

**NATIONAL ACADEMY OF CUSTOMS, EXCISE AND
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**SINGLE WINDOW IN CUSTOMS CLEARANCE:
INTERNATIONAL BEST PRACTICES NAD
LESSONS LEARNT OVERSEAS**

Project Report

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EXECUTIVE SUMMARY

This Paper has surveyed the various literatures, predominantly prepared by the various international agencies as WCO, UNESCAP, UNCEFACT, APEC, ESCWA on existing status of Single Window environment for coordinated border management for cross border trade and the roadmap for future.

The Section 1 of this Paper laid down the concept, rationale of Single window and identified various models available for choosing, designing and implementation of single window environment as a cross border mechanism for trade facilitation and regulatory compliance. The section also highlighted that from the complete life cycle of a single window from one stop shop of a single agency at the border to full scale global single window, India may focus on interfaced model of single window. The Section 2 explained the rationale for Customs as the lead agency for implementation of single window while all the participating agencies shall under take a coordinate process reengineering and interoperable legal and technology platforms for design of single window.

The Section 3 studied the international experience in implementation of single window and found that there is no one size fit all solution for single window and the choice of method and design is country specific. The Section 4 focused on the design of the single window and devised a interfaced model of single window that connects the regulatory agencies such as Customs, DGFT, FSSAI, Plant and Animal Quarantine, Airlines, Shipping Lines, Custodians of Cargo through interoperability of legal and technical platforms.

Section 5 observed that, for success of single window and observed that political will, strong lead agency, clear project objectives, enabling legal environment, following international standards, promotion and communication are key factors. The paper concludes with Section 6 with key recommendations for adoption of interfaced single window with ten-step change management model.

SECTION I

Introduction

Indian Customs has developed EDI systems to improve trade facilitation and to achieve efficiency and effectiveness in pursuing the goals of revenue collection, enforcement of trade laws, social protection and providing business intelligence to the government. Exponential expansion in cross border trade made automation of Customs processes a vital necessity in operational efficiency of Customs. Also, developments in Information Technology enabled rapid improvements in delivery regulatory services. Trade also increasingly started expecting and demanding faster, better and transparent service delivery at the time of import of export that affects its competitiveness in a globalized world.

Further, actors involved in international trade have to prepare and submit large amount of information to governmental agencies to comply with import, export and transit related regulatory requirements. This information has to be submitted to several different agencies, which their own specific automated or manual systems to process the data. This system places a serious burden both on government and the trade.

One solution to this problem is to harmonise the regulatory compliance system through single window where in trade related information need to be submitted only at a single point to enhance the availability of information and simplify the information flows between government and trade and can result in better harmonization and sharing of the data and can reduce costs both for government and trade.

Thus, a new philosophy of governance has emerged which aims to transform traditional government structures to best serve the needs of citizens and the businesses. Coordinated Border Management through harmonized service delivery aims at single window approach where citizens and businesses would receive service through single

interface with government. The complex, multi agency compliance requirements that go into service delivery will be transparent to the consumer of the service.

Therefore, single window is a tool for facilitation and greatly reduce the non – tariff barriers of compliance costs by facilitating better use of resources. The single window aims to expedite and simplify information flows between trade and government to bring meaningful gains to all parties involved in cross border trade. Single window is generally managed centrally by a lead agency, enabling appropriate government agencies concerned with cross border trade to have access to the information relevant to their functions.

1.1 Definition of Single Window

There is potential for significant national, regional and functional variation in single window design and implementations. The following selected definitions further illustrate this variation.

UN/CEFACT Recommendation No. 33 contains this broad definition of a single window:

“As specified in UN/CEFACT Recommendation Number 33, the Single Window concept refers to 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 World Customs Organization (WCO) provided the following definition: “A Single Window environment is 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”.

1.2 Purpose of Single Window:

A single window is designed to overcome this complex system of data submission and regulatory control. It is designed to sit at the national junction of national and international trade data exchange, thereby presenting a single point of access to all other relevant trade systems. While the primary objective is the single electronic submission of data, establishing a single window necessitates a major rationalization of current approaches and requirements to trade administration and operations, especially the reuse, and elimination of duplication, of existing data wherever possible, together with widespread e-Government applications and trade-related ministry and non-governmental organization (NGO) systems. The major types of organizations who are active in single window applications are:

- Importers, exporters (consignors and consignees);
- Trade professionals (freight forwarders, customs brokers and shipping agents);
- Shipping companies, airlines, road, rail and inland waterways, duty free zones, dry ports and multimodal cargo depot, and dry ports;
- Ports and airports, container terminals, bulk terminals, port gate operations and local port road and rail transport;
- Customs and Other Government Agencies (OGA): These typically include all agencies that have a trade compliance responsibility, licensing, permit issuing and/or inspection responsibilities, principally including:
 - ✓ Ministry of Trade (and Economy);
 - ✓ Food and drug agencies;
 - ✓ Ministry of Health;
 - ✓ Ministry of Transport
 - ✓ Quarantine agencies
 - ✓ Banks

2.3.1 Benefits of Single Window to various actors in cross border movement of goods

Economic And Social Commission For Western Asia (ESCWA) finds that the intended benefits of single window aimed at key stakeholders in the government formalities and goods movement communities typically comprise:

- ✓ Government and its various compliance agencies;
- ✓ Port, logistics and transport communities;
- ✓ Traders and trade professionals (customs brokers, freight forwards and shipping agents). These benefits may be categorized as follows:

1. For the compliance authorities

- ✓ More efficient and productive use of resources;
- ✓ Enhanced collections of fees, duties and penalties;
- ✓ More comprehensive, streamlined and automated business compliance to Government legislative and regulatory requirements
- ✓ Enhanced risk analysis and management and improved security;
- ✓ Reductions in corruption and illegal trade activities, enhanced transparency and accountability.

2. For the trader

- ✓ More predictable, reliable and authoritative decisions;
- ✓ Faster goods clearance,
- ✓ Exception handling and dispute resolution, leading to reduced inventory holding costs;
- ✓ Predictable and reliable consignment clearance and availability of advanced goods release information;
- ✓ Reduction in face-to-face meetings, greater transparency and reduced opportunities for rent seeking and corruption.

3. For the logistics operator

- ✓ Faster movement of goods through formalities and trade junctions, leading to better and more
- ✓ Productive utilisation of resources;
- ✓ Reliable information on timing of goods movement
- ✓ More productive and flexible use of human resources;
- ✓ The ability to accurately schedule goods collection and discharge times and locations;
- ✓ Better end-to-end audits of operation.

