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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**THE EFFECTS OF THE IMPLEMENTATION OF
THE KENYA NATIONAL ELECTRONIC SINGLE
WINDOW SYSTEM ON TRADE FACILITATION**

By

MWANULU ISSA MWAJITA

Kenya

A dissertation proposal submitted to the World Maritime University in partial

Fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(SHIPPING MANAGEMENT AND LOGISTICS)

2016

DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature): 

(Date)....19 Sep 2016

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Institution/organization:

Co-assessor: *

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ABSTRACT

Title of Dissertation: **The Effects of the Implementation of the Kenya National Electronic Single Window System on Trade Facilitation**

Degree: **MSc**

This research analyses the impact in Kenya of the use of the Kenya National Electronic Single Window System by trade stakeholders. The study investigates the role that the establishment of the Single Window System (SWS) plays in improving the efficiency of the cargo clearance process. It also analyses the benefits and challenges that the trade stakeholders have experienced from the onset of the SWS roll-out.

This research highlights relevant issues related to trade facilitation and presents an overview on the SWS as one of the tools for trade facilitation. A review of the background of trade facilitation and the relevant international regulatory frameworks on the trade facilitation agreements is presented. A brief discussion on the types and models of SWS is presented along with their characteristics, benefits, challenges from all stakeholder perspectives.

The principal objective of the study is to identify and evaluate the underlying issues in the implementation of SWS. The study therefore focuses on the Critical Success Factors (CSF) for the implementation of SWS, the importance of concrete policy and regulatory frameworks backing the SWS operations and the effects of the implementation of SWS on stakeholder business processes and operations. The successful establishment of SWS is highly dependent on the alignment of business and ICT strategy with policy and regulatory frameworks in place relating to international trade and customs. The policy frameworks will determine the technical operations of the SWS and financial model needed to sustain the operating agency.

Keywords: Single Window System, Trade Facilitation, Business Process Re-engineering, Change Management, Partner/Government Agency, Critical Success Factors

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LIST OF ABBREVIATIONS

CBS	Community Based System
CSF	Critical Success Factors
CTG	Council for Trade in Goods
COMESA	Common Market for East and Southern Africa
EAC	East African Community
ECE	Economic Commission for Europe
ESCWA	United Nations Economic and Social Commission for Western Asia
GATT	General Agreement on Tariffs and Trade
KESWS	Kenya (National) Electronic Single Window System
KRA	Kenya Revenue Authority
KPA	Kenya Ports Authority
NGTF	Negotiating Group on Trade Facilitation
OECD	Organisation for Economic Co-operation and Development
PCBS	Port Community Based System
SLA	Service Level Agreements
SOP	Standard Operating Procedures
SPS	Sanitary and Phyto-sanitary (WTO/WHO)
SWS	Single Window System
SQL	Structured Query language
SWIF	Single Window Implementation Framework
TA	Technical assistance
TFA	Trade Facilitation Agreement
TEU	Twenty foot Equivalent Unit
TOR	Terms of Reference
UNCTAD	United Nations Commission on Trade and Development
UNECE	United Nations Economic Commission for Europe

UN/CEFACT	United Nations Centre for Administration Commerce and Transport
UN/EDIFACT	United Nations EDI for Administration Commerce and Transport
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNeDocs	United Nations electronic documents
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNLK	United Nations Layout Key
UNTDED	United Nations Trade Data Elements Directory
WCO	World Customs Organization
WEF	World Economic Forum
WHO	World Health Organization
WTC	World Trade Centre
WTO	World Trade Organization
XML	Extensible Mark-up language

CHAPTER ONE

INTRODUCTION

This research analyses the implementation of the Kenya National Electronic Single Window system and the role it plays as a tool for trade facilitation and its impact in the regional trade integration via cross border trade.

This chapter covers a brief background of the research objectives, research questions, and the importance of the strategic location of the port of Mombasa and Kenya as a backbone for inter-regional maritime trade and logistics linkage.

Kenya's strategic location in East Africa serves a hinterland of Kenya, Uganda, Rwanda, Eastern Congo, Burundi, South Sudan, Ethiopia and northern Tanzania.

The port of Mombasa is the biggest and busiest port on the east coast of Africa due to its location midway between the Southern Africa Durban port and other main ports in the Middle East and Red sea. It has a deep harbor with a multi-purpose comprising several general cargo berths, container terminal, specialized berths, liquid oil terminals, a dockyard and ship repair facilities.

1.1 Background

A major challenge identified by stakeholders in the shipping logistics chain in Kenya was the bilateral procedures and lengthy approval process faced by the importers and exporters who had to lodge multiple documents both electronically and manually with multiple government agencies and other private entities involved international trade.

The Kenya National Electronic Single Window System (TradeNet) is an automated system that is used for registering of pre-clearance documents for the shipping clients.

The TradeNet system is used to facilitate and enable the processing of permits, exemptions, and import declarations forms and other documents electronically by shipping, agents, freight forwarders, government agencies, importers, exporters and other stakeholders involved in shipping and logistics chain.

1.2 Research Objectives

The purpose of the research is to analyze the impact of the implementation and operationalization of the single window system as a tool for trade facilitation in Kenya.

The study seeks to explore the factors that contributed to the successful implementation of the SWS and the effect of its operations to the import and export documentation process for the trade stakeholders in Kenya.

The research will address the following key objectives:

1. Outline the key issues faced in implementation of the SWS and the expected benefits of the implementation for trade facilitation
2. Provide a review of the challenges of SWS implementation in relation to the establishment of a policy framework to address contemporary maritime trade and logistics issues

1.3 Research Questions

In order to address the objectives outlined above, this research paper will focus on answering the following questions:

1. Has the implementation of a single window system improved efficiency in the shipping and logistics processes in Kenya?
2. Is trade facilitation a determinant factor in improving the efficiency of the shipping logistics process in Kenya and the EAC region?
3. What role does change management play in the impact of the SWS implementation and operationalization process?
4. What are the critical success factors vital to the successful implementation of the SWS?

1.4 Justification of the study

The results from this research will provide useful information to stakeholders in the trade facilitation and shipping and logistics field to further address challenges and build up a knowledge base in relation to the implementation of maritime single window systems in future.

1.5 Kenya's Strategic Location in the East Africa transport corridor

Kenya is a gateway to East and Central Africa with the port of Mombasa acting as a major transport hub serving the greater hinterland of the East Africa region's landlocked economies of Uganda, Rwanda, Burundi, South Sudan and the Eastern Democratic Republic of Congo.

The Kilindini harbor is a natural deep water port with a length of 7 nautical miles, a width of 300 m and a maximum depth of 15 m while the inner harbor has a tidal range of 3.5 m.

The port of Mombasa is the main operational port currently serving the Northern transport corridor. Its container throughput accounts for about 40% of the total port throughput while 30% of its throughput is transit cargo which is growing at a rate of 10% annually. In order to prevent over-reliance on the port of Mombasa and to strengthen her position as a gateway and transport and logistics hub, Kenya embarked on the construction of the Port of Lamu under the LAPSSET (Lamu Port South Sudan Ethiopian Transport (LAPSSET) Corridor Project which is underway nearing completion with a target date of 2018. Once complete, Lamu port will have 32 berths interlinked with an oil pipeline, refinery, railways, airports and highways. The Lamu Port with an estimated capacity of 24 million tons of cargo is consequently bound to impact the regional economies of Eastern and Horn of Africa and beyond.



Figure 1: Kenya's Strategic Location in the EAC trade network with road linkages to hinterland

Source: (Kenya Ports Authority, 2013)

1.6 Scope of Research

The dissertation is structured into six main chapters as follows:

Chapter one provides a brief introduction covering the research objectives and research questions. It also provides a background on the strategic location of Kenya and the importance of the port of Mombasa to the shipping and logistics stakeholders who use the SWS to lodge trade pre-clearance documents.

Chapter two covers the literature review whereby the first part introduces and discusses the single window and trade facilitation concepts. A review of the type of single windows and models is then described.

Chapter three focuses on the case study of the Kenya National Electronic Single Window system implementation detailing its evolution and implementation plan.

This chapter concludes with an overview of the existing policy and regulatory frameworks that Kenya has in place in relation to the trade facilitation agenda and the operationalization of the SWS.

Chapter four focuses on the research methodology for the research work giving a descriptive account of the method of data collection and how the research for the study was conducted.

Chapter five presents the discussion of the results based on the data analysis from the questionnaires.

Chapter six is the concluding chapter which outlines the summary of the findings of the survey. The main outcomes of the research are discussed in relation to the case study experiences. In this chapter the limitations of the research work are highlighted.

The scope for further research work in this dissertation is also mentioned here.

The dissertation is concluded by providing recommendations to be taken into account by the governments and stakeholders of SWS in order to further develop the SWS beyond national use.

1.7 Methodology

In order to achieve the research objectives, explorative research is used to analyze primary and secondary sources of data on the subject matter of SWS. Sources used include books, journal articles, sector reports and peer review materials obtained through the WMU library via electronic and physical sources such as the Maritime Commons, WTO and UNCTAD portals.

A further analysis of system reports from the Kenya National Electronic Single Window System was performed as well as various policy instruments including international and domestic trade agreements and policies.

The main method of a case study approach is used whereby a scrutiny of and project implementation documents and the online survey results from participants in response to the shipping and logistics stakeholder experience interacting with the Kenya SWS for lodging of preclearance trade document

CHAPTER TWO

LITERATURE REVIEW AND IMPLEMENTATION PROCESS

Introduction

This chapter explores published accounts on the topic of single windows systems. It critically evaluates the existing research on the topic by thoroughly assessing previous studies on single window systems and identifies any research gaps. This chapter will focus on published works reviewing the Single window concept as a tool for trade facilitation as per the World Trade Organization's (WTO) Agreement on Trade Facilitation (ATF).

2.1 Trade facilitation

WTO (2016) notes that there has been a significant increase in globalization and liberalization of world economies resulting in growing complexity in cross border trade due to the multiple state agencies involved in transnational logistics.

Due to its strategic location, Kenya has undertaken concerted efforts to upgrade its infrastructure and technology platforms as well as setting up of policy frameworks to facilitate cross border and international trade. Through the ratification of the World Trade Agreement on trade facilitation, Kenya has implemented a number of programs, one of which is the single window system.

Trade facilitation is concerned with the efficient application of trade rules and regulations using various measures with an overall objective of reducing trade transaction costs (TTCs) in cross border trade. Thus it can be conclusively defined as the set of measures or policies which aim to simplify and harmonize international trade procedures and practices so as to reduce or eliminate TTCs as well as encouraging international trade. Trade facilitation measures would seek to streamline processes and information flow across the relevant regulatory agencies and the international supply chain using various tools such as the single window system.

In retrospect, the trade facilitation agenda has been at the core of WTO's mission to promote and simplify cross-border trade as seen in the General Agreement on Trade

and Tariffs (GATT) 1947 which were later adopted into the GATT 1994 as part of WTO e.g. Articles V, VIII and X that touch on freedom of transit goods, reduced TTCs, and import and export formalities associated with international trade.

Trade facilitation was first introduced as a discussion topic in 1996 at the inaugural WTO ministerial conference in Singapore which later formed the groundwork for further work and forums by other international agencies mainly World Customs Organization - WCO, The United Nations Conference on Trade and Development (UNCTAD), International Monetary Fund (IMF) and UNECE at the WTO Trade Facilitation symposium held in Geneva in March 1998. The WTO secretariat produced a checklist of the main issues and solutions of the symposium into five broad areas namely: documentation requirements; official procedures; automation and use of information technology; transparency, predictability and consistency; and modernization of border-crossing administration.

Thereafter, the fourth ministerial conference held in Doha, Qatar in 2001 which brought forth the trade facilitation agenda negotiations for CTG to review, clarify and improve GATT 1994 articles V, VIII and X by identifying the trade facilitation needs and priorities of members paying particular importance to the least developed countries by ensuring the provision of technical assistance and capacity building.

The most significant contribution to the Trade Facilitation Agenda can be traced to the Trade Negotiation Committee (TNC) in 2004 operating under the Negotiating Group on Trade Facilitation (NGTF) whose work led to the adoption of the WTO's ATF under the "Bali" package in December 2013 marking nine years of extensive work and negotiations whereby most opposition on the ATF provisions and SWS were from developing countries due to the assumption that this would lead to benefits of trade liberalization to their disadvantage.

International organizations have actively played a key role in the promotion of the trade facilitation agenda by the establishment of various subsidiaries that promote the use of ICT tools such as the SWS. Below are some key international organizations and the trade facilitation programs they oversee.

1. United Nations Conference on Trade and Development
 - Trade Point Programme (TPP)
 - Automated Systems for Customs Data (ASYCUDA)
2. The United Nations Economic Commission for Europe UNECE
 - The Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) 1975
 - The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)
3. World Customs Organisation (WCO)
 - The International Convention on the Simplification and Harmonization of Customs Procedures (Revised Kyoto Convention)
 - WCO Framework of the Standards to Secure and Facilitate Global Trade (SAFE Framework)
 - The Harmonised Commodity Description and Coding System (HS Code)
4. World Trade Organization (WTO)
 - Agreement on Trade Facilitation (ATF)
 - GATT Article IX (Marks of Origin)
 - Agreement on Implementation of article VII of GATT 1994 (Customs Valuation Agreement)
 - Agreement on Technical Barrier to Trade (TBT Agreement)
 - Agreement on the Application of Sanitary and Phytosanitary Measures (SPS agreement)

Table 1: Trade Facilitation Indicators and their corresponding TFA articles

Table C.4: TFIs and TFA articles	
Trade Facilitation Indicator	Trade Facilitation Agreement article
(a) Information availability	Article 1: Publication and availability of information
(b) Involvement of the trade community	Article 2: Opportunity to comment, information before the entry into force, and consultations
(c) Advance rulings	Article 3: Advance rulings
(d) Appeal procedures	Article 4: Procedures for appeal and review
(e) Fees and charges	Article 6: Disciplines on fees and charges imposed on or in connection with importation and exportations and penalties
(f) Formalities – documents	Article 10: Formalities connected with importation, exportation and transit
(g) Formalities – automation	Article 7: Release and clearance of goods Article 10: Formalities connected with importation, exportation and transit
(h) Formalities – procedures	Article 7: Release and clearance of goods Article 10: Formalities connected with importation, exportation and transit
(i) Cooperation- Internal	Article 8: Border agency cooperation
(j) Cooperation – external	Article 8: Border agency cooperation
(l) Governance and impartiality	Article 5: Other measures to enhance impartiality, non-discrimination and transparency
(m) Transit fees and charges	Article 11: Freedom of transit
(n) Transit formalities	Article 11: Freedom of transit
(o) Transit guarantees	Article 11: Freedom of transit
(p) Transit agreements and cooperation	Article 11: Freedom of transit

Note: The OECD TFI indicators include an item *(k) Consularization* which has no corresponding provision in the TFA.

Source (World Trade Report, 2015)

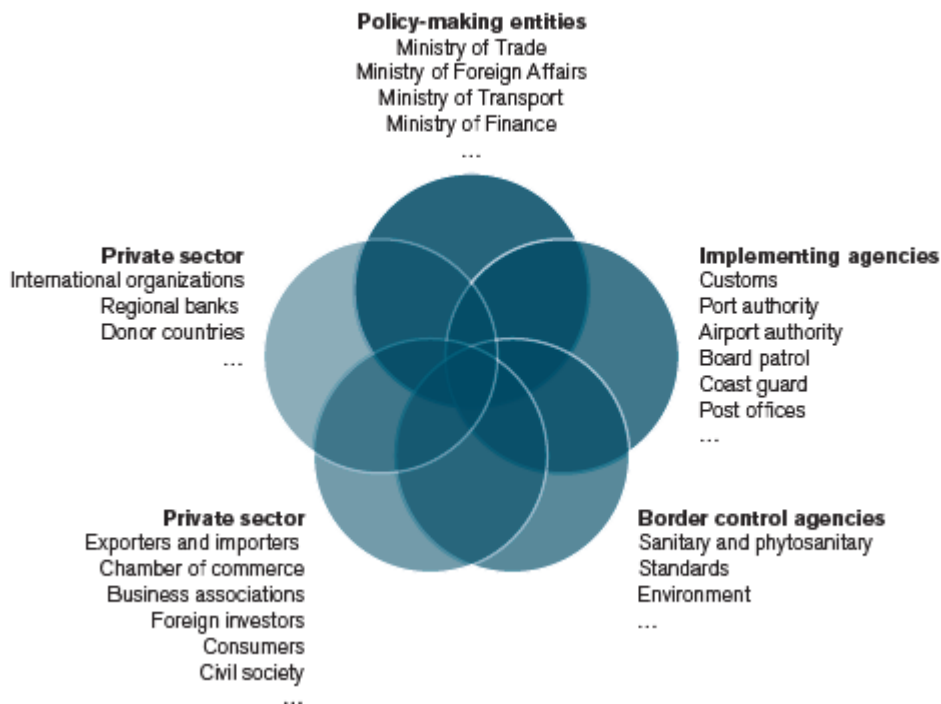


Figure 2 : Stakeholders in Trade Facilitation as defined by the World Customs Organization

Source (World Trade Report, 2015)

2.2 The Single Window Concept

“SWS are essentially trade facilitation tools whose primary purpose is to simplify and harmonize processes associated with cross border movement of goods.” (Ndonga, 2015)

UNECE (United Nations Economic Commission for Europe) defines the single window as specified in UN/CEFACT recommendation number 33 as “a facility that allows parties involved in trade to lodge standardized information and documents with a single entry point to fulfill all import, export and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once”. (UNECE, 2012)

As a result of global trade liberalization, collaborative procurement, manufacturing, assembly and distribution are increasingly handled through outsourcing whereby the principles of comparative and competitive advantage influence the global supply chain supply and demand factors. Information flow in order to meet import and export compliance trade formalities comprising government approvals, customs clearance, inspections, permit and license approvals are being processed electronically through integrated ICT-facilitated systems commonly known as the electronic single window systems (ESCWA, 2011)

