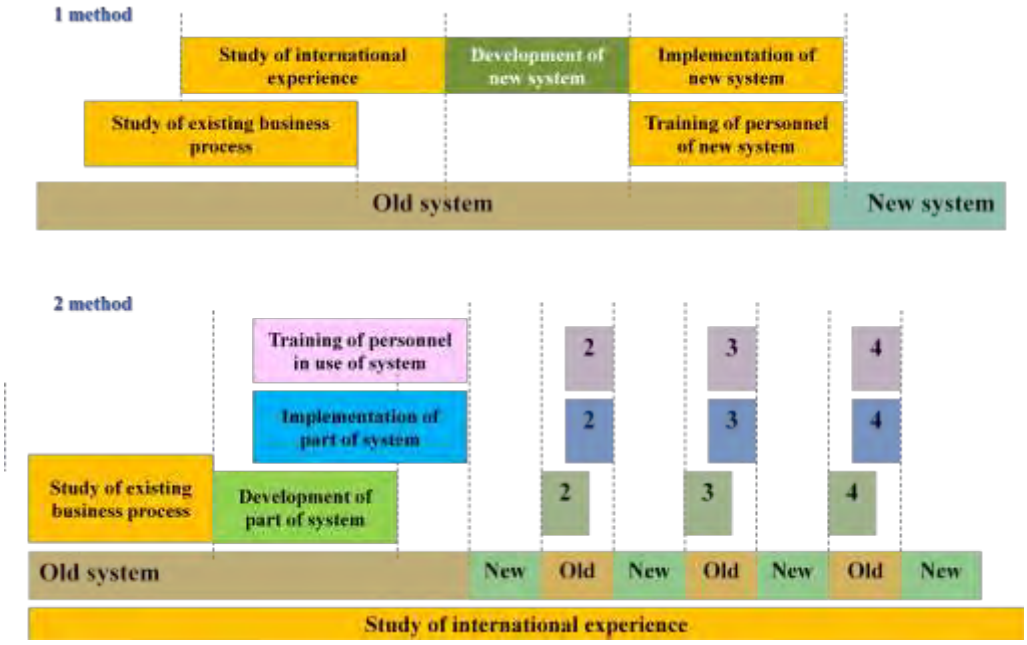
Training is the key to implementing transformational changes in a Single Window Environment. In any information technology based change, user training is a major activity. The staff will take time to get used to new workflows and input screens. Training has to focus both on interpersonal communication as well as technology aspects. .

Training needs should be determined strictly based on what helps address the key delivery needs, and what helps familiarize staff with the roll-out targets in the current phase. The 'hunch' of individuals in determining training needs and vague notions about the need to 'give our staff some exposure' seldom succeed and are not substitutes to a formal approach to training needs assessment. Grooming and career path charting could be a basis for planning training packages but such efforts should be linked to the overall HR and placement planning. Changing employee attitudes to customer service, especially making them see the Single Window-based service offering through the eyes of the trader is a big challenge. For a more detailed understanding of training needs, attention to behavioural and attitudinal aspects of training is therefore warranted.

Executive Management has to ensure that the staff is in a position to deliver the expected services. Training in the new environment is vital as it is a clear occasion for employees to experience the challenges under the Single Window environment.

No assumptions should be made in relation to the readiness of staff to assume positions in the Single Window set-up. Re-definition of job content and cultural changes introduced by new ways of working will have to be addressed through a package of measures.

It is a good idea to schedule hands-on training very close in time to the actual rollout of operations. Such training can also be synchronized with the modules being rolled out. Computer based training or eLearning modules are helpful in ensuring that training is self-paced and is based on practical needs.



(Source: Azerbaijan Customs)

The above picture depicts two methods of sequencing the training of personnel in relation to the rollout of modules. The experience in one of the countries that implemented a Single Window solution followed the 2nd method where development, roll-out and training of implementation were carried out in repeated cycles in order to reinforce the knowledge and provided the concerned officials with the opportunity not only to improve their capacities on the upcoming modules but also to consolidate their knowledge on earlier modules and to provide feedback about the performance of existing modules.

3.4 Interventions for Organization Development:

It is well known that systematic and regular collection of data about employee performance, employee perceptions and organizational processes can yield immense benefits. On the basis of analyzed information, executive management can intervene with development-oriented programs that foster positive values, improve employee capacities and strengthen work culture.

The 'Survey Feedback' technique can help deliver specific outcomes sought by the executive management. Identification of problems through staff surveys provides opportunities to make innovative solutions to problems. Apart from Survey Feedback, there are other structured and framework-oriented programs that deal with Organizational Development.' Total Quality Management' (TQM) falls into this category.

4. Change Management

As a result of Single Window implementation, there will be several changes, and to assist in this process, all CBRAs must answer some basic questions concerning the value proposition of Change:

- What new value is the Single Window bringing to the government and to the clients (importers/exporters/carriers/brokers)?
- What kind of change is really necessary to bring that new value?
- How will the changes benefit the administration?
- Does the administration need change to accommodate those values?