Implementation of single window can bring in better risk management, improved level of security with increased revenue and higher trader compliance. Trade community benefits from transparent predictable interpretation of rules and better deployment of resources.

A Single Window can simplify and facilitate to a considerable extent the process of providing and sharing the necessary information to fulfill trade-related regulatory requirements for both trader and authorities. The use of such a system can result in improved efficiency and effectiveness of official controls and can reduce costs for both governments and traders due to better use of resources.

1.3 Models of Single Window

Considerable research has been carried out on the concept of coordinated border management in the context of cross- border trade in which regulatory agencies provide services to the stake holders in the international trade and transport (The World Bank Group, 2010), The WCO views harmonization of cross border service delivery as Coordinated Border Management.

The UNECE report has consistently made the point that there is no such thing, yet, as the best practice Single window. The concept of a trade facilitation single window is an elastic concept. Every country has different customs, Government Regulatory agencies. For example, the United States has at least 40 Govt. agencies, Australia 14, Thailand 28, Indonesia 38, and the Phillipines 55. Since each Government has unique local fashion and changing political dictates, there can be no single “one size fits all” model. However, there is a range of more mature and experienced single window examples. Typically, the principles of a best practices single window design should attempt at the following:

- (1) A single point of access;
- (2) A single sign on;
- (3) A single entry of data;
- (4) A single point of decision making;
- (5) A single point of payment.

Although there are many possible approaches to harmonization of cross border management, UN/CEFACT International Trade Procedures Group identified three basic models, after review of various systems that are in place. The three models are:

1. **A Single Authority** that receives information, either on paper or electronically, disseminates this information to all relevant governmental authorities, and co-ordinates controls to prevent undue hindrance in the logistical chain. For example, in the Swedish Single Window, Customs performs selected tasks on behalf of some authorities (primarily for the National Tax Administration (import VAT), Statistics Sweden (trade statistics), the Swedish Board of Agriculture and the national Board of Trade (import licensing)).

2. **A Single Automated System** for the collection and dissemination of information (either public or private) that integrates the electronic collection, use, and dissemination (and storage) of data related to trade that crosses the border. For example, the United States has established a program that allows traders to submit standard data only once and the system processes and distributes the data to the agencies that have an interest in the transaction. There are various possibilities:

- i. Integrated System: Data is processed through the system
- ii. Interfaced System (decentralised): Data is sent to the agency for processing
- iii. A combination of i and ii.

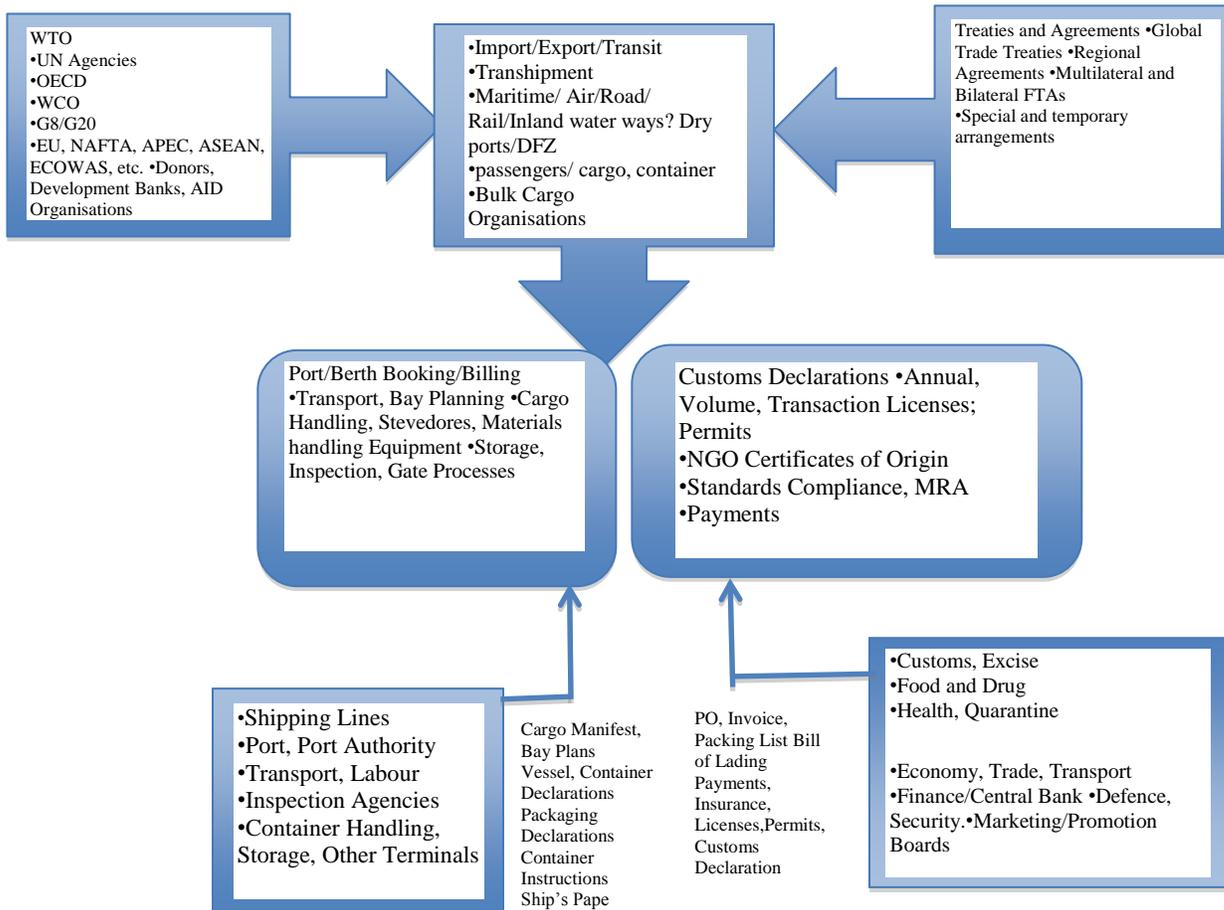
3. **An Automated Information Transaction System** through which a trader can submit electronic trade declarations to the various authorities for processing and approval in a single application.

In this approach, approvals are transmitted electronically from governmental authorities to the trader's computer. Such a system is in use in Singapore and Mauritius. Moreover, in the Singaporean system, fees, taxes and duties are computed automatically and deducted from the traders' bank accounts. When establishing such a system, consideration could be given to the use of a master dataset, which consists of specific identities, which are pre-identified and pre-validated in advance for all relevant transactions.