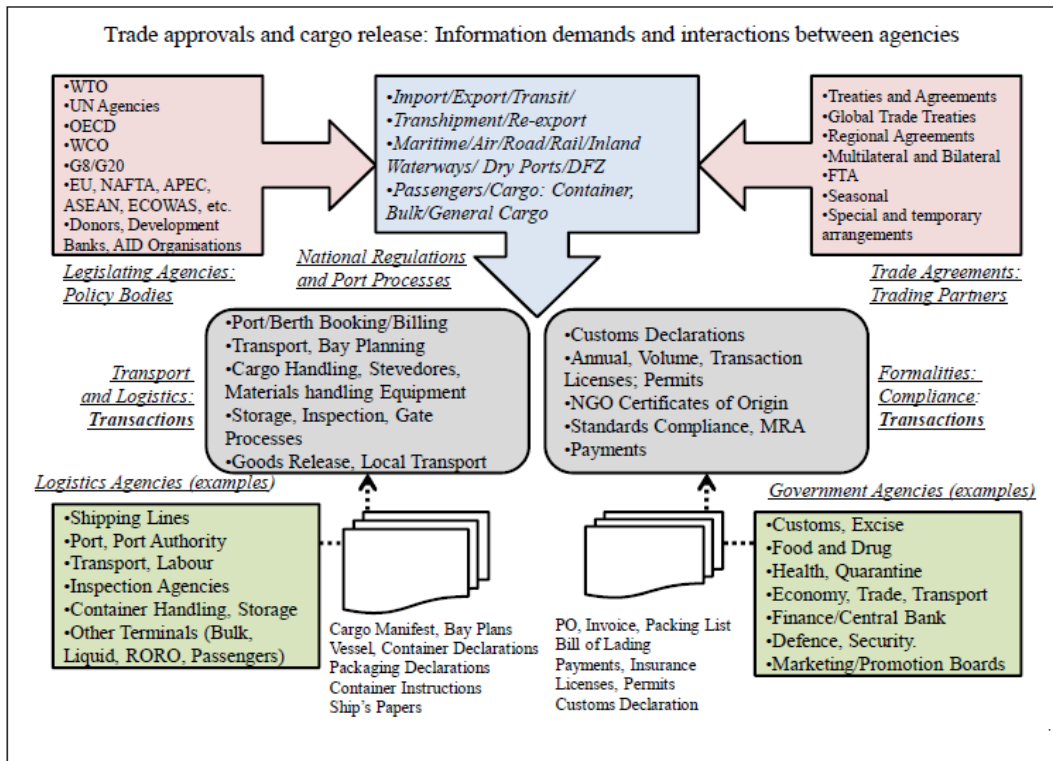
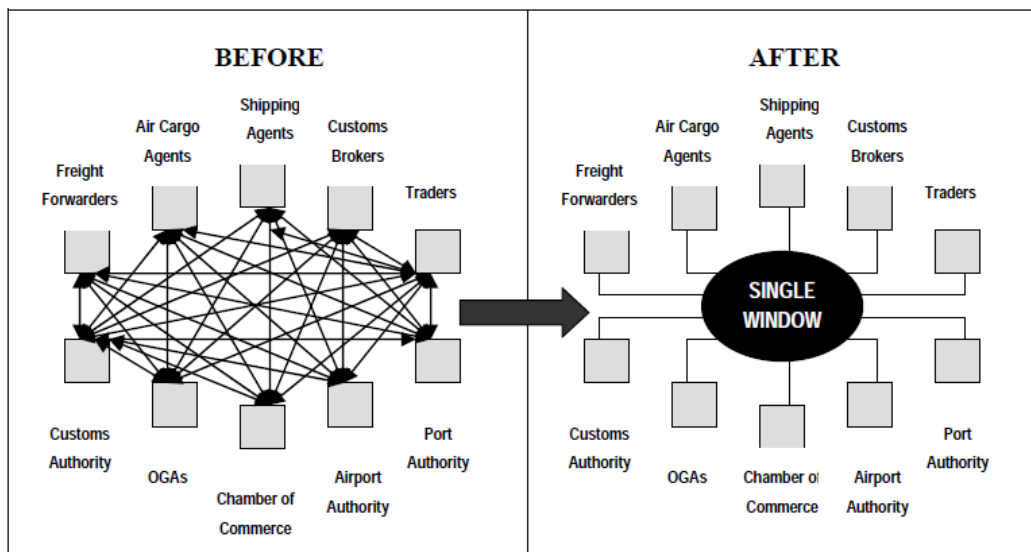


Figure 3 : The main principles of a full-function SWS for trade processing
Source (ESCWA, 2011)



Source: UNCTAD.

Note: OGAs = other government agencies.

Figure 4: Trade documentation operations before and after SWS Implementation

Source (UNCTAD, n.d)

Single window systems may either be stand-alone functional systems or as is being increasingly witnessed, integrated national or regional single window systems. In general, SWS may not necessarily conform to a standard build model and can be designed to meet country-specific border protocols. The UN/ CEFACT Recommendation 33 broadly classify SWS process chains into three main models:

1. The single authority system

A central agency is tasked with setting up a SWS and coordinating the logistics chain information by receiving electronic submissions and disseminating them to other governmental and cross-border authorities. The central authority is granted the authority to perform selected tasks on behalf of other cross-border authorities guided by workflows and system integrations. In the case of Kenya, KenTrade is the government agency in charge of setting up the KNESWS and transmitting the trade documents to the Kenya Revenue Authority, Kenya Ports Authority, and other government agencies for requisite approvals. In other

countries, for example the case of the Swedish Single Window, Customs perform selected tasks on behalf of other government bodies.

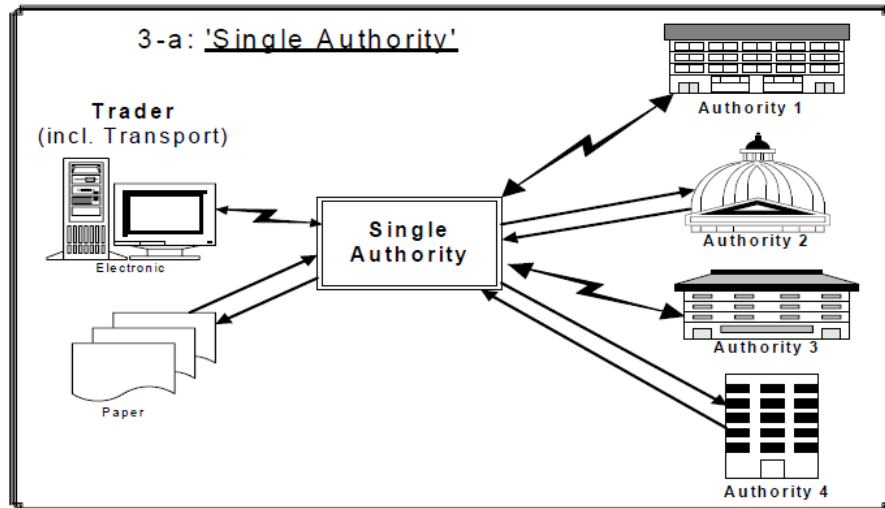


Figure 5: Single Authority SWS
Source (UN/CEFACT, 2005)

2. Single automated system

A key feature of single automated systems is that they provide an interface for the collection, storage, use and dissemination of trade-related data (Ndonga, 2015).

An example of this is model is the U.S Custom's and Border Protection Automated Commercial System (ACS) where traders submit the data once and it is then distributed to agencies that require the data. Finally it is transmitted to Automated Targeting System (ATS) for risk management functions before being reverted back for storage in the ACS. An inbuilt risk management system in a SW can significantly reduce the proportion of physical goods inspections resulting in time savings and efficiencies to traders and government agencies (ESCWA, 2011).

There are various modes of transmission whereby:

- i. Integrated SW system (Data is fully processed through system)
- ii. Interfaced SW system (Decentralized whereby data is sent to the responsible agency for processing)
- iii. A combination of i and ii above

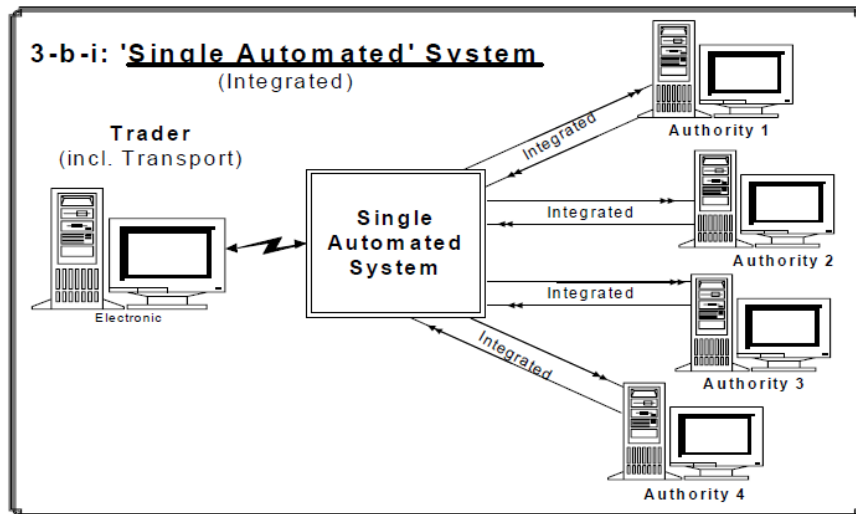


Figure 6: Single automated integrated SWS
Source (UN/CEFACT, 2005)

3. Automated information transaction system

These are self-regulating SWs that channel the information directly to the defined agencies for processing and approvals based on a defined workflow using intelligent routing agents. Transaction flows are based on a rules engine which determines the flow of information and resultant approvals are sent back to the user with computed fees or duties deducted through the operator's bank account. Examples of countries which have this type of SW are Mauritius and Singapore.

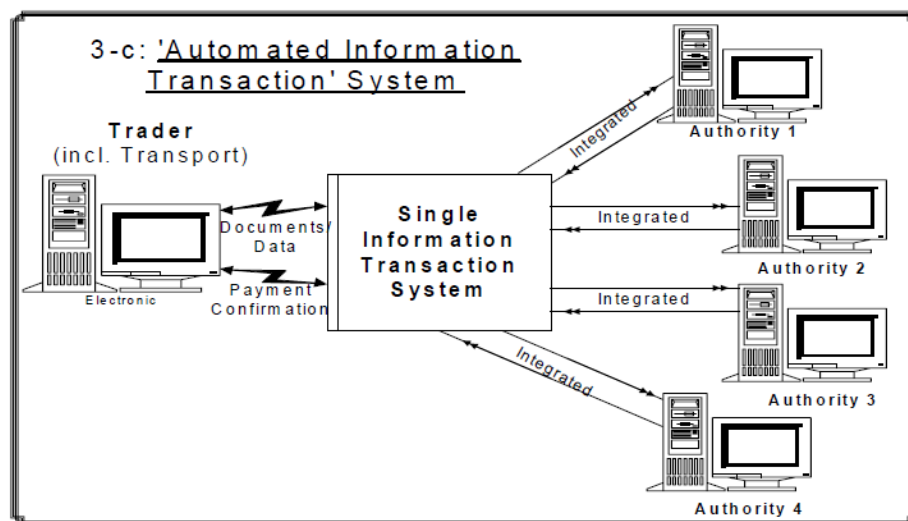


Figure 7: Single automated information transaction SWS

Source (UN/CEFACT, 2005)

Based on the three models above, there are two main types of single window systems

1. Customs-centric SWS

These are SWS that provide a single electronic interface between customs and operators. Their functions are limited to customs activities such as online payment of customs duties, electronic declaration and risk assessment.

2. Port-centric SWS

These are SWS which collect and disseminate information in a port environment. Port centric SWS may take the form of their Port Single Windows (PSW) and Port Community Systems (PCS).

PSW are basically built to handle Business to Government (B2G) transactions and handle port traffic information from vessels to a port authority. Examples are Singapore's and Finland's PORTNET which are used by shipping agents for electronic lodgement of vessel pre-arrival information, cargo declaration, cargo report, and ship waste notification. This data is then used by the port authority for port statistics, billing and planning operations, customs for manifest

declarations, maritime administration for traffic monitoring, and traffic control for coast guards.

PCS perform Business-to Business (B2B) message exchanges by acting as central hubs of communication whereby user send data on seaborne trade which are eventually shared to stakeholders through open access or notifications. Examples of PCS are the U.K. Felixstowe Port Community System, Indian Port Community System Data Community System (Dakosy) for the Port of Hamburg, Germany, Portbase for Rotterdam and Netherlands and PORT-MIS in the port of Busan, Korea.

In Europe, a lot of PCS can be traced back to the 1960s and whose functions have been remodelled to offer cross- border services as a result of the unification of trading measures under the European Union Import Control System that links several EU customs organizations.

In 2010, the EU passed a directive that formed the basis of the creation of a Maritime Single Window (MSW) in its member states that would allow for the efficient exchange of ship pre-arrival and declaration information for all EU ports.

Currently, the MSWs are now at an advanced stage of implementation after the unification and harmonization of ship formality messages were agreed on by the Member States.

In conclusion, it is quite clear that the challenge for most countries lies in the transition of such basic port centric and custom centric single window systems to comprehensive single window systems that can achieve the objective of trade facilitation for all stakeholders in the global logistics supply chain.

2.3 Important Features of Single Window Systems

Taking into account all possible definitions and models of the Single Window system, the following are therefore the key features associated with single window systems.

a. Single sign-on

SWS are built to accommodate a single user ID with each user assigned a unique ID and password. The SWS is built to eliminate the need for users to log on to different systems but rather use one single sign-on to access all connected systems of the trading community. It is therefore crucial that ICT policies relating to access, security, privacy and interoperability are built into the SWS.

b. Single point of access

SWS must be able to provide users with a platform that uses a single point of access to other community systems integrating the functions via technology.

c. Single submission of data

The main objective of SWS is to provide centralization of data hence it is expected that once a user submits data into the SWS it will be made available for all government agencies and other users that will require the data in the preceding transactions related to the original submission as per data authorization policies defined. For instance, a shipping agent inputting arrival details for a ship should be able to use the details in the preparation of a cargo manifest and consequently a freight forwarder with a consignment on the particular manifest should be able to reuse the data to print out a delivery order or cargo release order without having to duplicate the data. This ideally reduces typing and transcription errors making the process fast and efficient.

d. A single point of decision making

This typically represents the single sign-on feature that enables the applicant to apply for different permits, licenses and obtain approval for customs declarations, obtain information on cargo consignment tracking information based on cargo release status and estimate the time for arrival of goods so as to plan for transportation and logistics functions.

e. A single point of payment

With the centralization of all government agencies application for permits and customs declaration into the SWS, the requisite payments by the importers and exporters are made possible using an integration of the SWS to online banking facilities via a payment gateway hence making it more convenient and efficient to make payments virtually more transparent ultimately reducing corruption instances.

Most SWS start out with the basic functionalities and have some of the above features progressively built into the system to meet the needs of the stakeholders.

2.4 Benefits of Single Window Systems

There have been a number of benefits of single window systems that have been documented in academic publications with jurisdictions that have established SWS registering an increase in revenue collection as a result of reduced TTCs and improvements in cross-border efficiencies. The benefits of SWs can be considered from the views of logistics stakeholders participating in the logistics supply comprising of:

- a) Government agencies involved in international trade
- b) Port, logistics and transport operators
- c) Traders involved in international trade (importers , exporters, custom brokers, shipping agents, freight forwarders)

Further benefits accrued from SWS, are discussed from the following perspectives:

1. Benefits to Policy makers

SWS provide an automated tool for trade facilitation by fostering regional collaboration, integration and exchange of regional trade information. (ESCWA, 2011)

2. Benefits to compliance authorities

By centralizing the information collection and dissemination, SWS provide a more efficient and productive use of human resources.

There is a noted increase in collection of fees, duties and penalties when SWS are built with payment gateways to collect the requisite fees and duties for trade.

SWS also provide an automated, comprehensive, streamlined portal for compliance with government legislative, regulatory requirements and international treaties.

SWS also enhanced controls for risk analysis and enhanced transparency and accountability.

3. Benefits to the traders

The SWS implementation is expected to translate to faster goods clearance procedures which are more predictable as a result of exception handling and dispute resolution mechanisms ultimately reducing inventory costs.

Through increased centralization of information, there will be reduced clerical efforts leading to cost reductions and shorter time taken to lodge trade documents.

As a result of the enhanced goods release information provided by SWS, the logistics supply chain can effectively predict the release of goods and efficiently plan for warehousing and transportation needs.

4. Benefits to the logistics operators

For logistics operators, it is expected that SWS will lead to faster processing of information, resulting in reliable information on goods movement which can be used for supply chain planning and efficient resource allocation in operations and warehousing and ultimately timely feedback to customers. It is also expected that they will experience better end to end operation audits due to information centralization and availability.

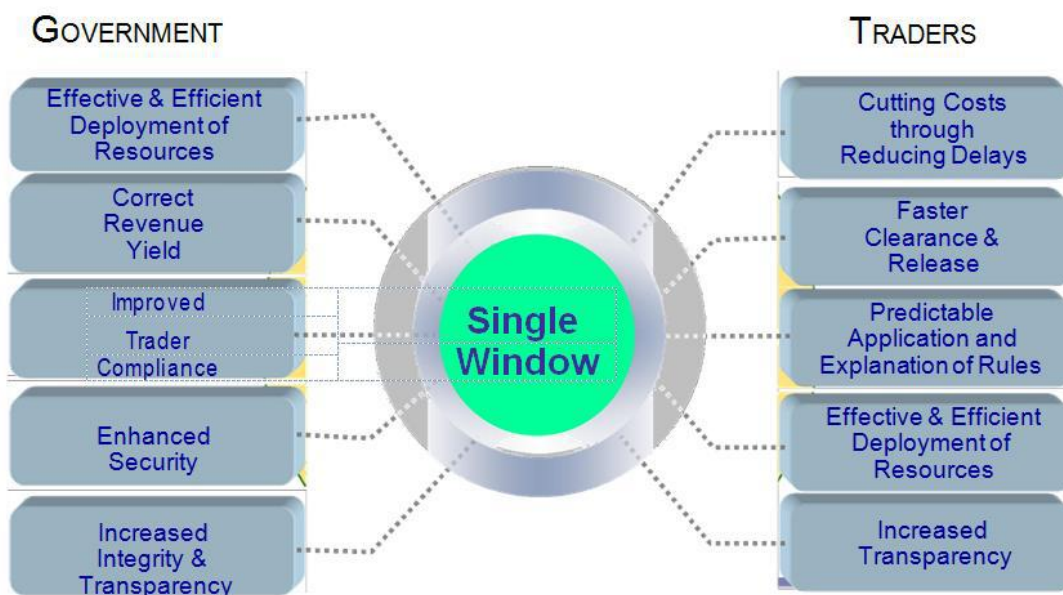


Figure 8: Summary of the Benefits of SWS from Government and Traders Perspectives

Source: (UN, ESCAP, 2015)

2.5 International Single Window Implementations

A number of countries have implemented trade single window systems. A World Bank survey (World Bank, 2013) of 181 countries noted that 71 countries had notable SWS implementations as depicted by the table 2 below. Out of the 71, only 18 countries had comprehensive SWS that that provide linkage to all government agencies while 53 had partial linkage to the relevant government agencies.