4.1 Ten Steps Leading to Change Implementation

The following is a concise approach to change management based on WCO Compendium on Capacity Building. This ten-steps approach has been adapted to the Change Management Process to be followed in a Single Window Environment.

"Step One: *Focus on the business process and not on the function**:*** Processes are the way the CBRAs interact with the clients and with each other.

Step Two: *Development of a process profile :* Most processes within CBRAs may not be documented prior to the implementation of a Single Window. Only documented processes provide improvement opportunities. Apply the 80 – 20 Rule.

20% of the processes consume 80% of the resources;

20% of the activities within a process generate 80% of the results; and

20% of the problems within a process represent 80% of the opportunities for improvement.

Step Three: *Process mapping*: Only documented processes can be subject to controlled change. In most CBRAs, processes may have evolved.

Step Four: *Measure the processes:* What cannot be measured can seldom be controlled. Process measurements allow CBRAs to determine current performance levels and establish quantifiable improvement targets.

Step Five: *Study other Single Window implementations*: Ideas or proven processes in other Customs administrations can provide invaluable information and save time and possibly avoid mistakes.

Step Six: *Process redesign*: Using the information gathered from the previous five steps, Customs can now map out the new processes, eliminating redundancies and duplicate work activities.

Step Seven: *Balance processes and technology :* Optimize use of technology through interaction design.

Step Eight: *Manage process change:* CBRAs should proactively manage the change by identifying and assessing the risks before the change is made.

Step Nine: *Prepare people (staff and clients) for process change:* Follow the Head, Heart and Feet Model for Successful Change.

Head – people intellectually understand the need to change based on supporting data. As much involvement as possible will help in understanding.

Heart – People are emotionally engaged in change because they see the performance possibilities.

Feet – People take personal action as a participant, not an observer.

Step Ten: *Continue Process Improvement:* CBRAs should be constantly on the path to improvement with day-to-day challenges and opportunities. [Please refer to Survey feedback and Total Quality Management are frameworks for continuous improvement"

4.2 Communication: Lifeblood of Change

Managing change that results from a Single Window implementation requires a formally developed communication plan with the following broad objectives:

- Stakeholder buy-in & support
- Overcoming resistance & assuaging fears
- Maintaining clarity & minimizing confusion

It is useful to distinguish between internally directed and externally directed communication:

Internal Communication:

Dominance of informal communication channels and grapevine is rarely helpful in managing change. Employees need to be informed formally, promptly and correctly about the impending changes. There should not be any scope for conversation hinting at a 'hidden agenda' and promoting rumors. Messages have to be regular, uniform, with a clear purpose and in the context of the purpose. When formal opportunity is provided to employees and free-flow of information is permitted in formal settings, it promotes consistent focus on problem areas.

External Communication

A formal approach to external communication involves creating stakeholder classes, describing the value proposition of the Single Window project for each stakeholder class, and creating targets groups for communication. Following stakeholder analysis, management attention should shift to brand-building. Building an image for the Single Window, logo and a set of slogans that instinctively convey the value proposition of the Single Window is a part of this exercise. Short and comprehensive slogans that convey the main benefits can be used as mantras to support dialogue and discussions and help the entire management team to consistently 'sell' the project proposition. Different types of communication material should be built for different classes of stakeholders. For instance, it may be useful to build different flyers for the political executive, for senior management and for trade. Short informercials can also help promote the concept effectively. For example, Columbia produced the Single Window and linked it with the theme of "No more square windows and square faces" became an instant hit. The audio visual material produced by Peru and Republic of Korea are also instances that illustrate thispoint.

The WCO Secretariat followed a formal approach in producing a communication plan to support the organizational objectives for promoting the WCO Data Model as a tool that helps develop a Single Window environment. CBRAs are advised to follow a formal and professionally supported communication plan.

5. Conclusion

The specific role assigned to Customs is as much a strategic choice for Customs as it is a political imperative. Customs have a historical role at national borders as the indispensible agency. Their reputation for delivery will determine the kind of responsibilities it will be assigned by the political leadership. The desire to assume a role must also be matched with possibility to put in position the required competencies. The template provided in this Chapter helps assess and analyze an agency's strategic role and the impact of Single Window on human resources and change management.

The Chapter takes-up the question of organization re-structuring as to support the Single Window Environment. Re-structuring is shaped by the organization's strategy. Interagency structures that are so necessary to carryout co-ordinated actions at the border provide the executive management with both challenges and opportunities. The opportunity to restructure is the most powerful one for the organization and it must be used carefully and systematically.

Human resources are the key to successful delivery in a Single Window Environment. Frontline employees and management *must be the change they wish the Single Window to represents*. The competencies of the frontline staff must meet the expectations of the

designers who developed the sequences of service interaction for the Single Window solution.

Customs administration cannot afford to follow a haphazard approach to Change Management. The WCO Capacity Building compendium provides the '10 steps' approach to Single Window implementation. Communication is the main management task in managing change. The executive management is advised to adopt and implement a professionally produced communication plan.

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