1.4 Scope of Services and Service providers and receivers Covered Under Single Window:

To complete an international trade transaction, government and business need to access a number of trade, transport and regulatory services. There are number of services that Customs can identify as candidates for harmonized service delivery. The diagram below reflects number of services and the community of service providers that may be harmonized through single data submission point.

Figure 1: Trade approvals and cargo release: Information Demands and Interaction between agencies



1.6 Life Cycle of a Single Window:

Single window is not created in an initial rush of enthusiasm and innovation by a small group of specialists. It is a whole-of-trade community system and inclusive of many separate initiatives, usually spread over a period of several years at least. After some analysis of current international experience, diagram 7 represents a typical single window life cycle. The diagram will be discussed in some detail in much of the remainder of this report, but the eleven-stage model, as illustrated, covers the major functions that make up a national, regional, and even a global single window. To reiterate a previous statement: Each implementation is different. The possible evolution of national single window environment is reflected by the diagram, from the one-stop-shop through to a full-function national single window and beyond.

Figure 2: Life Cycle of a Single Window

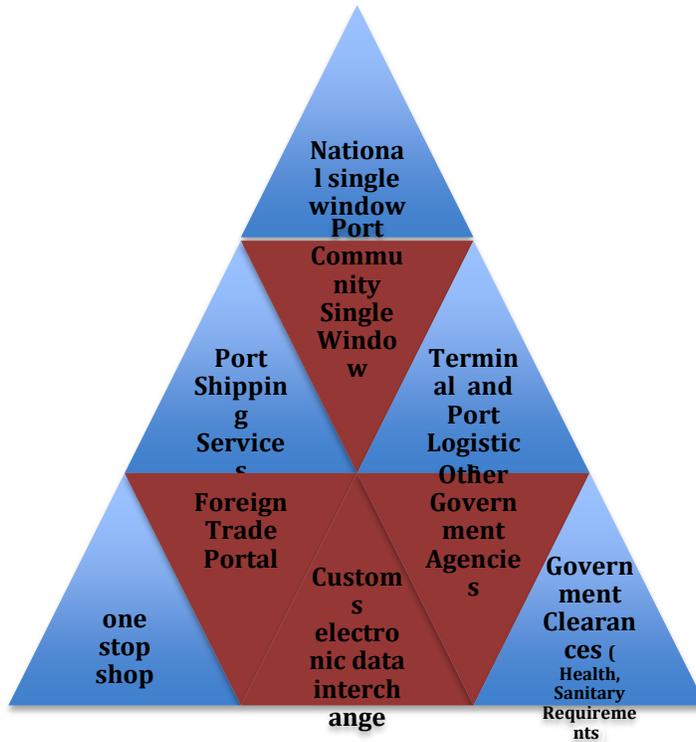


1.7 National Single Window Ecosystem:

In India, there are over about 30 regulatory agencies, which are in the clearance of import/export cargo. They are Customs, DGFT, Port/Airport, RBI, Drug Controller Plant and Animal Quarantine, Food Safety and Standards authority, etc. Among these regulatory agencies, Customs is the first entry/exit point for any international trade cargo. Indian Customs, in addition to the implementation of the provisions of the Customs Act, also authorized to enforce the provisions of over 30 allied Acts. Some of the allied Acts include NDPS Act, Foreign Trade Development and Regulation Act 1992, Wild Life Protection Act, Arms Act, The prevention of Food Adulteration Act 1954 etc. The various government agencies involved with cross border movement of goods operate under limited harmonized space and are in process of expanding the scope of single window service delivery.

In each of above mentioned functional areas, extensive inter agency coordination is necessary. The strategic cross agency areas include cross- agency risk management, cross- agency time-release analysis. Cross Border Management is cross agency effort to deliver regulatory cargo clearance services at the border mainly through IT based systems. Building a harmonized service delivery environment requires participating regulatory agencies to move from independent processes to interdependent processes and document exchanges. The following diagram attempts to show the increasing functionality between the different stages of single windows, placed within a framework of a conceptual, generic single window design.

Figure 3: National Single Window Ecosystem



SECTION 2

Customs as Lead Agency for Harmonised Service Delivery

Establishment of Lead Agency is a political as well as a strategic issue, which needs to be examined very early in the Single Window initiative. As noted in the previous section, the Customs has extensive presence at the border and acts as a single largest agency in implementing various laws and regulatory procedures.

2.1 Lead Agency Role

2.1.1 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. WCO Survey 2011 on Single Windows revealed 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.

There are several aspects to being a Lead Agency. 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. In all these determinations, the track record of Customs and other participating CBRAs will heavily weigh on the political executive.

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.

2.1.2 Customs impact on Single Window Environment

Customs performs many functions such as revenue collection, trade policy implementation, health and public safety and security. Customs is already delivering the following key functions and the single window services:

Key functions:

- Assess and collect taxes

- Collect value added tax or excise duties
- Resolve and settle revenue and other regulatory disputes speedily and equitably.

Single window services:

- On line information services -information on all types of duties to be paid at border for every commodity
- Online transaction services
 - Online facility to receive import, export and transit declarations
 - Providing online validation and processing of declarations
 - On line assessment and examination of import, export cargo
 - Electronic clearance of cargo
 - E payment of all duties and fees
 - Administration of duty drawback on exported goods
 - Management of in bond movement of cargo
 - Sharing of real time data with Ministry of Commerce, Director General of Statistics.

2.2. International Experience in Lead Agency Model

The literature survey regarding the lead agency in the countries that have already implemented or in the process of implementing the single window system around the world reveals that the practice of lead agency is prevalent in all models of SW but the model of SW varies widely from country to country. In some countries the Maritime Port/Port is the lead agency, in some countries Customs is the lead agency and in some countries Customs, Ports and Maritime ports jointly own the single window.

Thus, there appear to be no single formula fitting all the countries. The division of various regulatory functions relating to import and export among the government

agencies also greatly varies from one country to another. For eg. the Customs function is entrusted with Canada Border services Agency (CBSA), which is also responsible for immigration and Food, Plant and Animal enforcement at the border. In USA, the Department of Homeland Security consists of UN Coast Guard, Customs and Border protection and Transportation and Security Administration. In India, the CBEC administers Customs, Central Excise and Service Tax. This diversity in the organizational structure appears to play an important role in deciding the lead agency. Thus we in this chapter attempted to see which of the regulatory agency is most suited to lead the single window system in this country.

Indian Customs by far, has the largest work force among the regulatory agencies involved in the international cargo clearance in the country. It has offices in all the ports, airports and land borders where international passengers and cargo movement take place, with sound infrastructure. Besides, it also has presence along the 6100 Kms of India's coastline of main land (excluding Andaman's Nicobar island and Lakshadweep islands).