It is important to note that certain digital divide barriers exist in developing nations which may hinder the implementation of SWS hence these countries may take a fragmented approach opting to pursue a phased implementation taking into account their capacity for change. In this case, specific government organizations use their procedural and data requirements as the basis of building the systems. These fragmented systems can eventually be consolidated into comprehensive SWS (Ndonga, 2013).

Table 2: Countries with SWS implementations

	COUNTRY	SWS
1	Singapore	TradeNet
2	Sweden	Virtual Customs Office (VCO)
3	Ghana	GCNet system
4	Mauritius	TradeNet
5	Britain	UK International Trade Single Window
6	Hong Kong	TradeLink
7	Japan	Nippon Automated Cargo and Port Consolidated System (NACCS)
8	Republic of Korea	uTradeHub
9	Indonesia	Indonesia National Single Window
10	Malaysia	Malaysia National Single Window
11	Saudi Arabia	SaudiEDI
12	Mozambique	MCNet
13	Nigeria	Nigeria Integrated Customs Information System
14	Trinidad and Tobago	Single Electronic Window
15	Qatar	Qatar Customs Clearance Single Window
16	Senegal	ORBUS
17	Kenya	Kenya National Electronic Single Window System (TradeNet)
18	Madagascar	TradeNet
19	Tunisia	TradeNet
20	Ivory Coast	TradeNet
21	Netherlands	VIPPROG
22	USA	Automated Commercial System (ACS)

Source: Author

2.6 Single Window Operation

Depending on the legal, political and organizational issues in place, the establishment of an appropriate agency to lead the establishment and operation of a single window may vary from country to country (UN/CEFACT 33).

The role of e-government cannot be underestimated in the successful implementation of single window systems. “e-Government deals primarily with the government’s use of information technology to exchange information with and provide services to the citizens, business and other sectors of a given government” (Cernuzzi, González, Ronchetti, Villafiorita, & Weldemariam, 2011).

E-government service delivery can be categorized into four main service relationship categories namely:

- i. Government-to-Citizens (G2C)
- ii. Government-to- Business (G2B)
- iii. Government-to-Government (G2G)
- iv. Government-to-Employee (G2E)

SWS are essentially designed to provide an interface between national and international trade data exchange and their establishment necessitate the rationalization of existing trade administration approaches and requirements so as to ensure data reuse to reduce duplication wherever possible making use of e-Government applications and trade-related ministry and non-governmental organization systems (ESCWA, 2011).

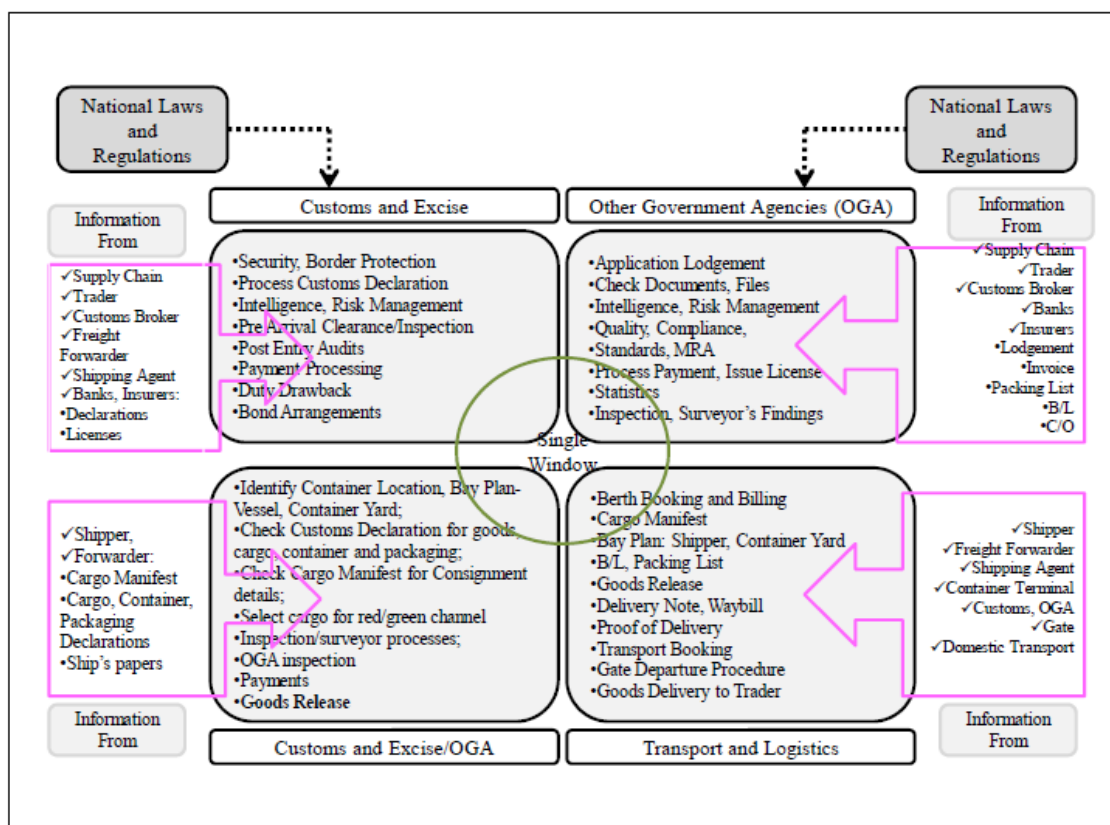


Figure 9: Approvals and Goods release: Where the Single Window sits
Source: (ESCWA, 2011)

2.7 Steps in the Planning and Implementation of a Single Window System

As highlighted previously, the implementation of SWS is a significant undertaking due to the numerous stakeholders involved in the trade process which requires commitment and goodwill from both government and business entities in local and international trade. UN/CEFACT recommendation 33 outlines the key steps identified in the setting up of SWS. It is important that the process involves a systematic approach from the onset of the project implementation although it will be heavily influenced by political, social, cultural aspects and traditions in a given country (UN/CEFACT, 2005).

Due to the governance aspect of the SWS, traditional government structures are transformed in order to serve the needs of trade stakeholders more efficiently.

2.7.1 Initial Concept development for the SWS

The work to establish a SWS starts with the concept preparation resulting from some initial research undertaken by a government authority, agency or a private entity that is likely to have a stake in the implementation process. The concept paper would describe the objectives, expected benefits and a general overview of the implementation process. The concept paper would provide a simple overview of practical issues without giving much technical jargon and concepts. The objective of the concept paper is to facilitate the initial discussion that leads to an in-depth study to analyse the need for, and the feasibility and approach to be used in the establishment of the SWS. The concept stage should be used to seek for the in principle approval of the SWS implementation and acceptance by the government to progress with the concept. After this is done, the next step is to get the buy-in from external stakeholders.

2.7.2 Decision to examine the feasibility of the SWS

After the concept paper preparation, a meeting would be set up between the high level representatives of the SWS stakeholders from relevant trade organizations in order to present the concept paper and define the launch of a feasibility study detailing the objectives of the feasibility study incorporating a needs analysis and technology needs readiness assessment. Prior to the meeting, it is important to lay the groundwork through lobbying and project promotion for better understanding by the participants. Political goodwill is a key pre-requisite for the successful implementation of the SWS. In the case that a positive decision has been reached to proceed with the feasibility study, the meeting will consequently set up a Project Management Group comprising of senior representatives of the key agencies that will be directly involved in the implementation and use of the SWS and have the authority to make decisions, commit funds, allocate resources and commit to their full participation in the project. It is also expected that the outcome of the meeting would be the adoption of a draft document outlining the “objectives, responsibilities and terms of reference” for the Project Management group.

At this stage, the meeting participants also oversee the setting up of a task force that is composed of the technical and management representatives of the key agencies that will oversee the implementation and organizational tasks of the project guided by the adopted Project Management group's draft of objectives, responsibilities and terms of reference.

2.7.3 Undertaking the Feasibility Study

The main objective for the feasibility study is to provide the decision makers with all available options for each government body and their feasibility, mode (full or phased implementation) of implementation, and the merits and demerits of each option for each stakeholder. It is also critical to identify how the revenue collection (duties, fees and taxes) aspect of the system will be managed at this stage.

Key areas for consideration during the feasibility study are the identification of the key system deliverables, implementation and management strategy, and time schedule for development and implementation.

2.7.4 Report on the Feasibility Study

It is expected that the outcomes of the feasibility study would be presented for consideration and approval by the task force and thereafter submitted to the Project Management Group.

It is essential that all stakeholders accord maximum input and reach a common consensus before the finalisation of the report. Upon final agreement and adoption of the feasibility report, the preferred SWS option and implementation approach chosen is then presented to all the private and government stakeholders who make up the trade community in a symposium or national stakeholder's forum on the establishment of SWS.

2.7.5 SWS Implementation

There are various modes of implementation that can be chosen for the SWS roll out approach ranging from pilot, phased or full implementation from the defined project management plan which essentially should have been agreed upon by the Project Management Group and the task force set up in the onset of the project. There needs

to be a set of clearly defined tasks, responsibilities and milestones so as to plan, execute, monitor, evaluate and regulate the implementation of the project.

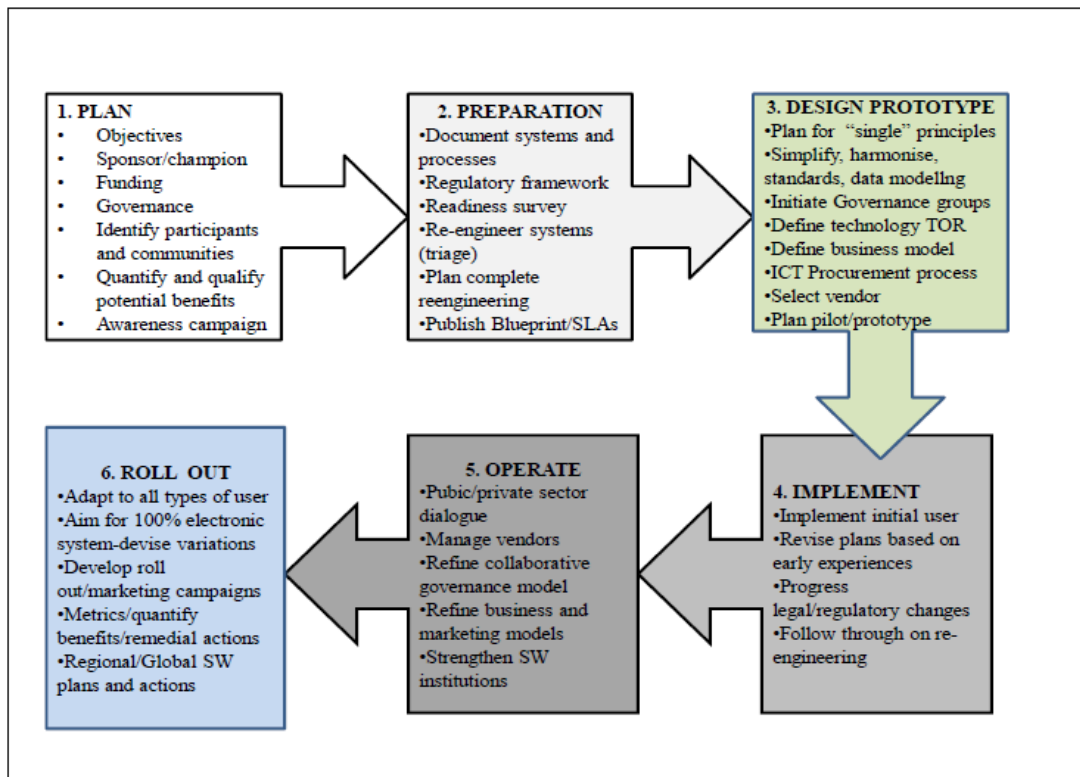


Figure 10: Single Window Life Cycle
Source (ESCWA, 2011)

2.8 Critical Factors in the Establishment of a Successful Single Window System

Apart from laying out the minimum standards, and best practice in the establishment of SWS, the UN/CEFACT 33 also lists the following factors success factors. These are based on a review of the operation and development of various SWS implementations in various countries that were undertaken by the International Trade Procedures Working Group (ITPWG/ TBG15).

2.8.1. Political Will

Most literature on SWS implementation success identifies the existence of a strong political will on both government and business as one of the most important factors to the successful introduction and operation. For this to be achieved, it is important that from the onset of the project, there is proper dissemination of clear and impartial information on the SWS objectives, implications, benefits, and possible challenges from the initial stages of its establishment. The political goodwill of all stakeholders lays the foundation for all other success factors (UN/CEFACT, 2005).

2.8.2. Strong Lead Agency

A strong, resourceful and empowered lead agency will be set up to oversee the launch of the SWS and guide its implementation through the various stages as defined in the project management plan and charter. For the organization to effectively carry it out its mandate, it must have the appropriate political support, legal authority, adequately skilled human resources, financial ability and links to the trading community. It is also critical that the head of the lead agency who is the project champion be accorded the necessary support from all the stakeholders.

2.8.3. Partnership between Government and Trade

The SW is essentially a model for cooperation between government agencies and between the government and the trading (business) community hence it provides a setup for a good opportunity for public private partnerships in the establishment and operation of the SWS. Due to the fact that different stakeholders of SWS may have different capacities and motivation for trade facilitation and varying gaps in the level of business processes and system preparedness, it is critical that there are strong partnerships and stakeholder engagement amongst all the stakeholders for an effective SWS to be put in place in order to support the change process and the development of the system.

2.8.4. Clear Project Definition and Objectives

As is the case with any project, it is very important to have clearly defined goals and objectives from the onset of the SWS in order to guide the project through its developments stages on the basis of the comprehensive stakeholder needs analysis, resource allocation, existing infrastructure and the current submission approach of trade-related information to the concerned government agencies. It is generally recommended that the SWS should be incorporated in a country's overall strategy to improve trade facilitation (UN/CEFACT, 2005).

2.8.5. Accessibility and user friendliness of the system

The accessibility and user friendliness of the SWS are key success factors for the implementation project. Users should be trained adequately and operating instructions and guidelines provided including the establishment of user support services through a help (service) desk at the early phase of system implementation. Feedback from the users on difficulties and experiences can be used to further develop and improve the system as it develops. The SWS also needs to take into account the multi-lingual requirements of its users in cases where this is a common scenario. The SWS design should incorporate the ICT capacity of the system users operating it in the specific country or region focusing on the future technological advancements and the user threshold capacity to ensure system availability and uptime at all times.

2.8.6. Legal Framework

Both the WCO and UN/CEFACT emphasize the importance of a defined legislative and legal framework structure providing guidance with some examples of structures in a multi-stakeholder environment. It is important that the national legal frameworks conform to the international trade treaties that support the legitimization of the national single window. The UNICITRAL trade treaty can be used as a guide to many trade and e-commerce legal and regulatory codes (ESCWA, 2011).

It may be necessary to put in place legislation guiding the exchange of electronic data and the definition of data sharing protocols and data protection amongst users and regulators in the SWS chain. The legal issues touching on the delegation and exercise of power and authority by the lead agency will need to be defined clearly and objectively (Chong, 2011).

2.8.7. Adherence to International Standard and Recommendations

A SWS implementation is highly reliant on the harmonization and alignment of requisite trade documents and data sets hence it is vital that the system is built to ensure compatibility with international systems and standards such as the UN/CEFACT 33 of which the recommendations number 1 and 18 define in detail the standards for SWS.(Koh, 2015)

2.8.8. Payment Gateway

It is a common practice for SWS to incorporate a payment gateway system for the collection of government fees, duties, taxes and other relevant charges associated with SWS operations by government agencies. This is critical for the smooth end-to-end processes and can be an attractive feature for the government and trade community. The incorporation of payment features into SWS will need to take into account additional security mechanisms that will need to be built into the system to prevent cyber security attacks and exposures to vulnerability. SWS payments can be used as a means of revenue generation for the lead agency in charge of operating the SWS.

2.8.9. Financial Model of the SWS

It is important that a decision is made as early as possible during the onset of the project regarding the financial model that will be used for the SWS. This can significantly influence stakeholders and decision makers support for the system implementation from the beginning. Financing options include financing from government (e.g. Netherlands and Kenya) to a self-sustainable SWS model (e.g. Mauritius). A number of possibilities such as public-private partnerships (PPPs) should

be explored taking into consideration such factors as the SWS service delivery model in place i.e. G2B, G2G (Choi, 2011).

2.8.10. Communications Strategy

It is critical that all stakeholders are informed on the project goals, timelines objectives, targets, progress, challenges and deliverables using a well-defined communication strategy so as to foster trust amongst all the stakeholders of the SWS. It is also essential that stakeholders' expectations are managed to prevent overpromising and under delivering in order to generate significant goodwill to deliver the project successfully. The frequency of communication can be defined in the project charter at the onset of the SWS project and varied according to the various stages and milestones as the SWS implementation progresses.