The Indian Customs Department has already automated its operation to large extent through its ICEGATE-Indian Customs Electronic Commerce/Electronic Data interchange (EC/EDI) Gateway. ICEGATE is a portal that provides e-filing services to the trade and cargo carriers and other clients of Customs Department (collectively called Trading Partner). ICEGATE links about 15/broad types partners with Customs EDI through message exchanges enabling faster Customs clearance and in turn facilitating EXIM Trade. The airlines , shipping lines, custodians of cargo and cargo logistics operators exchange messages with Customs EDI through ICEGATE.

Additionally, data is also exchanged between Customs and the various regulatory and licensing agencies such as DGFT, RBI, Ministry of Steel and DGCIS through ICEGATE. All electronic documents/ messages being handled by the ICEGATE are processed at the Customs' end by the Indian Customs EDI System (ICES),

which is running at 134 customs locations. Department has embarked upon Centralization of its infrastructure and all customs locations have been shifted to centralized infrastructure hosted at Data Centre by linking them through MPLS based WAN.

In addition to e-filing, ICEGATE also provides host of other services like e-payment, on-line registration for IPR, Document Tracking status at Customs EDI, online verification of DEP/DES/EPCG licences, Importer Exporter Code status, PAN based CHA data and links to various other important websites/information pertaining to the Customs business. The ICEGATE also provides 24X7 helpdesk facility for its trading partners. To ensure secure filing, it is proposed to use digital signatures on the Bill of Entry and other documents/ messages to be handled on the gateway. The trade data consolidated by the Commerce Ministry is also captured by the Customs Department.

Hence, Customs with its omnipresence at all the entry/exit and transit points at border and with its already established automated infrastructure coupled with its strong and experienced work appears to be better placed to be the lead agency for the integrated regulatory border management/ for cargo clearance through single window system.

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 indispensable agency at the border will be a 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.

SECTION 3

International Best Practices in Single Window

A single window is a complex machinery of inter-agency collaboration with several independent functional parts. If one part fails, the whole machinery can stop. Therefore, it is suggested that a step-by-step, evolutionary approach may be adopted before reaching a national single window. The following international experiences shine light on effective functioning of different models of single windows in various countries.

3.1 The Experience in UK and EU

The integrated 'provincial' version of a national single window developed by Felixtowe, in the U.K. demonstrate the importance of careful planning, top-level sponsorship, adequate funding of the project. The Felixtowe Port Community system started in the year 1984 later on covered all the ports in U.K.

Similar examples exist in Germany, France, the Netherlands and Scandinavia. In these countries, the Maritime ports have led the single window initiative, collaborating with Customs Authorities. For example, Finland's PortNet system developed in the year 1993 is owned by Finnish Customs, Finnish Maritime authority and 20 largest ports of Finland. In France, the e-maritime port single window is a Public Private partnership between Le Havre Port, the French Customs and SOGET. India's Port Community System, developed in the year 2007 is a web based port community system covering 22 ports but is not integrated with Customs or Ministry of Commerce.

3.2 Sweden

The Swedish Single Window system, known as “The Virtual Customs Office” (VCO), allows for electronic Customs declarations and application for import and export licenses and licenses for strategic products. It can be integrated into the traders business system and can automatically update changes in exchange rates, tariff codes and duty rates. The Single Window also includes all trade-related regulations and can provide traders with automated updates on changes via Internet and/or SMS-services. The VCO also offers interactive training courses and possibility to customize and create personal virtual customs offices, which contain all information and processes that each trader uses and finds relevant to its needs and wants. Import and export declarations can be processed both via Internet and EDIFACT. All services are pooled on a single VCO web page, currently more than 150 e-services are available. The information and procedures on the VCO supports ten different languages.

The system currently involves the Swedish Customs (lead agency), the Swedish Board of Agriculture, the National Board of Trade, the National Inspectorate of Strategic Products and the Police.¹

3.3 Netherlands

The Single Window at Schiphol Airport allows for the electronic submission of the cargo manifest by airlines to Customs. Trade to Customs to the VIPPROG system, which was developed by Customs, supplies information. The VIPPROG system is an EDI based network application that allows the electronic transmission of the Freight Forward Message, a standard message defined by IATA that is available in the SITA system of IATA. The information from SITA is transmitted via the privately owned community system ‘Cargonaut’, when the airline has given an authorisation to ‘Cargonaut’ to provide customs with the information. Customs pays Cargonaut a fee for use and maintenance of the community system.

¹http://www.tullverket.se/TargetGroups/General_English/frameset.htm

In preparing these Guidelines, the UN/CEFACT International Trade Procedures Working Group (ITPWG/TBG15) reviewed the operation or development of the Single Windows in Australia, The Czech Republic, Finland, Japan, Mauritius, The Netherlands, Norway, Sweden, Singapore, Thailand, United Kingdom and the United States of America.

The Single Window is based on a cooperation with other enforcement agencies that has resulted in the establishment of a so-called “cargo clearance point”(CCP) in 1994. It was established to improve the handling of goods by various enforcement agencies. This CCP is based on a covenant between Customs, ten other enforcement agencies and trade. The other enforcement agencies include the Marechaussee (immigration), the Health Care Inspectorate, various divisions of the Inspectorate General of Transport, Public Works and Water Management, the Inspectorate for Health Protection and Veterinary Public Health, National Inspection Service for Livestock and Meat and the Plant Protection Service. The CCP is managed by Customs.

In order to be able to give the other enforcement agencies the relevant information they need to perform their tasks, these agencies provide Customs with risk-profiles on the basis of which Customs analyses the information and passes it on, either electronically or on paper, to the other agencies. The other agencies inform Customs in return if they want to check the goods. If more than one agency (including Customs) wants to check the goods, the CCP co-ordinates the checks of all the agencies involved. The aim is to prevent multiple checks that will unnecessarily disrupt the logistical process.

3.4 United States

The Single Window system being developed and implemented in the United States is known as the International Trade Data System (ITDS). The ITDS vision is to use a secure, integrated government- wide system to meet private sector and Federal requirements for the electronic collection, use, and dissemination of standard trade and

transportation data. Customs and Border Protection (CBP) will integrate ITDS requirements into a joint Automated Commercial Environment/International Trade Data System (ACE/ITDS) system in an effort to avoid parallel, separate, and potentially duplicative systems.

ITDS has identified the following major stakeholder groups:

- Participating Government Agencies (PGAs), the trade, oversight bodies, and CBP.
- Participating Government Agencies (PGAs) have international trade missions including
 - (a) control over admission or export of cargo, crew, and conveyances,
 - (b) regulation of compliance with federal trade laws such as tariffs and quotas, licenses, and operating authorities,
 - (c) promotion of international trade through activities such as export assistance, and
 - (d) collection and reporting of statistical information about international trade and transportation. For ITDS purposes, agencies can be categorized as follows:

Border Operations Agencies - have responsibility for the import, export, and transit trade processes related to cargo, conveyance and/or crew. Border Operations Agencies may also have license and permit, statistical, or trade promotion responsibilities. Border Operation Agencies sometimes are referred to as admissibility and export control agencies.

License and Permit Agencies - use ACE as the primary means for the recordation and maintenance of license and permit information. License and Permit Agencies may also have statistical or trade promotion responsibilities. Statistical Agencies - use ACE to extract trade or transportation data, usually not at the transaction- level, to support

needs for their own statistical analysis. Statistical Agencies may also have trade promotion responsibilities.

Trade Promotion Agencies - use ACE to facilitate U.S. trade by making available basic import and export information, such as rules and regulations, to the trade, service providers, and the public.²

3.5 Mauritius

The Single Window in Mauritius allows the submission of customs declarations, their processing and their return by electronic means through TradeNet, a proprietary system developed by Mauritius Network Services Ltd. in collaboration with Singapore Network Services Ltd. (which now operates under the name 'Crimson Logic').

The system is an EDI-based network application that allows the electronic transmission of documents between various parties involved in the movement of import and export goods, namely the Customs & Excise Department, Freight Forwarders, Shipping Agents, Customs Brokers, the Cargo Handling Corporation, the Ministry of Commerce, Operators within the Freeport, and Importers and Exporters. Banks will also be connected to TradeNet in the future to allow for the electronic payment of duties and taxes via the Mauritius Automated Clearing and Settlement System (MACSS) of the Bank of Mauritius.

TradeNet has also provided the Customs & Excise Department with an opportunity to embark on a major computerisation project, by way of the implementation of the Customs Management System (CMS), that links with it in the processing, approval, and clearance of customs declarations.³

²<http://www.itds.treas.gov> <http://www.cbp.gov>

³Source for further information: <http://mns.intnet.mu/projects/tradenet.htm>

3.6 ASEAN and West African Countries

The Asian single windows were led by Customs and other Government Regulatory agencies before port and logistics integration. Singapore's Trade Net launched in the year 1989 integrates 35 Government agencies and provides 24 hours access for electronic submission of trade documents including trade permits reducing the processing time to less than 3 minutes. Since 1999, it is operating on a web-based technology.

Most of the West African countries' have port based single windows. China has concentrated more on port developments. Australia and New Zealand both have mature single windows, integrating Customs and Other Govt. Agencies. However, Port single windows are at an early stage of development in these countries. Among smaller countries, Mauritius has a good single window version.

3.7 Regional Single Windows

Over the past few years, the phenomenon of the Regional Single Window has steadily emerged, in which groups of trading nations plan to connect their national single windows to a collaborative regional single window. The European Union(EU), the Asia Pacific Economic Cooperation(APEC), the Economic Community of West African States(ECOWAS) and the Association of South East Asian Nations(ASEAN) fall in this category.

The European Union, for example, is attempting to optimize the efficiency of border crossings within the European Union. The APEC is more concerned with the implementation of a safe and secure supply chain. It includes the concept of an end-to-

end supply chain track and trace system, to enable regulators to trace dangerous goods from manufacturer/source to ultimate end user. ECOWAS is concerned with smuggling, hijacking and other illegal activities in the West African ports and to curb national revenue losses along the international West African roads used for transporting goods between 14 West African countries.

3.8 The Roadmap

The 'one-stop shop' arrangement by way of a National Single window will enhance "Ease of doing business" environment of International trading Community such as Customs Brokers, Freight forwarders, Shipping Agents, Ports, Logistics and Transport Communities and also the Customs and other Regulatory agencies by way of reduction of transaction cost/delays and help enhance the competitiveness of Indian Exporters. The duplicity of data by customs, ports, DGFT etc and the paperwork/delays involved in complying the regulatory requirements at Ports, Airports and Border crossings can be reduced to a great extent.

Presently the Maritime systems, or Port Single windows handles vessel arrival and departure operations including pilotage, berth allocation, arrival/voyage booking, Manifest requirements of Cargo and Crew. The Container Terminals working within Port environment use their own IT systems, which handle the container handling information and voyage related information. Freight forwards who employs labour (stevedores), container movement, allocation of space in ships and aircrafts, rail/road onwards transport etc. in an independent manner.

If all these independent windows are synchronized and integrated into a national single window, the efficiencies will improve tremendously and can enhance the competitiveness of Indian EXIM trade.

3.8 The Steps Before Launch

- (1) Appreciation of laws and procedures relating to various agencies at border crossings (Process mapping).
- (2) Analysis of various documents prescribed by Customs, DGFT, Ports, Shipping Lines, the payments and signatures in current processes.
- (3) Analysis of Risk Parameters of each of the stakeholders.
- (4) Comparison of best practices used by other countries.
- (5) A “ Gap Analysis” between existing systems and the Best Practices
- (6) Inter agency coordination with all regulatory agencies/stakeholders through an Institutional mechanism.
- (7) Business process reengineering and Change management.
- (8) Analysis of peak loads in Customs, Port and Licensing approvals.
- (9) A robust and secure ICT system with a common budget and a National Data Centre from where all agencies including Customs, banks, ports, DGFT, shall retrieve data.

SECTION 4

Designing Single Window Service Delivery

Single window is a cross- agency service delivery at the frontier of the border coordination and interoperability. Access channels of agencies ensure service delivery through bringing together the trader (and his IT systems) and the government agencies personnel (and their IT Systems). 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 and the initiative for improvement must begin at the design stage.

Thus, design is a vital part of single window and requires a combination of

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

4.1 Design for Value

Design begins with the idea of value maximization by preventing unnecessary consumption of resources or unwanted change or damage to the normal flow of cargo. Each useful part of the web- portal, 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. For single window services to add value the vital components for consideration are:

- ✓ Designing Interactions
- ✓ Classifying interactions
- ✓ Understanding service interactions
- ✓ Coordination of Controls by various agencies

- ✓ Co-production involving trader, carrier, broker and the govt. agencies.

4.2 Design for Transparency

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

- ✓ Publication of regulatory information
- ✓ Wizard-based interaction
- ✓ Access to decisions & time stamps

4.3 Design for Accountability

In a Single Window Environment, accountability primarily is about after-the-fact verification of regulatory authorizations. EDI incorporates audit protocol in the interchange agreement. Since the Single Window Environment also involves extensive interaction between the IT systems controlled and operated by partner agencies, similar mechanisms should be in place.