Summary

The above factors play an important role in the successful establishment and smooth operation of SWS. The factors are interdependent on one another and therefore need to be viewed in totality for the success of the SWS.



Figure 11: Interdependency of CSFs for SWS
Source: UNESCAP, 2015

CHAPTER THREE

BACKGROUND OF THE KENYA SWS

Introduction

The liberalization of the Kenyan economy has resulted in the significant increase in international trade. The favorable geographic location of Kenya in the East African region of the Indian Ocean has consequently resulted in the increase in imports and exports for its domestic use and for transit to the landlocked economies of Eastern Africa that rely heavily on the port of Mombasa for their seaborne trade commodities. The Port of Mombasa plays a crucial role in the maritime trade documentation processes. It is in this context that the need for effective trade facilitation measures has become a key factor in the creation of a favorable environment which can bring about an improvement in the ease of doing business by reducing the bottlenecks experienced and ensuring efficiency in the trade transaction processes resulting from maritime seaborne trade.

Previously, before the introduction of the SWS, lengthy, repetitive and complex procedures experienced during the lodging of trade documents at ports and airports had an adverse impact on delays and created a negative impact on the supply chain mainly in terms of costs and time. Documentation was characterized by excessive paperwork and repetitive lodging of trade documents to national and international government agencies and industry regulators. In an effort to improve the ease of doing business in Kenya and the EAC region as a whole, the government of Kenya formulated the Vision 2030 which focused on the economic, social and political pillars that would have deliver aspects of the MDGs while improving the country's GDP. Various flagship projects were defined under each pillar to support the delivery of the MDGs. The LAPSSSET project that incorporates the creation of Lamu port and upgrade and expansion of Mombasa port is nested under the infrastructure projects of the economic pillar of Vision 2030. The Single Window System is one of the flagship projects under Vision 2030 economic pillar. The SWS is incorporated as part of the

reforms to address the trade facilitation agenda forming part of the auxiliary projects needed to support the infrastructure development projects. Also incorporated are the construction and expansion of ports, national highways and railways expansion which form part of the southern and northern corridors which serve the regional trans-border trade among the EAC land-locked countries.

The development of the SWS in Kenya can be attributed to a Community Based System initiative in 2005 that oversaw the commissioning of the port community at the Port of Mombasa oversee a port-centric project which was spearheaded by the Kenya Revenue Authority and the Kenya Ports Authority. The initial Community Based System project concept was then developed into a national Single Window concept in 2007 which was to be finally overseen by a lead agency KenTrade in 2011.

The conceptual approach was developed to implement a national cross-cutting project covering sea, air, road, rail and maritime systems encompassing all government agencies involved in trans-border trade. At the helm of the project was the inter-ministerial steering committee with members drawn from the Kenya Ports Authority, Kenya Revenue Authority, National Treasury, Ministry of Trade and Ministry of Transport.

The main objective of the Kenya SWS was to reduce cargo dwell time at the port of Mombasa from the ten days (in 2011) to a maximum three days, and maximum dwell time of one day at airport and one hour at the border points. This was to be achieved through the elimination of inefficiencies identified such as space utilization at port as a result of long cargo dwell time which resulted in port congestion.

The diagram below represents the time release study results carried out in the pre-implementation assessment survey indicating the average cargo dwell time taken at sea and air ports in Kenya.

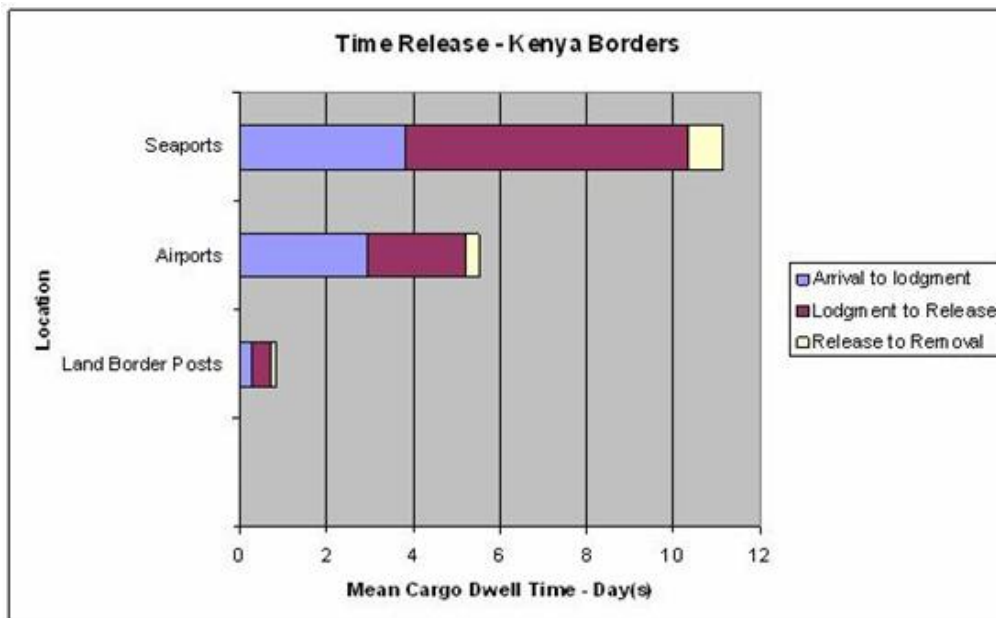


Figure 12: Results of a Time Release Study on cargo dwell time at Kenya borders
 Source: (Preliminary Assessment of a Community Based System in Kenya, 2005)

Also highlighted were the inefficiencies related to the cargo clearance process due to manual paper handling procedures amongst trade stakeholders, high trade transaction costs, and trade related corruption that served to ultimately reduce Kenya’s competitiveness in the ease of doing business index, logistics performance index and the trading across borders indices published by the World Bank annually. According to the World Bank, some the aforementioned indices are some of the most common tools used to quantify the effectiveness of trade facilitation measures. According to Orliac (2012), there are more than twelve indicators used to measure trade facilitation using a number of defined trade facilitation indicators. The trade facilitation indicators have dependent relationships which may ultimately affect the efficiency of trade procedures that are built into the SWS.

Ranking	Country	2015 LPS Index	2014 LPS Index	% Change in Ranking	Improvement
1	Rwanda	3.66	3.52	3.97%	↑
2	Uganda	3.09	3.07	0.65%	
3	Kenya	3.07	2.82	8.86%	
4	Tanzania	2.77	2.89	-4.15%	↓
5	Burundi	2.25	2.78	-8.27%	

Table 7: 2015- versus 2014-LPS Ranking
Source: Collated from LPS 2014/15 Surveys

Figure 13: Comparative ranking in Logistics Performance Survey 2015 vs. 2014 for EAC countries

Source: (SCEA, 2015 East Africa Logistics Performance Survey)

Another important factor in the establishment of the Kenya SWS was to implement the trade facilitation agenda. KenTrade’s mandate is to carry out trade facilitation initiatives with the Kenya National Electronic Single Window being the pilot project for the government agency. The establishment of the Kenya SWS as a tool for trade facilitation played a key role in implementation of the WTO trade facilitation agenda. It is important to understand Kenya’s role in the EAC economies share of the international trade and transport to facilitate the adoption of the 2030 SDGs by Kenya and the landlocked economies that rely on its port for their trading needs.

“Cost-effective international trade and international transport of goods requires the alignment of ordering, payment, insurance, logistics, customs inspection and clearance, and border controls.” (UN-OHRLLS, UNECE 2015)

High transport costs and inadequate transit infrastructure can eventually lead to high cost of transportation and therefore as a result affect the trade and economic potential of land locked developing countries.

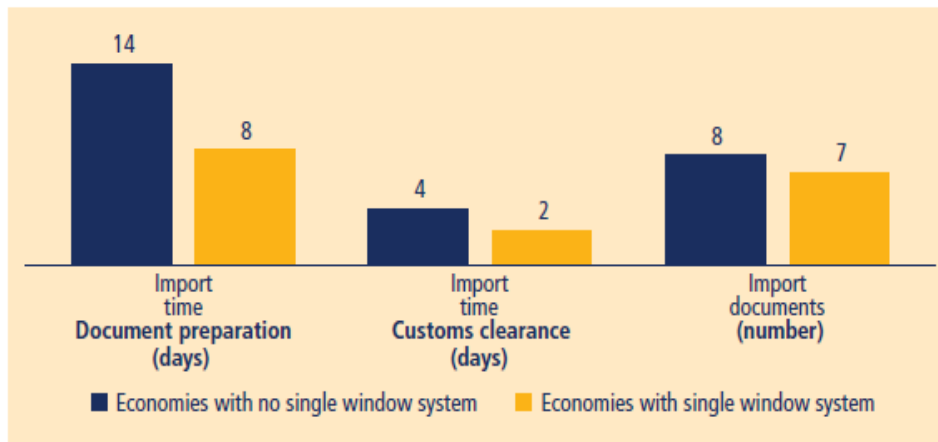
A World Bank group survey carried out in 2012 sought to quantify the economic losses incurred as a result of inefficient trade procedures and highlight potential savings

through the application of trade facilitation measures. The survey predicted that the present volume of import and export goods from USD 150-250 million in the first three years and an increase to USD 300-450 million per annum thereafter. These savings are attributed to reduced delays, reduced trade transaction costs, elimination of inefficiencies and corruption, less paperwork, elimination of manual document handling processes, reduction in the cost of capital as per the JIT (Just-In-Time) delivery concept and lower demurrage costs, as well as the improvement in space utilization at the ports resulting ultimately in increased capacity utilization. The table below illustrates the effect of cross border processes on land locked developing economies.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<i>Cost to import (US\$ per container)</i>										
LLDCs	2,701	2,701	2,727	3,068	3,155	3,368	3,411	3,917	4,167	4,344
Transit developing countries	1,298	1,321	1,289	1,452	1,472	1,504	1,522	1,561	1,619	1,599
<i>Cost to export (US\$ per container)</i>										
LLDCs	2,211	2,211	2,242	2,554	2,629	2,746	2,792	3,164	3,328	3,444
Transit developing countries	1,024	1,040	1,035	1,170	1,193	1,220	1,249	1,267	1,309	1,301
<i>Time to import (days)</i>										
LLDCs	57.1	56.8	53.5	51.7	49.3	47.8	47.2	49.9	49.3	49.1
Transit developing countries	38.3	34.8	32.2	30.2	28.8	27.9	27.5	27.8	27.3	26.5
<i>Time to export (days)</i>										
LLDCs	48.1	48.1	46.9	46.4	44.2	42.5	41.9	42.1	41.5	40.8
Transit developing countries	30.5	27.7	26.7	25.2	24.3	23.7	23.2	22.9	22.4	22.2
<i>Documents to import (number)</i>										
LLDCs	11.5	11.5	10.7	10.7	10.4	10.2	10.3	10.2	10.2	10.1
Transit developing countries	9.8	9.2	8.7	8.4	8.4	8.4	8.3	8.5	8.4	8.4
<i>Documents to export (number)</i>										
LLDCs	9.3	9.3	8.9	8.8	8.6	8.5	8.5	8.5	8.5	8.5
Transit developing countries	7.8	7.7	7.4	7.1	7.1	7.1	7.1	7.1	7.1	7.1

Figure 14: Cost, Time and Documents Required for Import and Export
Source (World Bank, World Development Indicators)

Figure 13 below further illustrates the above point by showing the average time taken to import and export and the number of documents needed between countries with SWS and those without any SWS.



Source: Doing Business database.

Figure 15: Comparison of Import and Export time for countries with and without SWS
Source (Doing Business Database, 2005)

3.1 Implementation of the Single Window Concept in Kenya

At the initial stages of the SWS implementation, a Project Management approach was defined and the project charter, master plan and business process engineering were identified as some of the key milestones of the Kenya SWS project. The feasibility study assessed the existing situation through stakeholder consultations conducted via seminars and workshops. The approach taken was laid out through the preliminary assessment of the CBS in Kenya and had the following terms of reference:

- i. Review of trade related procedures - The processing of documentation for international trade and procedures associated with border clearance of cargo was reviewed with the different stakeholders namely: ship agents, clearing agent, KRA Customs, KEBS, KEPHIS, Port Health, KPA (port and inland container depot), freight stations, KAA, Kenya Airways, shed operators, and rail and road transporters.

The review was conducted in Nairobi and Mombasa over two missions in July and August 2005. Review meetings were held with Government control agencies and private sector associations representing service providers for

international trade. In addition, meetings were held with individual private sector operators in order to obtain perspective of issues at enterprise level.

- ii. Identification of existing ICT strategies - Identification of existing ICT strategies (including on-going and planned initiatives) from trade participants: KPA, KRA, KEBS, Transit Transport Co-ordination Authority, with specific attention to the potential of the ORBUS system.
- iii. Survey of e-readiness of stakeholders – Assessment of existing infrastructure and capacity building requirements, focusing on forwarders, banks, transporters, exporters and importers and means for integrating them into the network.
- iv. Legal and regulatory requirements to support transaction and contractual features of the new trade document processing platform and measures to address these requirements.
- v. Implementation plan and options for an IT-based trade documents flow system that integrates all public and private actors involved in trade document processing, including an implementation strategy.
- vi. Costs, Performance Indicators and Gains for traders: direct projects costs (hardware, software, technical assistance) are to be identified as well as performance indicators to measure performance and progress. The potential gains for traders as well as an indication of the development impact of the CBS are also to be outlined.

The SWS stakeholders from all levels were engaged in all project stages through the set-up of over 200 meetings over a seven month period so as to maintain information exchange and cultivate a joint project ownership. Through a BPR exercise involving the stakeholders, the project implementation team was able to come up with system requirement specifications from the stakeholders needs assessment carried out. The needs assessment incorporated specific assessment of each stakeholder's capacity and the systems they had in place and their respective stage of development.

The preliminary needs assessment survey determined that while some government agencies had systems in place others were semi-automated while few were completely manual and had no ICT systems in place for processing trade documentation. This therefore determined the level and type of intergovernmental agency integrations required and the identification of business requirements that needed to be streamlined for full automation into the SWS.

Consultations were held with all stakeholders involved in the processes associated with trade documentation and goods clearance and it was noted that delays and inefficiencies in the trade clearance process arise from multiple sources, from both the public and private sector entities. A key outcome highlighted was that the solutions to some of these delays were procedural in nature and would not necessarily lie with the implementation of the Single Window system but changes in processes and change management.

The following underlying issues were identified as the key contributors to delays in the trade documentation and cargo clearance process:

Delay in submission of manifest by ship agents

In spite of existing agreements such as SLAs captured in the Port Community charter between Customs and shipping lines to submit manifest ahead of arrival of vessels, many shipping lines submit their manifest after the arrival of vessels. Consequently, importers cannot lodge customs entries until the manifest has been submitted to Customs. However, Customs regulations allow lodgement of declarations seven days prior to arrival of a vessel provided that a manifest has been submitted.

Delays in processing of import declarations

The Time Release Study carried out in the preliminary readiness survey of the SWS identified that the average time taken for this phase is substantial and lasts for six days and 12 hours. This phase is controlled by not only Customs but other controlling agencies such as KEBS, KEPHIS and Port Health which can introduce additional delays in the process since Customs will not issue a release until all agencies have

given clearance. In addition delays are also introduced by incomplete and incorrect submission of declarations, as listed below:

Incomplete submission of documentation from declarants

The required trade clearance documents such as invoices, stamped bill of lading, packing lists were not submitted as required and would delay the processing of import declarations.

Incorrect declarations

Declarations that are incorrectly completed are rejected and add to delays in clearance.

Delays in submission of payment information

There are associated duties and charges with the manifest lodging process which if not paid on time can lead to delays in the manifest approval process hence having a chain reaction to all other consequent processes in the logistics chain. Customs duties and taxes are collected by commercial banks and customs will only authorize release after banks have confirmed receipt of payment.

Delays in administrative procedures at the Port

Once clearance is obtained from Customs and other controlling agencies, the administrative processes for release of cargo duplicate many of the controls carried out within Customs long room. The Mombasa Port Release Order (MPRO) is a key document that validates approvals from Customs and finance prior to release of goods for delivery.

The same process is in place at the Inland Container Depots. Prior to the SWS implementation, lengthy clearance procedures associated with the administrative tasks were identified as an impediment to faster processing of cargo clearance requests.

Delay in processing of payments related to trade documentation

Before the SWS implementation, associated payments could not be made readily due to limited hours of banking business and / or bank is not located nearby. The SWS has put in place a national payment gateway to process online payments for some trade related processes acting as a gateway for the collection of duties and taxes for government agencies.

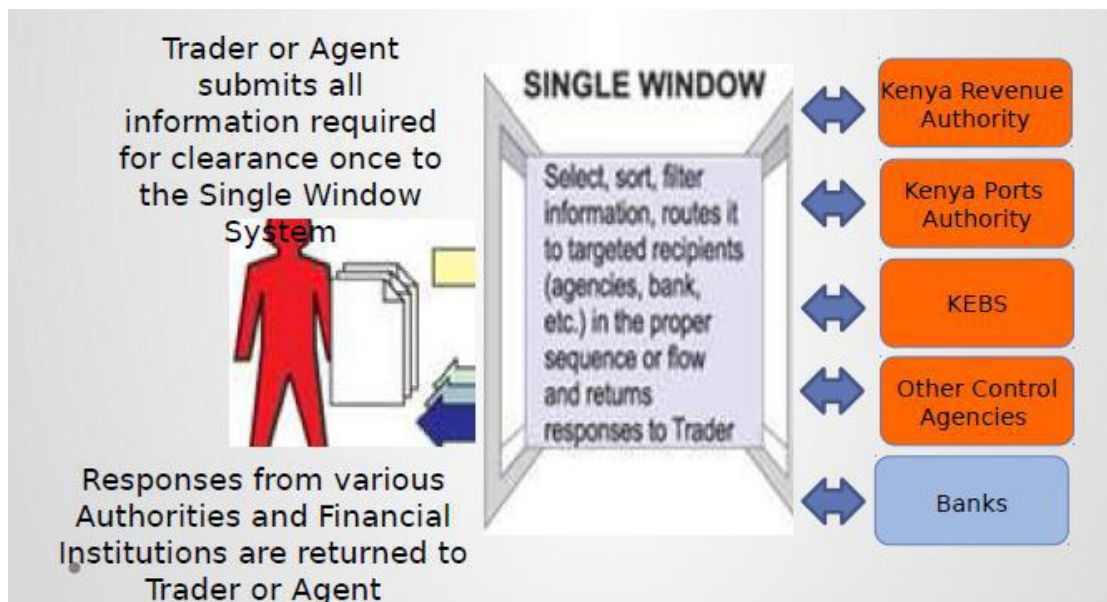


Figure 16: A graphical representation of the Kenya National Electronic SWS operation

Source: (KenTrade, 2013)

3.2 Timeline of Kenya SWS Implementation

Once the feasibility study and needs assessment were concluded, the Government of Kenya set up KenTrade as an independent entity to be the lead operating agency for the Kenya National Electronic Single Window System.