4.4 Design for interoperability

The information systems of single window need to be interoperable, reusable and scalable. Interoperability is broadly categorized into platform, data and process interoperability. Much like utilities that can be tapped and used easily, and interoperable systems should not require heavy customization and integration effort. Interoperability lets software applications running on different technology platforms communicate with each other using various communication protocols.

WCO identifies four levels of interoperability which are diagrammatically represented below:

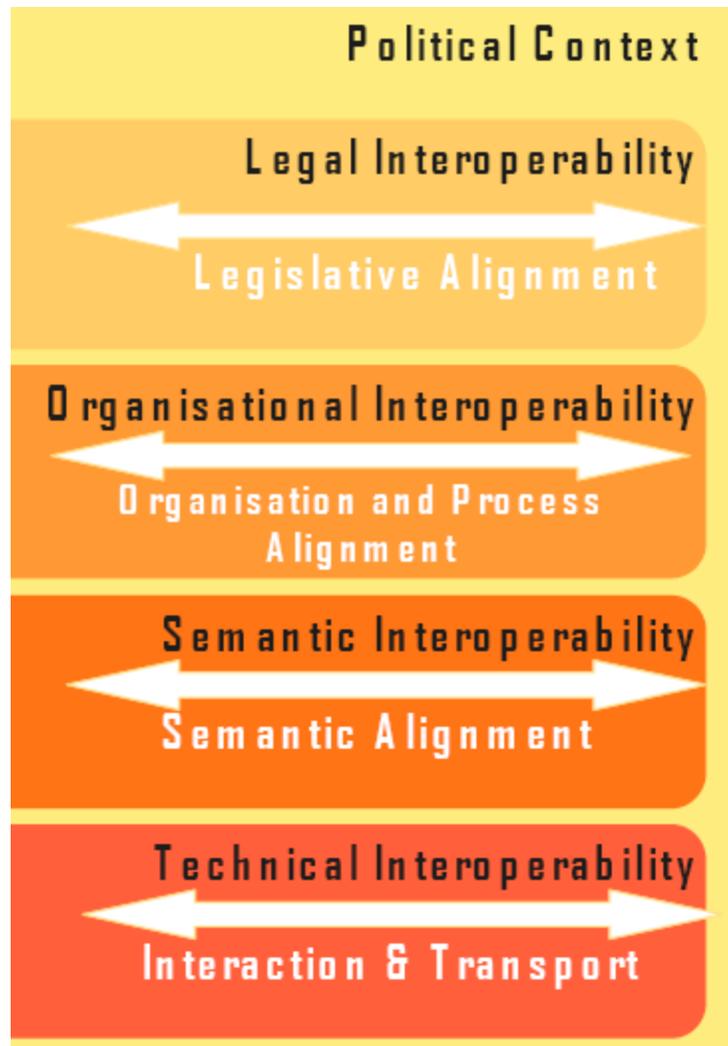


Figure 4: 4 Levels of Interoperability

Source: EIF: 4 levels of interoperability (Subset of chart by the European Commission)

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. 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.

4.5 Suggested Single Window Model for Cargo Operations Management

This Paper intends to develop a smart single window - one stop model for export import and transshipment of the goods. Major building blocks of this system are, user interface box, Smart decision maker, inter-agency Interface omnibus parallel processing system and Customs EDI system.

Assumptions of the Model

This design assumes that various stakeholders systems are in interoperability platform. It is also to be ensured that systems are robust to secure confidentiality and security of the information. It is also assumed that all the stakeholders will forward or upload digitally signed documents only.

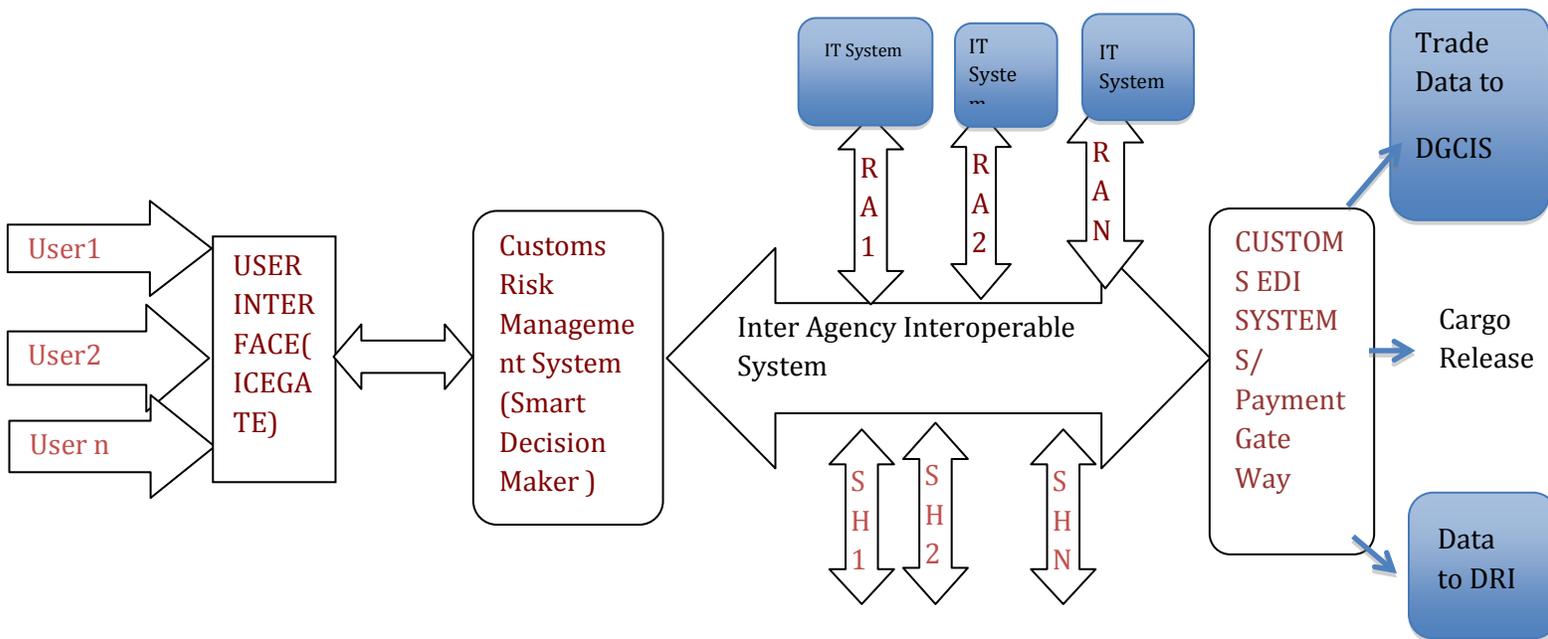


Figure 5: Single Window Cargo Clearance Model

RA: Regulatory Authority; SH: Stake Holder.