The KNESWS was officially launched on 31st October 2013 by H.E. President Uhuru Kenyatta and witnessed by H.E. President of Rwanda Paul Kagame and H.E Yoweri Museveni of Uganda.

The project approach for the Kenya SWS was a phased implementation which saw the system modules being implemented and launched over a three year period from 2012.

Phase 1 of the KNESWS focused on the pre and post clearance documentation modules

Phase 2 of the KNESWS focused on the clearance permits modules for both imports and exports. In order to assess the implementation of the SWS in Kenya, it is important to understand the underlying trade related procedures and the stakeholders in relation to maritime trade and logistics.

Table 3: Maritime trade and logistics stakeholders in Kenya

STAKEHOLDER	STAKEHOLDER ROLES AND FUNCTIONS
Importers	Import finished and semi-finished goods for local consumption, raw material for manufacturing.
Exporters	Horticulture, tea, textiles, under the Kenya Association of Manufacturers.
Clearing & Forwarding Agents	Clearing agents registered by the Kenya International Freight and Warehousing Association (KIFWA) has approximately 850 registered clearing agents.
Ship Agents	The Kenya Ship Agents Association (KSAA) has thirty six members.
Commercial Banks	Banks collect, on behalf of Customs, duties and taxes. Over 45 commercial banks are licensed in Kenya.
Kenya Revenue Authority (Customs Department)	The Customs Department within the Kenya Revenue Authority (KRA) is responsible for the assessment, charge and collection of customs and excise duties. KRA also handles the issue of most certificates of origin.

KEBS	Kenya Bureau of Standards (KEBS) ensures that goods imported into Kenya conform to requirements for Kenyan standards. KEBS' mandate has been modified recently upon the withdrawal of Pre-Shipment Inspection (PSI).
KEPHIS	Kenya Plant Health Inspectorate Services controls entry of seeds and plant material (phyto-sanitary) into Kenya to protect local agriculture. It also issues phyto-sanitary certificates for plant exports.
Kenya Ports Authority	Kenya Ports Authority (KPA) acts both as a regulator of Kenya ports as well as a provider of cargo handling services.
Shed Operators	Buildings appointed by the Customs for the deposit of goods subject to customs control
Inland Container Depots	Inland depots are operated by KPA at Embakasi (Nairobi) and Kisumu. These depots provide alternate locations to the port for storage and delivery of containers and cargo.
Road Transporters	Kenya Transporters Association has about 75 members within Mombasa region
Kenya Railways Corporation	This is the national rail operator.
Freight Stations	Over 10 privately operated freight stations are located within the Mombasa port area and provide alternate cargo storage and clearing facilities.
Chamber of Commerce	The Kenya National Chamber of Commerce and Industry (KNCCI) issues ordinary certificates of origin for some destinations.

Source: (Preliminary Assessment of a Community Based System in Kenya, 2005)

The table below represents the main documents required for trade documentation clearance in Kenya. These documents form the basis of the sea modules implemented in the Kenya TradeNet. The documents are usually submitted with requisite supporting documents to the relevant government agency depending on the type of transaction and type of goods and regime (import or export).

Table 4: Key documents required for maritime trade clearance in Kenya

DOCUMENT	FUNCTION
Import Declaration Form (IDF)	This form is required for all imports and contains a summary of supporting documents, e.g. invoice, packing list, certificate of origin, the seller's and importer's names, addresses and related details. It is submitted by the declarant or clearing agent.
Manifest	The sea manifest is submitted to Customs and KPA by the Ship Agent
Customs Declaration (C63)	KRA has adopted a Single Entry Document, referred to as C63, for all types of customs declarations. All imports, exports, warehousing, and transit declarations use this standard form which is submitted via TradeX by the declarant.
Bill of Lading	Contract of carriage between the ship carrier and the Importer/Exporter.
Certificate of Origin	In Kenya, the certificate is issued by either KRA or Chamber of Commerce depending on country where good is being exported to.
Customs Bond	Guarantee that covers entry of goods into Kenya under some specific regimes, e.g. transit.

Source: (Preliminary Assessment of a Community Based System in Kenya, 2005)

To date, the implementation of 17 Modules of TradeNet have been completed with 3 modules remaining scheduled to be completed by December 2016. Table 5 below shows a summary of the main modules for implementation of the Kenya SWS.

Table 5: Summary of KNESWS module implementation status

	MODULE	COMPONENTS	DESTINATION SYSTEM	PGA DISTRIBUTION	IMPLEMENTATION STATUS
1	Sea Manifest	IAR /IDR–Impending Arrival/Departure report	KWATOS	KPA, KRA	Complete
		Master Manifest	MMS	KPA, KRA	Complete
		Supplementary Manifest	MMS	KPA, KRA	Complete
		CFS Nomination	KWATOS	KPA, KRA	Complete
		BAPLIE upload	KWATOS	KPA	Complete
		Cargo release	KWATOS, RTMS and Simba	KPA, KRA	BPR on-going
2	Permits	Master Permit Submission	Relevant PGA iCMS and Simba	Relevant PGA Depends with Agency requirement	iCMS pending Simba complete
		Supplementary Permit Submission	Relevant PGA iCMS and Simba	Relevant PGA	KRA Simba complete Pending iCMS integration
		Consignment Permit Submission	Relevant PGA, iCMS and Simba	Relevant PGA	KRA Simba complete Pending iCMS integration
3	Unique Consignment Reference	Application for UCR Document	iCMS and Simba	Relevant PGA	KRA Simba complete Pending iCMS integration
4	Import Declaration Form-IDF	IDF Application	KESWS	KRA	KRA Simba complete Pending iCMS integration
		IDF Payment	KESWS	KRA	KRA Simba complete Pending iCMS integration

5	Security Bonds	Parent Bond Application	KRA	KRA	KRA Simba complete Pending iCMS integration
		Supplementary Bond Application	KRA	KRA	KRA Simba complete Pending iCMS integration
		Bond Cancellation and Suspension	KRA	KRA	KRA Simba complete Pending iCMS integration
6	Exemptions	Registration of exemptions	KRA	KRA	KRA Simba complete Pending iCMS integration

Source: Author's

The project milestones achieved with the Kenya SWS so far include implementation of the following crucial modules and components:

1. The Unique Consignment Reference (UCR) - new concept in Kenya.
2. Electronic application for permits by traders on a 24/7 basis.
3. Electronic processing and approval of permits by the PGAs.
4. Electronic confirmation of Payments and provision of multiple payments instruments via the KRA payment gateway.
5. Integrated Risk Management System available for use by the Partner Government Agencies.
6. Full Integration with five major stakeholder systems (KRA, KPA, KEPHIS, PPB, TBK). There is on-going system integration work with other government agencies dealing in cross-border trade.
7. Compliance levels have gone up e.g. traders have to provide permits.

Some of the early wins that are evident with the implementation of TradeNet are listed below

- i. Faster processing of Permits by Government Agencies.
- ii. Increased visibility and transparency for Traders.

- iii. Compliance levels have gone up
- iv. Paperless (electronic) application for permits by traders 24/7 basis.
- v. Paperless (electronic) processing and approval of permits by the PGAs.
- vi. Electronic confirmation of Payments and provision of multiple payments instruments via the KRA payment gateway.
- vii. Integrated Risk Management System available for use by the Partner Government Agencies.

3.3 Using the Project Management Approach to manage the SWS Implementation

As per the UNECE Rec 33 and guidelines identified for the successful implementation of SWS, the importance of having in place a project management approach plays a vital role to enable the successful implementation of a big project such as the SWS. Using the project management approach will, therefore, require the adoption of planning, organizing, staffing, directing and controlling. For a project to be efficiently delivered, PRINCE2 identifies the following six areas of a project that need to be controlled, managed, and tracked as per the defined project objectives.

- i. Time
- ii. Cost
- iii. Scope
- iv. Benefits
- v. Quality
- vi. Risk

In effect this will necessitate the application of tools and techniques associated with ICT projects considering that SWS implementations are big software implementation projects that involve multiple stakeholders. The identification of CSFs is critical in order to provide guidelines to measure the performance of the project success for each

defined milestone of the project phases. Most project CSFs will be in line with optimizing the defined project objectives hence will be expected to measure the expected outcomes from the project in relation to the defined time, cost, scope, benefits, quality and risk criteria.

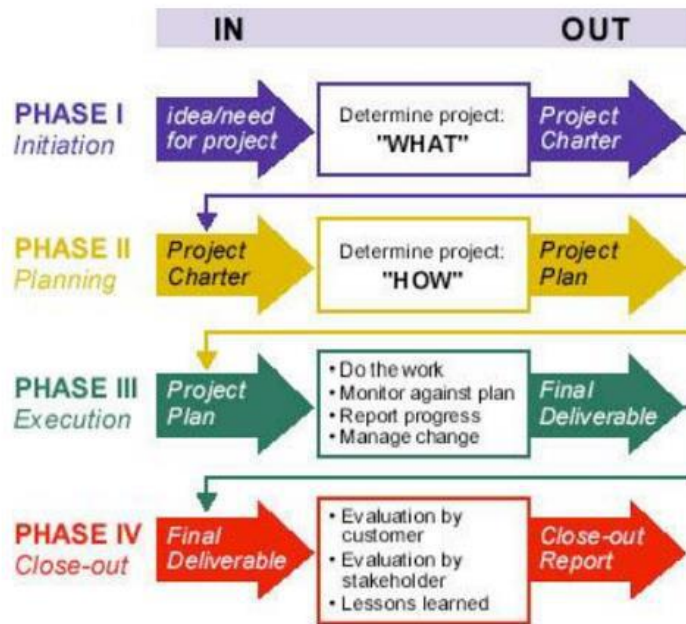


Figure 17: Sequence of activities using a Project Management Approach

Source (Saini & Hooda, 2014)

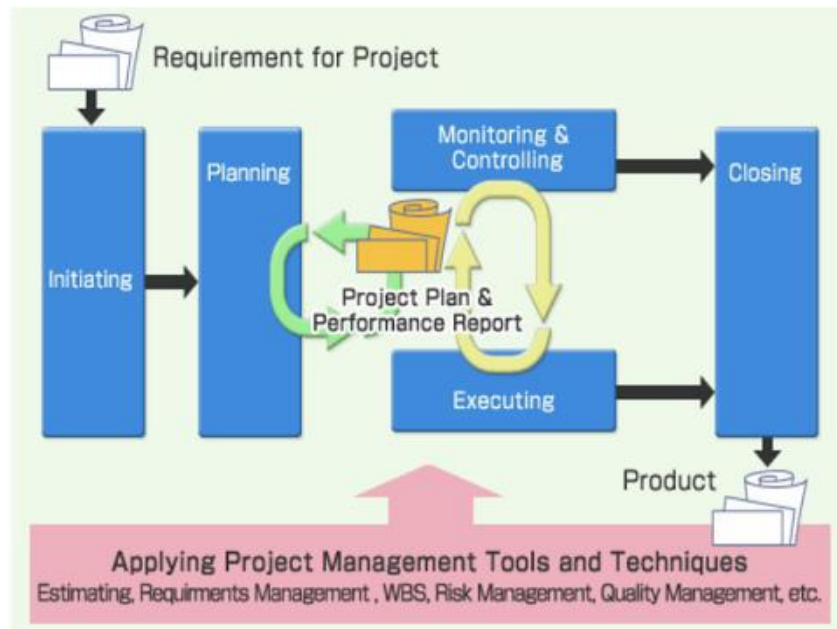


Figure 18: Project Management Activities

Source: (Saini & Hooda, 2014)

Some of the benefits of using a project management approach to implement software projects such as the SWS can be listed as

- i. To meet customer objectives by tracking the project progress
- ii. In order to satisfy the project timelines, meeting the set deadlines
- iii. Efficient utilization of resources (human, financial, technical) through planning and monitoring
- iv. To ensure accountability for the resources allocated to the project (human, financial, technical)
- v. Improved communication amongst the project stakeholders through a defined communication strategy

As is the case with other major ICT software projects, the most common CSFs that can be identified are:

- i. Support from the executive (top management)

- ii. Clearly defined project objectives
- iii. Allocation of adequate project budget and human resources
- iv. Effective communication amongst project stakeholders
- v. Project change management
- vi. Defining realistic time schedule for the project implementation
- vii. Effective monitoring and regular review of the project
- viii. Effective project leadership

The Kenya CBS Project charter that outlined the Kenya SWS project identified the CSFs for the project as:

- i. Appointment of a project sponsor who is committed to the SWS project
- ii. Commitment from top management of respective stakeholder organizations
- iii. Business Process Redesign
- iv. Continuous Involvement of Stakeholders
- v. Effective Project Management
- vi. Focus on main process flows

For effective project control, it is important that a WBS- Work Breakdown Structure is put in place in order to measure and analyze at defined intervals the project events, exceptions and milestones so as to curtail any variances from the initial project plan that could adversely have an effect on the project deliverables impacting on time, cost, and scope.

The WBS serves to break down the project into manageable components using a set of hierarchical, well-defined activities. It can be represented using a set of tables denoting activities, their dependencies and associated deliverables for each activity.

UNECE proposes the use of SWIF framework which offers a strategic and holistic framework that provides guidelines to policy managers in the process of initiating, setting up, and managing the implementation of a Single Window (UNECE, 2011).

An analysis of the Kenya SWS project implementation master plan outlined the breakdown of the project into smaller components such as the BPR phase and goes ahead to define the activities under the BPR and the sub-activities for each component.

Successful implementation of the new business processes will require advance internal preparation within each relevant organization. The preparations associated with the implementation of the new business processes will need to address the following:

- (a) internal review of implications of business process change and steps to implement changes within organization
- (b) Documentation of new procedures. The documentation will address the needs of internal users and may also require documentation for external clients of the stakeholder organization.
- (c) Detailed plan to implement any associated changes to stakeholder system.
- (d) Change, if any, required to organizational structure
- (e) Communication of changes to internal users
- (f) Training of internal users
- (g) Implementation of new processes

The document analysis into the Kenya SWS implementation also revealed the set-up of a project organization and the definition of a project management structure in line with UNECE recommendation 33 best practices for the establishment and operation of SWS. The Kenya CBS preliminary assessment survey document acknowledges the complexity of the project as well as the interface changes between and within the multiple organizations involved in the SWS. The following structure in Table 6 was proposed and adopted by the SWS stakeholders. The CBS Project charter further goes into detail to discuss the project organization providing a project structure and defining the roles and responsibilities of each SWS project stakeholder.

Table 6 : Proposed Roles and Responsibilities of Kenya SWS Project Team

	Project Member	Role
1	Project Champion (Sponsor)	Senior official at the administrative level with the commitment and authority to support project progress and resolve cross-sector issues that may arise
2	Project Steering Committee	Establishes CBS objectives, priorities and resource allocation. Monitors project progress and provides guidance on issue resolution. Members include representatives from each stakeholder and Project Coordinator.
3	Project Coordinator	Responsible for the project plan, interface between different stakeholders and proper synchronisation of implementation by stakeholders. Chairs Project Implementation Workgroup and sets technical directives for implementation. Raises project issues to respective stakeholder groups and escalates to Project Steering Committee / Project Champion if unable to resolve issue.
4	Project Implementation Workgroup	Members are Project Coordinator (Chairperson) and Project Workgroup Managers of each key stakeholder or stakeholder group: e.g. SWS operator, KRA, KPA, ship agent representative, clearing agent representative, CFS representative, etc. The Project Implementation Workgroup addresses CBS technical and operational requirements.
5	SWS operator	The SWS operator will be the lead agency that will be created in order to implement and operate the SW system. The lead agency is expected to have a mandate with clearly defined service level deliverables.

Source (Preliminary Assessment of a Community Based System in Kenya, 2005)

3.4 Identified Project Risks for the SWS Implementation

The project charter outlined the following risks in relation to the Kenya SWS implementation

1. Resistance to change

The project charter states that, given its scope and the large number of stakeholders with whom it is interacting, projects such as the CBS can often be subjected to demands for additional features and functionality. While such additions may be meaningful, they invariably introduce additional costs, risks and impact to the project schedule. It will therefore be very important that the project scope be rigorously controlled and managed.

The absence of change control can impact project completion and introduce inconsistencies in business processes or system functionality. The change control process as well as the associated Change Request form is described in the CBS Project charter. Based on a project management technique, a change request is initiated by documenting the request in a Change Request form.

2. Insufficient resources allocated

The SWS implementation is a resource-intensive project that involves a large number of stakeholders from different government agencies and private stakeholders. It is therefore crucial that all human, financial and technical resources are identified from the onset and allocation is made accordingly as per the project plan mapping the project components to the work breakdown structure so as to efficiently manage resources at each stage of the implementation.

3. Political Impact

4. Privatization of government agencies

3.5 Single Window KPIs

A document analysis of the CBS implementation master plan reveals the importance of setting Key Performance Indicators for a SWS project.

As recommended by UNECE, it is critical that at the beginning of the project, defined objectives are laid down and evaluated as per expected benefits so as to quantify the investment of resources into the SWS. Single window systems incorporate business functionality, ICT design and technology into one platform to provide a platform that requires governance, project management, and human factors such as leadership as the system continues to grow to meet the demands of the stakeholders (ESCWA, 2011).

The CBS implementation master plan set out to identify the KPIs using the mapping of KPIs into system deliverables. The deliverables were categorized as quick wins for each implementation phase. A sample delivered for Phase 1 is illustrated in the Table 7 below. The plan also points to the importance of alignment of change to processes through BPR and change management. “It is to be noted that each system deliverable is to be accompanied by changes in business procedures and capacity building within stakeholder organizations. Some of the business process changes may impact clients (users) who use the services of the stakeholder organizations and consequently, preparation and capacity building will be required for successful implementation of the changes”

This therefore reiterates the position the Kenya CBS project took into account the recommended UNECE SWIF alignment of core principles which were adopted from Henderson and Venkatraman (1993) namely:

- i) Alignment of business and ICT strategy
- ii) The systematic transformation of pre-defined strategies into ICT solutions

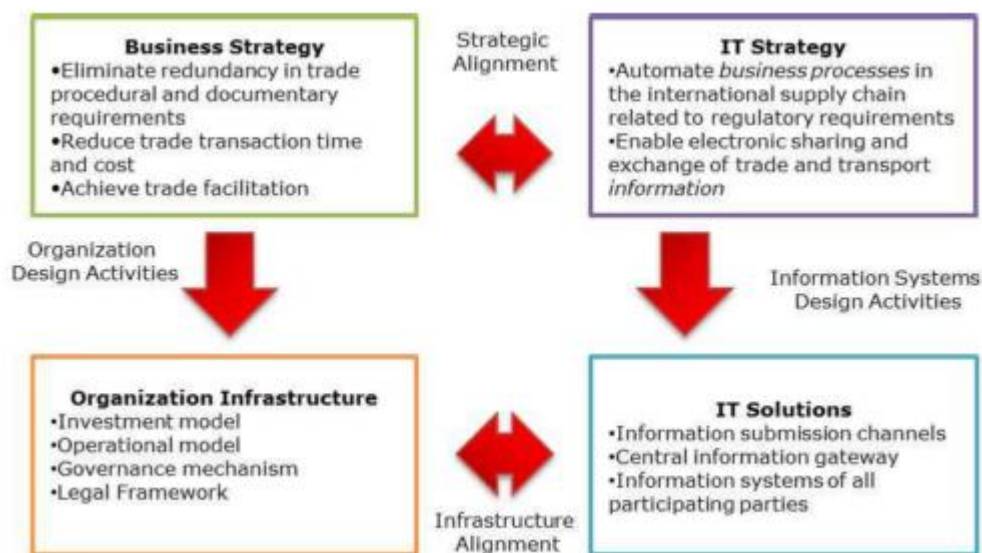


Figure 19: Diagrammatic representation of Core Alignment of SWIF Principles

Source: (UNECE, 2011) (Adapted from Henderson and Venkatraman, 1993)

“Without the incorporation of these principles, the implementation of Single Window systems is likely to face the techno-change risks of non- use and failure to capture benefits” (UNECE, 2011).

Table 7: Identified Quick Wins for the Phase I KNESWS Implementation

Deliverable	Components of Deliverable	Responsibility
Sea Manifest is submitted 72 hours prior to vessel arrival for Long Hauls	SIMBA is modified to accept new format of manifest	KRA
	Ship Agent prepares manifest in format required by KRA	SA
	Ship agent submits manifest 72 hours prior to vessel arrival	SA
	KWATOS accepts electronic manifest from KRA (when SWS is available, manifest is sent to KPA and others by SWS)	KPA

Source: (Kenya CBS Implementation Master Plan, 2007)

3.6 Evolution of the Kenya Single Window System

The increasing need for regional integration and move towards globalization is expected to drive the national SWS to evolve in order to cater for the needs of integrated societies at the regional and global level. Cross-border trade is the ultimate reason for trade unification and therefore the sharing of information in a seamless manner will ultimately be a minimum requirement in the global logistics supply chains. The unique factor in SWS is the centralisation and standardization of information which can be used to improve trade processes and ultimately centralize the collection of import and export trade statistics for strategic planning and trend analysis. A number of initiatives that are relevant to maritime trade and logistics have been borne out of the Kenya SWS implementation as depicted in the table below.

Table 8: Kenya National Single Window System Supporting Initiatives

	KNESWS INITIATIVE	DESCRIPTION
1	Implementation of the Kenya E-Trade Portal	Kenya e-Trade portal enables online publishing of national foreign trade procedures, providing the trader with full step-by-step guidance.
2	Integration with E-Citizen	To enhance electronic payment for e-slips generated via the TradeNet System, KENTRADE is working with the Digitization of Government Payments (DGP) to integrate Kenya TradeNet System with eCitizen.
3	Institutionalization of Memorandum of Cooperation (MoC) for the Port Stakeholders	The MoC can be used by stakeholders to evaluate the non-performance of individual/organizations in line with the agreed timelines and SLAs.
4	Integration with the Real Time Monitoring System (RTMS)	To facilitate transmission of Border Joint inspection details from RTMS to the Kenya TradeNet System Enable transmission of PGA releases from the Kenya TradeNet System to RTMS.

Source (KenTrade, 2016)

Ideally SWS should be able to evolve in order to meet needs of a trade community. The four fundamental SWS phases may vary depending on the complexity of the implementation scope. The main phases of the SWS are planning, preparation, technology design and prototype, and finally implementation.

Although it can be said that every country is different in its approach to a SWS, the increasing functionality between the different stages of the SWS life cycle can be placed into a generic single window design.

ESCWA proposes that SWS evolve through eleven stages of the SWS life cycle to reach the highest maturity level whereby they can be considered global single window systems with a 100 per cent users characterized by completely paperless procedures.

At the initial entry stage, the SW would be serving as a one stop shop and are characterized by fewer users with transactions involving paper still present.

As the SWS evolve, they incorporate more users and more government agencies processes are integrated for issuance and approval of licenses and permits and eventually customs declaration lodgement. The SWS hereby would be a hybrid system that would allow for both semi-automated processes as it evolves. This is followed by the integration of port shipping services, cargo movement and logistics evolve into a port single window concept at the middle stages with approximately 50 per cent users making up the SWS. At stage nine, SWS is considered a national single window that could then be devolved into a regional single window considering that the system would be serving transit regimes for cargo moving into hinterland for landlocked countries relying on neighbouring countries within a region.

It is important to point out that each SW implementation is unique although the commonality is illustrated by figure 18 below that shows the evolution from a one stop shop to a fully functional national SW and eventually transitioning into a regional SW and beyond. The SW may start out as separate initiatives of various stakeholders involved in import and export trading activities using a trade promotion portal and

eventually be merged via a port community system to cater for the need to share and disseminate information centrally. As the need to integrate more players from the maritime logistics supply chain into the SWS grows, it becomes necessary to enforce standards, interoperability, privacy, identity management, access control, data protection, intellectual property rights, and record management policies into the system. Figure 19 represents the ultimate desired functionality of SWS concept to deliver the objectives via a technology solution catering for the circumstances and priorities of the SWS stakeholders.

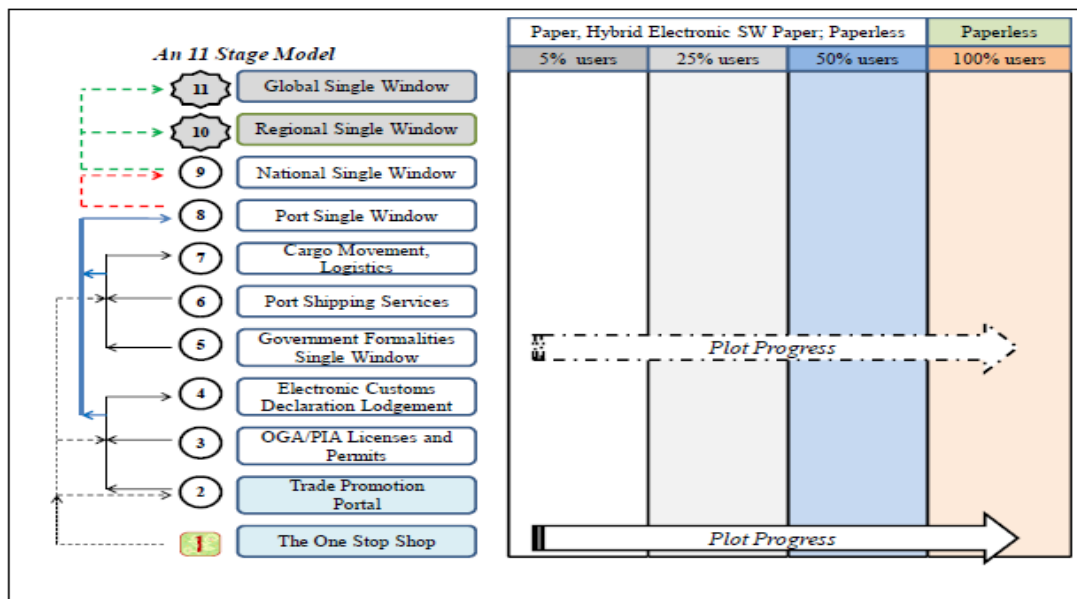


Figure 20: Evolution of Single Window Systems
Source (ESCWA, 2011)

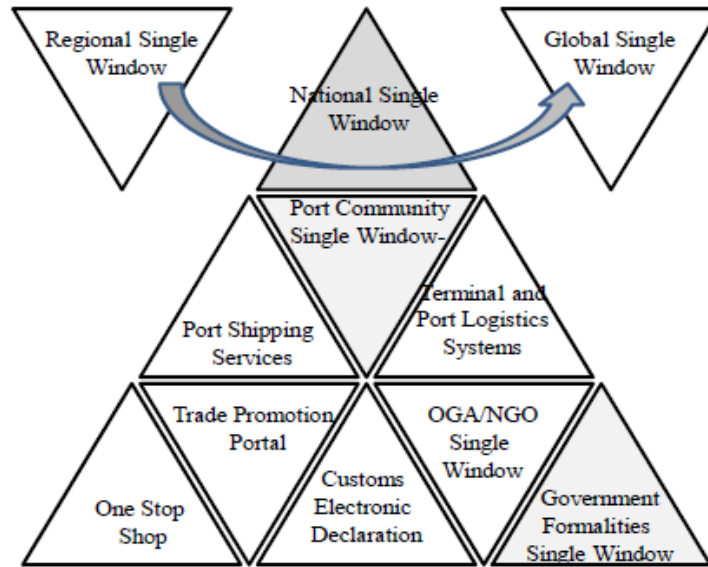


Figure 21: Conceptual overview of a national single window ecosystem

Source: (ESCWA, 2011)

3.7 Kenya’s International Legislative and Regulatory Policy Framework in relation to the Single Window System

KenTrade was set up by the Kenyan government as gazetted under Legal Notice number 6 of the State Corporation Act on 28th January 2011 as a state agency to be under the National Treasury.

There are also a number of regional trade agreements that consequently define the movement of goods in the EAC region, guiding cooperation amongst Customs and government agencies in their inspection and procedures for cross-border trading. Kenya’s National Trade policy was formulated within the framework of the Vision 2030, which is Kenya’s medium term planning framework guide policy formulation and implementation for all sectors in the country. Various agreements that have provided significant guidance to the national trade policy include the World Trade Organization (WTO), the East African Community (EAC), the Common Market for Eastern and Southern Africa (COMESA), the African Caribbean Pacific Cotonou Agreement and

Inter-governmental Authority on Development (IGAD). As a result of liberalization and globalization, it can be concluded that the deepening of regional ties has facilitated regional integration and emerging bilateral agreements have contributed to widening the scope of trade opportunities for Kenyan and the East African Community businesses as a whole. The EAC brings the five countries together on issues of economic, social and political cooperation. The EAC has created an expanded market for trade in goods and services, through the provisions of the EAC Customs Union Protocol and the Common Market Protocol as well as other regional integration instruments and sectoral strategies and policies. The EAC takes the lead as the destination market for Kenya's exports, accounting for 23% in 2014 (National Trade Policy, 2015).

The importance of alignment of national policy to international treaties (legal framework) is emphasized as stated "The main vehicle to achieving harmonization, standardization and simplification of rules, procedures and documentation is through the accession to and ratification of international conventions on transit transport and trade facilitation" (UNECE, UN-OHRLLS) (2015). Kenya is also a signatory to a number of international treaties such as the WTO TFA that underlines the importance of establishing the SWS for the centralisation of lodging of trade documents and approvals.

Table 9: Kenya's ratification status of international treaties and bilateral agreements related to maritime trade

TREATY / AGREEMENT	STATUS	COMMENTS
WTO TFA <ul style="list-style-type: none"> • Bali 2013 • GATT 1994 	Ratified	A ministerial committee of 52 state agencies (including KPA, KRA, and KenTrade) created to implement the World Trade Organization (WTO) Bali treaty on easing barriers at seaports and airports signed in November 2015.
IMO FAL Convention	Ratified	FAL was ratified so as to facilitate maritime traffic by simplifying and reducing to a minimum the formalities, documentary requirements and procedures on the arrival, stay and departure of ships engaged in international voyages.
WCO Revised Kyoto Convention 1999 (The International Convention on the Simplification and Harmonization of Customs procedures)	Ratified	Promotes trade facilitation and efficiency and predictability in trade procedures for international trade.
WCO Istanbul Convention revised 1990 / ATA System	Ratified	The ATA system enables the considerable simplification of customs formalities by allowing temporary admission of defined goods into a customs territory with relief from duties and taxes.
WCO HS Convention (International Convention on the Harmonised Commodity Description and Coding System)	Ratified	Universal nomenclature developed by WCO for goods classification allowing systematic collection of tariffs and central data collection of import and exports goods statistics

Source: (Author's)

CHAPTER FOUR

RESEARCH METHODOLOGY

Introduction

This chapter describes the methodological approach that is used in the study and a justification is provided for the selection of a qualitative method of research. It also describes the target population, sampling design and techniques which are used to select the sample, determine sample size and the procedure to be used for data collection and analysis. A brief discussion of the method of data collection and limitations is presented. The chapter also addresses the limitations encountered during the data collection and analysis stages of the research.

4.2 Research Design

Research design is the structure of any scientific work which direction and systematizes the research work. Qualitative research will be used in this study since it seeks out the 'what', 'how', and 'why' of the questions of the topic through the analysis of unstructured information like interviews and questionnaires (Creswell, 2003).

Qualitative research, therefore, seeks to undertake an exploration and description aspects of the underlying issues, events and perspectives with considerably fewer participants as compared to quantitative research and allows for greater flexibility since it allows for adjustments to be made during the research process. Qualitative research does not just rely on statistics or numbers, but seeks to rather probe the background issues underlying the topic.

The research questions were centered on the case study with the research questions built around it. The case study approach chooses a specific unit of analysis and its related variables, and then identifies the appropriate analysis methods so as to draw

conclusions based on the information gathered from the data collection (Creswell, 2003).

Using a mixed methods approach of online questionnaires and primary sources of data regarding the SWS project implementation provides a best fit to match the pre-implementation phase objectives to post-implementation phase benefits and outcomes.

4.3 Research Ethics

The research is conducted in accordance with the WMU Research ethics guidelines.

4.4 Research Limitations

There are a number of limitations of this research that are highlighted below.

4.4.1. Time and Distance

The main limitations of the research were time and distance constraint. The research was carried out remotely away from Kenya through electronic and phone correspondence to establish contact with the respondents.

4.5 Participant Selection

The selection of participants in a qualitative research is vital in order to produce useful results. This study invoked a purposeful sampling technique in order to select the participants for the evaluation of the case study.

Patton (2015) reiterates that for a qualitative research, purposeful selection is ideal as it fits the objectives, questions, and resources to the study compared to the use of random sampling.

For this research, the target population is drawn from the KESWS stakeholders i.e. system users drawn from the following categories of SWS users (see figure 20)

1. Shipping agents
2. Customs (Kenya Revenue Authority)
3. Port Authority (Kenya Ports Authority)

4. PGAs-Permit Issuing agencies (AFFA Tea Directorate, Pharmacy & Poisons Board, Directorate of Veterinary Services, Port Health, Kenya Bureau of Standards, Kenya Plant Health Inspectorate Service)
5. Freight Forwarders
6. Clearing agents
7. Customs Agents
8. Container Freight Stations
9. Industry regulators (Kenya Maritime Authority)
10. Industry associations (Kenya Ships Agents Association , Kenya Freight Forwarders Association)
11. SW implementing agency (KenTrade)
12. SWS Subject matter experts (SWS researcher)

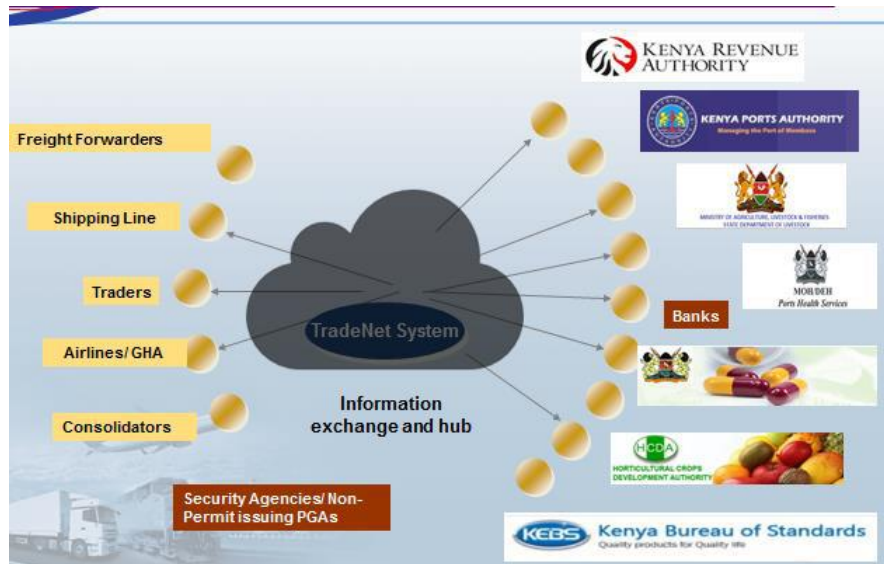


Figure 22: Overview of the key KNESWS stakeholders

Source: (KenTrade, 2016)

4.6 Use of Surveys

As per the established research guidelines, the research employed the use of semi-structured survey questions formulated in English. The survey was divided into multiple choice questions (see attached Appendix A- Questionnaire) with short interview questions for multiple choice questions and open ended questions that would allow for the respondents to give their opinions on the questions.