User interface box

Here importers or exporter or the Custom broker will be able to log in and file Shipping Bill or Bill of entries along with supporting documents such as Invoice, Bill

of lading and any Permissions/certificates in support of their claim as per the Classification and Product descriptions and Exemptions or Notifications etc.

Risk management System

This will decide based on the information provided by the user, whether the documents are to be shared with any regulatory agency or not based on the Product Classification, description and documents uploaded in support of their claims.

Inter-Agency Interface

This is based on parallel processing architecture which will exchange information between the Customs and other stake holders, including various Port Agencies, Shipping Lines, Banks, Licensing Authorities and all regulatory Authorities simultaneously in real time.

Working Principle

Risk Management System will make a decision based on the user supplied information and will decide the various agencies with which user information is to be shared for the clearance of goods.

- (i) If user has provided all the details as required for that particular Cargo, the Customs RMS server will directly process the documents and action as decided by it shall be taken.
- (ii) In case, certain details have not been provided, then flags will be raised and issues will get referred to user and regulatory authorities, and after compliance of this, documents will be processed by RMS for clearance of the Cargo.
- (iii) If a sample has to be drawn, based on the recommendations of any agency then, proper coordination and information exchange has to be recorded about the sample, so that sample movement can be monitored in real time till completion of required procedures.

Advantages of the Model

- (a) Cargo clearance will become paperless and reduction dwell time and compliance costs.
- (b) Various Export Promotion Schemes can be implemented and monitored more effectively and without registering them again with the Customs Authorities, as data will be shared seamlessly between DGFT, RBI, Customs and User.
- (c) This will ensure that Supply Chain movements can be observed, and bottlenecks can be removed

SECTION 5

Success Factors for Effective Single Window

The successful introduction and implementation of a Single Window concept depends to a considerable extent on certain pre-conditions and success factors that vary from country to country and from project to project. The major factors are:

5.1 Political will

The existence of strong political will on the part of both government and business to implement a Single Window is one of the most critical factors for its successful introduction. The availability of resources to establish a Single Window is often directly related to the level of political will and commitment to the project. Establishing the necessary political will is the foundation stone upon which all the other success factors have to rest.

5.2 Strong Lead Agency:

Related to the need for political will is the requirement of a strong, resourceful and empowered lead organisation both to launch the project and see it through its various development stages. This organisation must have the appropriate political support, legal authority, human and financial resources, and links with the business community. In addition, it is essential to have a strong individual within the organisation who will be the project champion.

5.3 Partnership Between Government and Trade

A Single Window is a practical model for co-operation between agencies within government and also between government and trade. It presents a good opportunity for a public-private partnership in the establishment and operation of the system. Consequently, representatives from all relevant public and private sector agencies

should be invited to participate in the development of the system from the outset. This should include participation in all stages of the project, from the initial development of project objectives, situational analysis, and project design through to implementation. The ultimate success of the Single Window will depend critically on the involvement, commitment and readiness of these parties, to ensure that the system becomes a regular feature of their business process.

5.4 Establishment of Clear Project Boundaries and Objectives

As with any project, establishing clearly defined goals and objectives for the Single Window will help guide the project through its various development stages. These should be based on a careful analysis of the needs, aspirations and resources of the key stakeholders, and also on the existing infrastructure and current approaches to the submission of trade-related information to government. This analysis should involve all key stakeholders from both government and trade. A Single Window should generally be perceived as part of a country's overall strategy to improve trade facilitation.

5.5 User - Friendliness and Accessibility

Accessibility and user friendliness are also key factors for the success of a Single Window project. Comprehensive operating instructions and guidelines should be created for users. Help Desk and user support services, including training, should be established, especially in the early implementation phase of the project. The Help Desk can be a useful means for collecting feedback information on areas of difficulty and bottlenecks in the system, and this information can be a valuable tool in its further development. Practical training courses for users are vital in the early implementation phase of the project.

5.6 Legally Enabling Environment

Establishing the necessary legal environment is a pre-requisite for Single Window implementation. Related laws and legal restrictions must be identified and carefully analysed. For example, changes in legislation can sometimes be required in order to facilitate electronic data submission/exchange and/ or an electronic signature system. Further, restrictions concerning the sharing of information among authorities and agencies, as well as organisational arrangements for the operation of a Single Window, may need to be overcome. Also, the legal issues involved in delegating power and authority to a lead agency needs to be examined.

5.7 International Standards and Recommendations

The harmonisation of data used by different participants in their legacy system can be one of the biggest challenges for automated Single Window implementation.

The implementation of a Single Window entails the harmonisation and alignment of the relevant trade documents and data sets. In order to ensure compatibility with other international systems and applications, these documents and data models must be based on international standards and recommendations.

Whenever electronic data interchange is involved, the harmonisation, simplification and standardisation of all data used in international trade are an essential requirement for smooth automatic operation of the Single Window.

5.8 Identification of Possible Obstacles

It is possible that all players in government and/or trade may not welcome the implementation of a Single Window. In such cases, the specific concerns of opponents should be identified and addressed as early as possible in the project. Identified obstacles should be considered individually, taking into account the local situation and requirements. Clearly, cost can be a major obstacle but this must be balanced against future benefits. However, it is important to be clear about the financial implications of

the project so that the decision regarding full or phased implementation can be made. Legal issues also constitute a significant potential problem area.

5.9 Financial Model

A decision on the financial model for the Single Window should be reached as early as possible in the project. This could range from a system totally financed by government (e.g. the Netherlands) to an entirely self-sustainable model (e.g. Mauritius). Also, possibilities for public-private partnerships should be explored, if this is deemed a preferred approach. Clarity on this point can significantly influence decision-makers to support the implementation of the system.

5.10 Payment Possibility

Some Single Windows (e.g. Thailand) include a system for the payment of government fees, taxes, duties and other charges. This can be a very attractive feature for both government and trade, and is especially important when the system is required to generate revenue. However, it should be noted that adding payment features often requires a considerable amount of additional work with harmonisation and especially security.

5.11 Promotion and Marketing

Promotion and marketing of a Single Window is very important and should be carefully planned. The promotion campaign should involve representatives from all the key government and trade stakeholders in the system, as these parties can provide valuable information on the expectations of the user community and help to direct the promotion and marketing messages. A clear implementation timetable should be established and promoted at the earliest possible stage of a Single Window project, as

this will assist in the marketing of the project and will help potential users to plan their related operations and investments according to this schedule. Marketing should clearly identify the benefits and cost savings as well as specific points relating to the increased efficiency derived from the implementation of Single Window operation.