4.7 Access to Data

During the knowledge gathering phase of this study, data sources related to the SWS were identified and permission to access the material was sought as per the research guidelines. A number of project implementation documents for the Kenya National Electronic Single Window System were made available by the custodian department of KenTrade. The relevant documents to the case study which were analysed included the project charter, preliminary readiness assessment survey, project implementation master plan, national and regional policy documents relating to trade facilitation, and legal notice establishing KenTrade as the SWS operator.

4.8 Sampling Frame and sampling technique

A case study of Single Window implementation in Kenya is conducted using the various categories of users of the SWS. Stratified random sampling is used to select the targeted respondents from both KenTrade and stakeholders. This is known as the strata sampling method, which involves the division of a population into smaller groups. The sources of data are stratified according to their general characteristics into different departments. Within each category of data source, the specific respondents are picked randomly. Selection of the individual to administer the online questionnaire is purely random.

Table 10: Sample size for KNESWS stakeholders' survey

SWS Stakeholder (Organization)	Sample size
KenTrade Employees in ICT, Trade Facilitation, Legal, Customer Service, Departments (Directly involved in SWS implementation)	13
Customs (Kenya Revenue Authority)	12
Kenya Ports Authority	5
Regulators (Kenya Maritime Authority)	2
Partner Government Agencies issuing Preclearance Permits	3
Industry associations (KIFFWA, SCEA)	3
Shipping Agents	6
Freight Forwarders	2
Customs Agents	1
Clearing Agents	3
Container Freight Stations	1
Other	1
SWS Subject matter expert	1
Total respondents	53

4.9 Pilot testing

Pilot testing entails the use of a trial run of procedures and instruments used for research to test the validity and reliability of the research instruments. For this research, a pilot test of the survey instrument was conducted prior to the beginning of

the data collection. The questionnaire was tested in order to test the understanding of the questions by potential respondents and thereafter refined to improve the line of reasoning and reinforce the understanding.

4.10 Research Instruments

The questionnaire used for this research makes use of non-probability sampling technique whereby the researcher used her subjective judgement as compared to probabilistic random sampling techniques. The main reason as to choosing the non-probabilistic sampling is due to the limited access to the population of the Kenya SWS users who are widely distributed since the system caters for all import stakeholders drawn from government agencies to private organizations.

Also, due to time and resource constraints, the choice of a non-probabilistic sampling was ideal to satisfy the need to collect data in the most resource and time efficient manner.

This therefore necessitated the need for self-selection sampling whereby the research participants are not directly approached by the researcher but rather are considered on voluntary basis once the questionnaire is made available online. The participants were informed of the ethical guidelines of the research and gave their consent to proceed with the online questionnaire.

The questionnaire was formulated in English as it is the official business transaction language used by the respondents.

The semi-structured survey questions were administered online. The questionnaire consisted of a total of eight questions of which some were multiple choice and open-ended questions (appendix 1).

The first part of the questionnaire, which covers question one to four, is related to the demographics of the population i.e. name of respondent, organization type and contact details in order to gauge the background and stakeholder orientation with the SWS.

The second part of the questionnaire was structured to probe the respondent's experience and expectations of the use of the SWS from the onset of the preparation

phase, implementation phase to the post-implementation support. The questions probe the expected benefits the user had before implementation, the challenges experienced and the future expectations in relation to maritime trade and logistics linkage.

None of the questions uses the Likert scale type of ranking but rather give the respondent a choice to agree or disagree on some constructs while giving their comments on the choice of answer. Also, some questions, such as questions five and six, are open-ended providing the respondent the opportunity to explain their views and experiences.

Some follow up qualitative interviews were also administered for purposes of clarification where necessary. A literature analysis was also used to review works of authors on the subject matter as well as data available from the case study of the KNESWS project implementation.

4.11 Data collection Procedure- Questionnaire

Data-collection procedures allow systematic collection of information about the objects of the study and about the settings in which they occur. In this study, data will be collected through online questionnaire administered via an online questionnaire platform tool called Type form.

The questionnaire was designed using a survey tool called Typeform and hosted online for a period of 30 days. Thereafter the results were automatically extracted into a spread sheet for analysis. A total of 53 valid responses were received and will be presented and discussed in Chapter five on research findings.

4.12 Data processing and analysis

Interpretational analysis approach is used to analyze the qualitative study data. Interpretational analysis is the process of examining qualitative study keenly in order to identify constructs, themes and patterns that can be used to describe and explain issues being studied (Gall, Borg, & Gall, 1996). The data collected is grouped thematically in order to analyze and present the findings in Chapter 5.

CHAPTER FIVE

DISCUSSION OF RESEARCH FINDINGS

Introduction

This chapter discusses the findings of the research work from an analysis of the questionnaires. The data collected is analyzed and presented in the form of graphs, charts, tables, text and figures.

5.1 Questionnaire Findings

The data gathered from the questionnaires will be presented using graphs and summary tables that explore the details of the responses in each category for each question.

5.2 Demographic Data

The graph below represents the distribution of respondents in each category of the Kenya SWS.

The respondents were drawn from the various groups of stakeholders that interact with the system as described below.

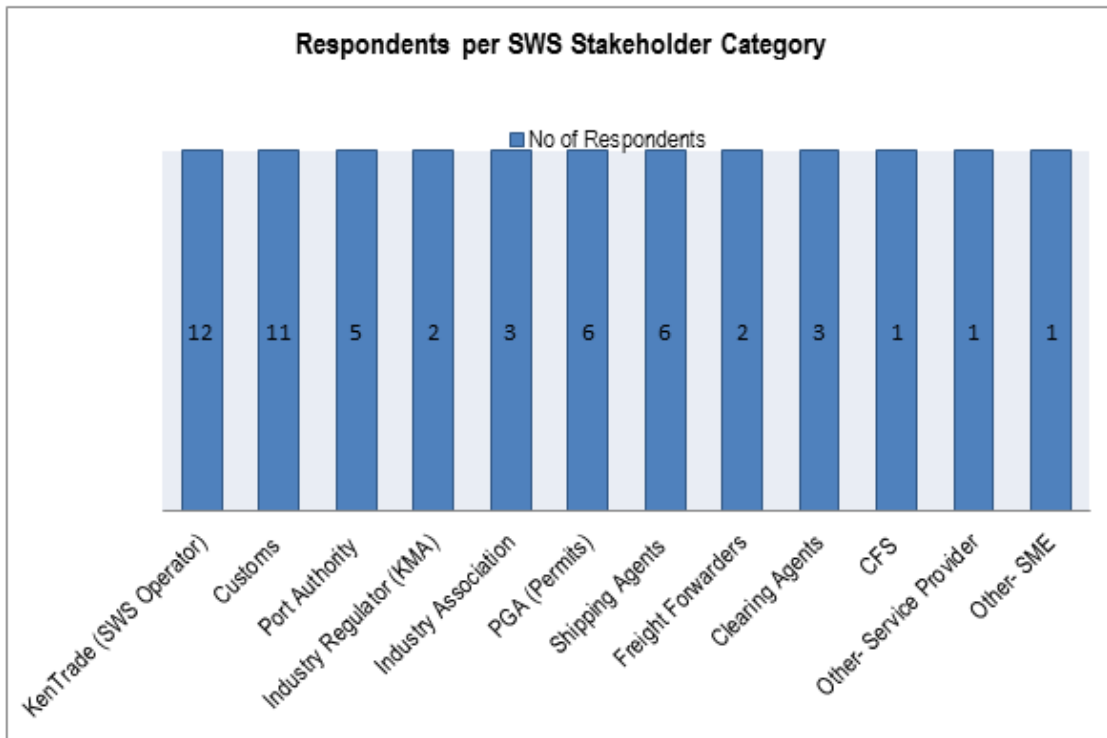


Figure 23: Demographic representation of SWS stakeholder respondents

KenTrade (TradeNet Operator)

Out of the 53 respondents, 12 respondents were from KenTrade which is the government agency in charge of operating the Kenya SWS. The respondents were drawn from various departments namely trade facilitation, ICT, legal, audit, customer service and call center. The respondents played a role in the implementation of the project and the day-to-day operation of the SWS. They have been involved in both pre and post-implementation phases of the Kenya TradeNet system with their interaction period ranging from two to five years. The respondents handle system support of the various modules of the system ranging from sea manifest, government permits, import declaration, bonds as well as customer service and technical support.

Customs – Kenya Revenue Authority

The Kenya Revenue Authority (KRA) is the Customs entity dealing in the approval of manifests, import declaration, bonds lodged via the KNESWS. Customs being a major stakeholder in the Kenya SWS implementation, the 11 respondents were drawn from the departments ICT, Projects, Manifest, Customer service, Import Declaration, and bonds. The respondents have been working with Customs both pre and post implementation of the SWS.

Port Authority – Kenya Ports Authority

The Kenya Ports Authority is a key stakeholder in the SWS as it was among the steering organizations that envisioned the creation of the Kenya SWS for simplification of processes for shipping industry stakeholders. The five port authority respondents included the project manager who handled the shipping module components, team leaders from ICD, container and containerized cargo departments responsible for the SWS data integration and harmonization. All the respondents have been working with the port authority prior and post SWS implementation.

Industry Regulator – Kenya Maritime Authority

The Kenya Maritime Authority is the industry regulator mandated to coordinate the shipping industry stakeholders as the enforcer of the single window memorandum of cooperation (MoC) among the port community service providers involved in the cargo clearance process in Kenya. The objective of the MoC is to foster cooperation on trade facilitation and define the service level agreements for all stakeholders of the SWS. The two KMA respondents are from the shipping department who oversee the MoC and the quality of service for the shipping stakeholders who use the SWS.

Industry Associations

Two key industry associations approached for the research are the Kenya Ship's Agents Association (KSAA) and the Kenya international Freight Forwarders Association (KIFFWA). The majority of the importers, exporters and shipping

stakeholders in Kenya are members of the associations. There was one respondent from KIFFWA and two respondents from KSAA

Partner Government Agencies – Permits Issuance

Six respondents came from agencies are the agencies that process and approve import and export permits, licenses and certificates via the SWS. These include

- 1 respondent from the Pharmacy and Positions Board
- 1 respondent from Port Health
- 1 respondent from Kenya Bureau of Standards
- 1 respondent from Kenya Plant Health Inspectorate Services
- 2 respondents from PGAs (anonymous did not state which permit issuing agency)

Shipping Agents

Six respondents from diverse shipping agencies that handle both containerized, non-containerized, bulk and loose cargo participated in the questionnaire.

Freight Forwarders

Two respondents were from freight forwarding firms. Freight forwarders organise shipments on behalf of manufacturers and are the linkage between shipping agents and traders.

Clearing Agents

Clearing agents are required to submit various Import/export documents to the PGAs for processing and approval in line with legal mandates of each of the PGAs involved in cargo clearance process. Three respondents took part in the questionnaire process.

Container Freight Stations

It is important to note the SWS recently rolled out the cut-off for the CFS processes into the SWS hence the expected threshold response was not as anticipated. One response was received from this category.

Service Provider

One respondent represented a global logistics service provider that has interacted with the SWS and handles the cargo clearance, pre-inspection and documentation process for both imports and exports.

Other- Subject Matter Expert

A researcher on Single Window Systems was approached and even though he has not used the Kenya SWS, he has published a number of scholarly articles in WCO journals and a book on single windows and trade facilitation. His insight was important in understanding the role of policy and legal framework in the establishment of SWS and benefits and challenges of SWS implementations.

5.3 Analysis of Questionnaire responses per question for each category

An analysis of each question is provided below

Question 1

Do you feel that there is a necessity for implementing the Kenya National Electronic Single Window System (SWS)? Why?

This question was overwhelmingly answered positively with 52 out of the 53 respondents agreeing that indeed there was a necessity for the implementation of the Kenya SWS.

The one respondent that had a divergent view cited the reason as lack of customs controlling the operation of the SWS. This therefore generally reflects that all stakeholders agree that the SWS implementation was necessary for all stakeholders for trade facilitation, efficiency, centralisation of trade statistics, elimination of cross-lodgement, transparency in the clearance process and harmonization of documentation and payments for cross-border trade by the government agencies involved.

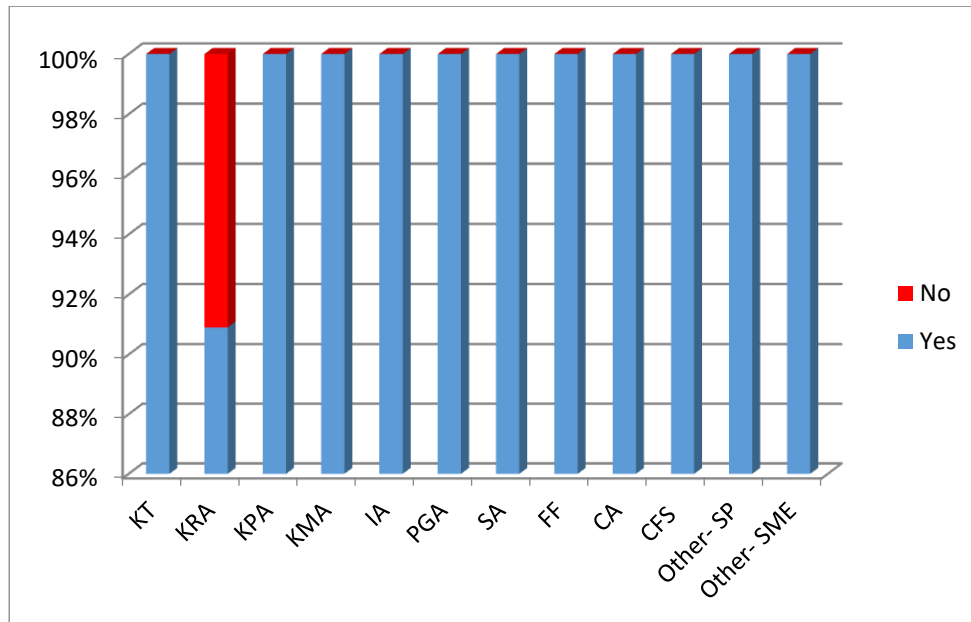


Figure 24: Need for implementing the Kenya SWS

For an in-depth analysis of the comments as to why the respondents felt the need for the implementation of the Kenya SWS, the table below represents a summary of views from the respondents per category.

Table 11: Summary of respondents' views per category for Question 1

STAKEHOLDER	COMMENTS
KenTrade (SWS Operator)	<ul style="list-style-type: none"> • Enables trade facilitation, transparency and efficiency in trade logistics • To streamline by bringing efficiency and transparency in cross border trade • International trade procedures have been uncoordinated resulting in high costs of doing business in Kenya, the SWS has streamlined the processes. • The SWS provides a single point of interaction between Government Agencies, Traders, Clearing Agents and Financial Institutions. This has greatly reduced processing time of documentation of consignments that are being imported, exported or transited through Kenya. • There is need to harmonize and share information and trade documents between government agencies and relevant stakeholders. • The SWS concept for trade facilitation is a proven model for reduction of clearance time hence enhancing trade while reducing time and money wastage
Customs	<ul style="list-style-type: none"> • Trade facilitation • Gathering information on nature of intended importations into Kenya. • Helps in projection of expected revenue to be realized. • To provide a single portal on which pre-clearance documents can be lodged • bring together all stakeholders involved in import trade and ensure trade, approval and communication is more efficient and done at the touch of a button • SWS has helped to make the clearance process faster and has eliminated duplication of roles • Ease of doing business for clients and enhancement of interaction between government agencies

Port Authority	<ul style="list-style-type: none"> • To provide single documentation lodgement platform for clients in cargo delivery • For smooth flow of documentation and cargo movement as well and to get rid of human intervention • The SWS provides a necessary platform for Importers and Exporters in the logistics chain for example by knowing the status of their consignments. • To simplify documentation process, clearance and reduce corruption • For uniformity and openness in documentation procedures
Industry Regulator (KMA)	<ul style="list-style-type: none"> • The single window platform will assist in elimination of unnecessary processes and duplication of documentation requirements. • Improved data collection for trade statistics. • Improved tax collection and trade trends analysis.
Industry Association	<ul style="list-style-type: none"> • Trade facilitation. • The SWS simplifies the process of lodging the manifest, clearance of cargo and integrates government agencies onto a single common platform • SWS was necessary to eliminate the tedious manual paper clearance process
PGA (Permits)	<ul style="list-style-type: none"> • For simplification and centralisation of the cargo clearance documentation process • To introduce transparency and accountability in government agency operations • To simplify the process of lodgement of documents by the trading community by avoiding multiplicity and cross-lodging of manual submissions across government agencies. • Facilitation of trade grows our economy hence improved quality of life for citizens • To reduce the costs associated with the cargo clearance process by eliminating inefficiencies

Shipping Agents	<ul style="list-style-type: none"> • Has enabled stakeholders to transact the business at a faster and transparent ground with minimal delays from all government agencies. • Reduced the number of hard copies of cargo documentation and physical movement between government offices • Standardisation of documents formats has improved efficiency and reduced errors. • Unifying business processes management systems is unavoidable for anybody seeking efficiency. Kenya and indeed the entire East Africa region stands to benefit greatly from the SWS implementation • For cost reduction and efficiency in the cargo clearance process and the logistics supply chain
Freight Forwarders	<ul style="list-style-type: none"> • Single sign-on through SWS has made transactions much easier , reduced documentation errors and resulted in greater efficiency • SWS has resulted in timely approval of documents by government agencies due to transparency and audit trails • Reduced human interaction amongst clients and government officers has led to minimization of corruption incidences
Clearing Agents	<ul style="list-style-type: none"> • To facilitate faster clearance of cargo and also to bring efficiency in the industry • For the simplification and automation of the cargo clearance documentation process • We need an online and quick responsive site for us to provide quick and efficient service to our clients.
CFS	<ul style="list-style-type: none"> • The SWS has resulted in the streamlining of the cargo clearance documentation process resulting in faster processing of documents.
Other-Service Provider	<ul style="list-style-type: none"> • For trade facilitation and document processing on a single platform enhancing transparency and quicker timelines
Other- SME	<ul style="list-style-type: none"> • Kenya needed to make its cross-border transactions more efficient to reduce trade transaction costs caused by inefficient, repetitive manual processing of international trade documents and cross-border trade information. On a broader outlook these inefficiencies were limiting the country's development potential.