SECTION 6

Recommendations and Conclusion

This Paper has surveyed the various literatures, predominantly prepared by the various international agencies as WCO, UNESCAP, UNCEFACT, APEC, ESCWA on existing status of Single Window environment for border management and the roadmap for future.

The Section 1 of this Paper laid down the concept, rationale of Single window and identified various models available for choosing, designing and implementation of single window environment as a cross border mechanism for trade facilitation and regulatory compliance. The section also highlighted that from the complete life cycle of a single window from one stop shop of a single agency at the border to full scale global single window, India may focus on interfaced model of single window with select agencies such as Customs, Ministry of Commerce, Ministry of Health, FSSAI, Drug Controller of India, Port authorities, Transport Agencies, Shipping and Airlines, Custodian of Cargo, Banks and the trade community to be linked through single window environment through a modular model

The Section 2 explained the rationale for Customs as the lead agency for implementation of single window while all the participating agencies shall under take a

coordinate process reengineering and interoperable legal and technology platforms for design of single window.

The section 3 studied the international experience in implementation of single window and found that there is no one size fit all solution for single window and the choice of method and design is country specific.

The section 4 focused on the design of the single window and devised a interfaced model of single window that connects the regulatory agencies such as Customs, DGFT, FSSAI, Plant and Animal Quarantine, Airlines, Shipping Lines, Custodians of Cargo through interoperability of legal and technical platforms.

Section 5 observed that, for success of single window and observed that political will, strong lead agency, clear project objectives, enabling legal environment, following international standards, promotion and communication are key factors.

6.1 Key Recommendations:

This sections concludes with the following recommendations

1. The next big step in ease of doing business with process reengineering and automation in cross border trade is coordinated border management under single window environment with major agencies such as Customs, DGFT, FSSAI, Plant and Animal Quarantine, Airlines, Shipping Lines, Custodians of Cargo.
2. The suitable model of single window at present is a interfaced single window with the automated environment of individual regulatory agencies, logistics community and the trading community coming together through connectivity to a single platform such as existing Customs gateway ICEGATE to access the one time submission of the trade.

3. The modular interfaced model of single window can be scaled up in a phased manner as a national single window with the ultimate goal of making global single window operational.
4. Unwavering political will and strong executive action can alone bring the regulatory agencies under single window environment.
5. Single window does not mean automation of existing processes under harmonised architecture but complete reengineering of processes and also the enabling legal architecture for truly ushering a new era in trade facilitation and regulatory compliance on a user-friendly platform.
6. The key enabling factors are adoption of 10 step method designed by WCO for successful adoption of change management through single window. These ten steps are:
 - a. 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.
 - b. **“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.
 - c. **Step Two:** *Development of a process profile:* Most processes within regulatory agencies 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.

- d. **Step Three:** *Process mapping:* Only documented processes can be subject to controlled change. In most CBRAs, processes may have evolved.
- e. **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.
- f. **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.
- g. **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.
- h. **Step Seven:** *Balance processes and technology :*Optimize use of technology through interaction design.
- i. **Step Eight:** *Manage process change:* CBRAs should proactively manage the change by identifying and assessing the risks before the change is made.
- j. **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.

- h. **Step Ten: Continue Process Improvement:** Regulatory agencies should be constantly on the path to improvement with day-to-day challenges and opportunities.

6.2 Conclusion:

With true commitment to quality of service delivery making use of far reaching changes in automated environment in a closely connected global network single window shall bring the national, global regulatory agencies, countries, trade and the transport infrastructure communities of the world together for trade facilitation and easy regulatory compliance.

SELECT BIBLIOGRAPHY

APEC (2010), *SCCP Single Window Report - Working Toward the Implementation of SW in the APEC Economies and International Interoperability*, September 2010, APEC.

UNCEFACT (2005), *Recommendation 33 – Recommendation and Guidelines on Establishing a Single Window*, July 2005, United Nations Centre for Trade Facilitation and Electronic Business (UNCEFACT), available at:

<http://www.unece.org/cefact/recommendations/rec_index.htm>.

UNCEFACT (2010), *Recommendation 35 – Establishing a legal framework for international trade Single Window*, October 2010, UNCEFACT, available at:

<http://www.unece.org/cefact/recommendations/rec_index.htm>

WCO (2007), *The WCO Data model: Single Window Data Harmonisation, Version 2*, February 2007, available at: <http://www.wcoomd.org/sw_guidelines.htm>.

WCO (2008), *Single Window: Implications for Customs Administrations*, November 2008, WCO, available at: <http://www.wcoomd.org/sw_guidelines.htm>.

APEC Secretariat *.Working towards the implementation of Single Window within APEC*

Economies. Canberra: APEC Secretariat, 2007. APEC Secretariat. *Supply Chain Connectivity Framework*. Singapore: APEC Secretariat, 2009.

Economic & Social Council, The UN. *Recommendations & Guidelines on Establishing a Single Window*. Washington & Geneva: The United Nations, 2005.

Economic & Social Council, the United Nations. *Recommendation 33*. Geneva: UN/ECE, 2005.

European Commission (TURBINE Project). *Legal Issues of Identity Management Schemes*. Brussels: Seventh Framework Program, 2009.

The World Bank Group. *Contemporary Border Management*. Washington: The World Bank, 2010.

Doing Business 2010: Reforming through Difficult Times. Washington: A copublication of Palgrave Macmillan, IFC and the World Bank, 2010.

UN/CEFACT. *Reference Model of the International Supply Chain*. Geneva: UN/ECE, 2007.

UN/ECE. *Recommendation and Guidelines on establishing a Single Window to enhance the efficient exchange of information between trade and government*. New York & Geneva: United Nations, 2005.

UNCEFACT. *Recommendation No. 18, third, revised edition*. Geneva: United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), 2001.

UNESCAP. *Business Process Analysis Guide to Simplifying Trade Procedures*. Bangkok: UNESCAP, 2010.

WCO. *Customs Capacity Building Strategy*. Brussels: World Customs Organization, 2003.

WCO. *Single Window Environment (web pages on the WCO website www.wcoomd.org)*. Brussels, WCO, 2008.

World Customs Organization. *MODEL BILATERAL AGREEMENT ON MUTUAL ADMINISTRATIVE ASSISTANCE IN CUSTOMS MATTERS*. Brussels: World Customs Organization, 2004.