Question 2

Has the establishment of the Kenya National Electronic Single Window System (SWS) led to the simplification in the lodging of preclearance trade documents? Please select one and provide your comments.

This question was overwhelmingly answered positively with 48 out of the 53 respondents agreeing that the SWS has simplified the lodging of pre-clearance trade documents.

The five respondents that had divergent views gave opinions based on their activities in the documentation process. The table below shows the reasons for the respondents that answered No to this question.

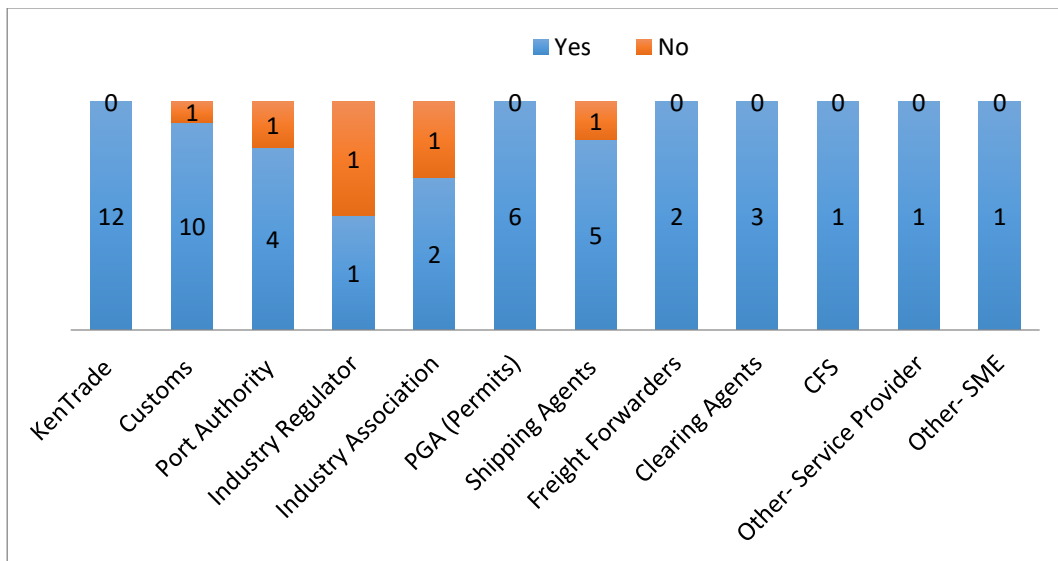


Figure 25: Graphical representation of stakeholder views on whether the Kenya SWS has simplified the process of lodging pre-clearance trade documents.

Table 12 : Summary of respondents' views per category for NO responses for Question 2

Stakeholder Category	Indicated No, Reasons stated by the respondent
Customs	<ul style="list-style-type: none"> <li data-bbox="618 474 1247 537">• I am not aware because of my position in the chain.
Port Authority	<ul style="list-style-type: none"> <li data-bbox="618 579 1179 642">• Some stakeholders still do their own documentation and payment processes
Industry Regulator	<ul style="list-style-type: none"> <li data-bbox="618 684 1317 779">• There is still a need to harmonize several customs procedures that will facilitate lodging of clearance documents prior to arrival of the vessel
Industry Association	<ul style="list-style-type: none"> <li data-bbox="618 825 1195 856">• Preclearance is yet to be fully embraced.
Shipping Agents	<ul style="list-style-type: none"> <li data-bbox="618 926 1308 1062">• Cannot comment as yet as for shipping agent we have not quite experienced preclearance. We are still submitting manifest as per the deadline that was before we started using KESWS.

Question 3

Has the SWS eliminated the duplication of data by providing a centralized portal for lodging of preclearance trade documents to the respective government agencies and regulatory bodies?

Graph Legend

Stakeholder Code	Full Name
KT	KenTrade
KRA	Customs
KPA	Port Authority
KMA	Industry Regulator
IA	Industry Associations
PGA	Partner Government Agencies (Permits Issuance)
SA	Shipping Agents
FF	Freight Forwarders
CA	Clearing Agents
CFS	Container Freight Station
Other -SP	Service Provider
Other- SME	Subject Matter Expert

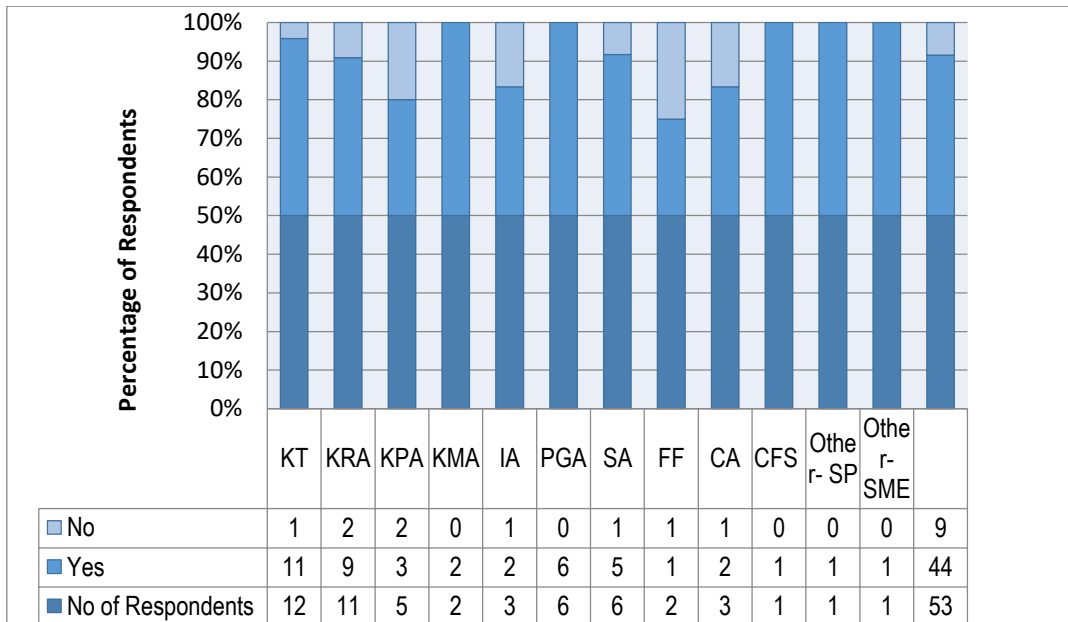


Figure 26: Has the SWS has eliminated of data duplication

This question was basically answered positively by 44 respondents with the remaining 9 respondents disagreeing to some extent because of the pending modules that are awaiting finalization through system integrations or business process re-engineering.

A comprehensive summary of the respondents views are presented in the tables below.

Table 13: Summary of positive respondent views on elimination of data duplication by the SWS

Stakeholder Category	Indicated Yes, Reasons stated by the respondent
KenTrade	<ul style="list-style-type: none"> • Centralized lodging of documents has completely eliminated duplication • Information is only provided once and is readily available to all agencies. • Single sign-on allows data to be disseminated to all PGA • All documents can be tracked at any time
Customs	<ul style="list-style-type: none"> • Documents attached are available to be viewed by all agencies thus reducing the necessity of visiting office by office to deliver the same • It has helped expose parallel licensing bodies and reduce the wastage that parallel licensing was giving. • All the required documents can now be accessed in a single window • Elimination of duplicate permits and documents
Port Authority	<ul style="list-style-type: none"> • The flow of documents are faster and easier to keep track • Yes for users that had not implemented electronic platforms • Every government agency knows what they should do
Industry Regulator	<ul style="list-style-type: none"> • There is now sharing of information among all cargo clearance agencies

PGA (Permits Issuance)	<ul style="list-style-type: none"> • Duplication has been reduced and once all modules are implemented, PGAs will be able to share information • The system has enabled Information transfer from one application document to other corresponding applications (.i.e. cloning) The UCR link allows the viewing/printing of all permits and attachments. • It is much easier since everything is automated. • SWS has eliminated repetitive data entry and thus duplicates are eliminated.
Industry Associations	<ul style="list-style-type: none"> • By bringing the PGAs in a single portal duplication is eliminated.
Clearing Agents	<ul style="list-style-type: none"> • Users are able to clone and make new applications, for new IDF'S from the same exporter/ importer we copy and only amend the invoice date and number thus saving time.
Shipping Agents	<ul style="list-style-type: none"> • Manifest is registered electronically to KenTrade only and same information is Disseminated to other government agencies - common platform • A number is given once the preclearance documents are approved with nil duplication since the said document has been captured on the system • We no longer need to deal individually with all relevant authorities and government bodies. The SWS transmits all required information as required by different users in their required formats.

Table 14: Summary of contrasting respondent views on elimination of data duplication by the SWS

Stakeholder Category	Indicated No, Reasons stated by the respondent
KenTrade	<ul style="list-style-type: none"> • The system has achieved some levels but it has not really removed the duplicated roles by the various government agencies. This has been due to difficulties in changing or harmonizing the various legislation in place
Customs	<ul style="list-style-type: none"> • There is still duplication of data as other Government Agencies still maintain their systems and moreover KNESWS does not cover all pre-clearance documentation • Services like IDF should be manned by customs.
Port Authority	<ul style="list-style-type: none"> • SWS has not yet fully been rolled out and therefore full benefits are yet to be realized • Some documents are not processed through SWS
Shipping Agents	<ul style="list-style-type: none"> • Other government agencies seem not well familiarised with the objective of SWS or simply resisting

Question 4

Has the SWS improved your business processes?

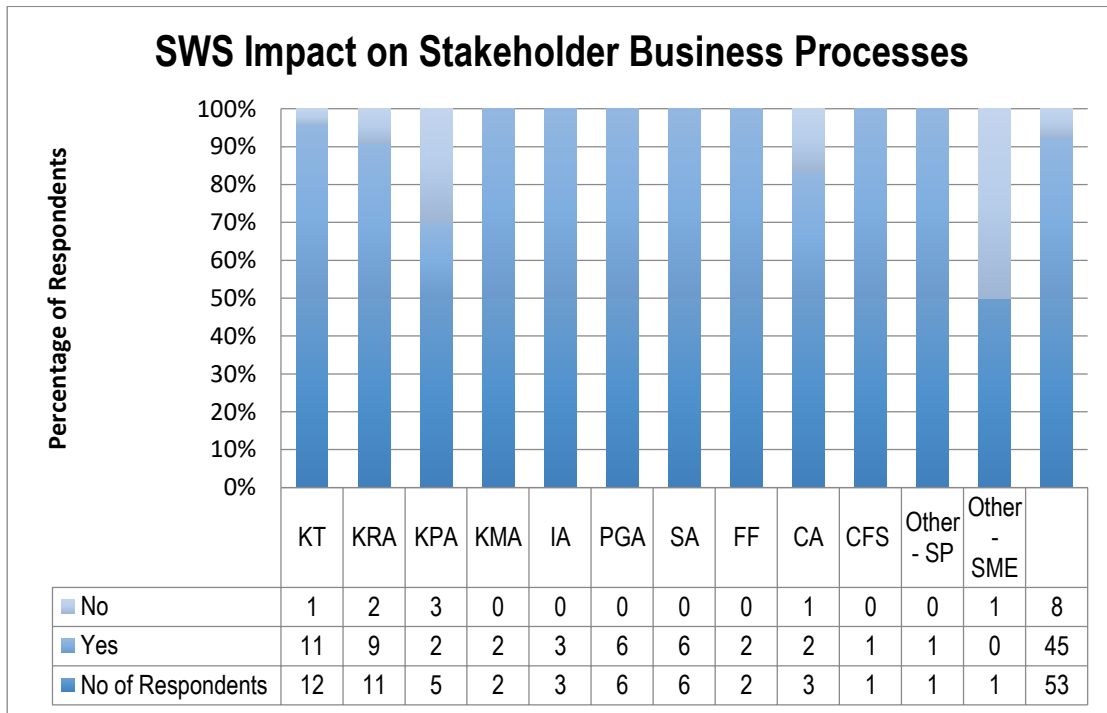


Figure 27: Has the SWS improved business processes for its stakeholders

This question enquires about the impact of streamlining processes relevant to the SWS that have an impact on the stakeholder’s part in the pre-clearance process. With the introduction of the SWS, some business processes were re-engineered so as to enhance the efficiency in the documentation procedures. 45 out of the 53 respondents have agreed that the SWS has positively improved their business processes with eight respondents recording contrasting opinions with the reasons ranging from loss of control over some processes to partial integration as summarized in the table below.

Table 15: Summary of views on if the SWS has resulted in improved business processes for its stakeholders

Stakeholder Category	Indicated Yes, Reasons stated by the respondent
KenTrade	<ul style="list-style-type: none"> • The number of processes has reduced for most of the government agencies. It has also been simplified by real time reflection of payments for import permits. • KNESWS has led to faster clearance of exports and imports.
Customs	<ul style="list-style-type: none"> • Processing documents is faster and authentication of import approvals is done by the respective government bodies online • I can view permits approved by the OGAs online through the system. Same to Invoices. This eliminates or reduces document falsification. • Clarity of the documents submitted and a clear audit trail is provided by the system
Port Authority	<ul style="list-style-type: none"> • Client is able to participate in the documentation process when declaring vessels arrival by creating the impending arrival record for the vessel and confirm other relevant details upon declaration • Kenya Ports Authority had already implemented electronic platforms in all areas of its operations and was already integrated with third party systems.
PGA (Permits Issuance)	<ul style="list-style-type: none"> • Improved processes in that officers are able to receive applications and this enables planning for inspections by officers • Business is now simplified and efficient as you can apply for imports/exports permits on your own even without going through the clearing agents and the process is simple to follow. • One can clear goods in a shorter time than before.

Industry Regulator	<ul style="list-style-type: none"> As a maritime regulator we are able to easily access information on the seaborne traffic from one platform
Industry Association	<ul style="list-style-type: none"> We as an association handle fewer customer complaints Time saving in downloading the manifest, easier, faster and more transparent processing of amendment and payment thereof.
Clearing Agents	<ul style="list-style-type: none"> The importer is fully involved when it comes to application of online permits and bond execution Processing of IDF applications is very fast. it takes hours or a day to pass an IDF
Shipping Agents	<ul style="list-style-type: none"> Since all parties have been integrated it is easy for all to get the information in a timely manner Has led to cutting down on the cost for printing hardcopy manifest.

Table 16: Summary of divergent views on if the SWS has resulted in improved business processes for its stakeholders

Stakeholder Category	Indicated No, Reasons stated by the respondent
Customs	<ul style="list-style-type: none"> Basically there is no significant improvement in clearance time since KNESWS project is not fully delivered
Port Authority	<ul style="list-style-type: none"> Key process like release messages is still pending. Shipping line DO is still being handled by KPA KPA had already implemented electronic platforms in all areas of its operations and was already integrated with third party systems.

Question 5

What benefits have you as a stakeholder accrued from the implementation of the SWS?

This question was answered positively as summarized below.

Table 17: Summary of views on benefits experienced from SWS implementation

STAKEHOLDER	COMMENTS
KenTrade (SWS Operator)	<ul style="list-style-type: none"> • Smaller PGAs with no individual platforms have found a solution via KNESWS shared platform
Customs	<ul style="list-style-type: none"> • Reduced human intervention in the processes, reduced probability of corruption, less errors in documentation
Port Authority	<ul style="list-style-type: none"> • It has increased the processing times in third party systems thus ensuring pre-clearance of cargo is achieved
Industry Regulator	<ul style="list-style-type: none"> • Reduction in cargo clearance time and logistics cost
Industry Association	<ul style="list-style-type: none"> • Operational efficiency • Reduced cost of doing business
PGA (Permits)	<ul style="list-style-type: none"> • Efficiency in service delivery as clients are able to receive notifications on real-time • Increased revenue that is collected electronically
Shipping Agents	<ul style="list-style-type: none"> • Smooth running of business with transparency
Freight Forwarders	<ul style="list-style-type: none"> • Reduced operation time in clearance process
Clearing Agents	<ul style="list-style-type: none"> • Engaging various govt. agencies through the system is beneficial due to a clear audit trail when faced with challenges, delays.
CFS	<ul style="list-style-type: none"> • Faster processing of manifest data, and no more typing errors.

Question 6

What are the possible shortcomings, of the SWS implementation and operationalization in relation to the contemporary maritime trade and logistics issues?

The table views below represents a summary of the key issues from the SWS implementation from the responses provided.

Table 18: Summary of views on benefits experienced per stakeholder from SWS implementation

STAKEHOLDER	COMMENTS
KenTrade (SWS Operator)	<ul style="list-style-type: none">• Lack of support from Government Agencies
Customs	<ul style="list-style-type: none">• The big challenge lies with the implementation approach in terms of procedures and processes
Port Authority	<ul style="list-style-type: none">• Lengthy period of time it has taken to fully roll out the SWS
Industry Regulator (KMA)	<ul style="list-style-type: none">• Collaboration among government agencies should be enhanced to avoid duplication of processes.
Industry Association	<ul style="list-style-type: none">• Shortcomings experienced at initial period only due to data errors (conformity), but now all is well.
PGA (Permits)	<ul style="list-style-type: none">• Challenges in establishing cooperation and commitment of various state authorities involved in import/export procedures
Shipping Agents	<ul style="list-style-type: none">• The setbacks would be natural resistance from the regional Ports and landlocked countries, KenTrade should ensure absolute seamless operation to avert this

Freight Forwarders	<ul style="list-style-type: none"> • Limitations in integration of stakeholder systems to KNESWS
Clearing Agents	<ul style="list-style-type: none"> • Stakeholder resistance to change

Question 7

Do you feel that the process of transitioning to the SWS was sufficiently well addressed?

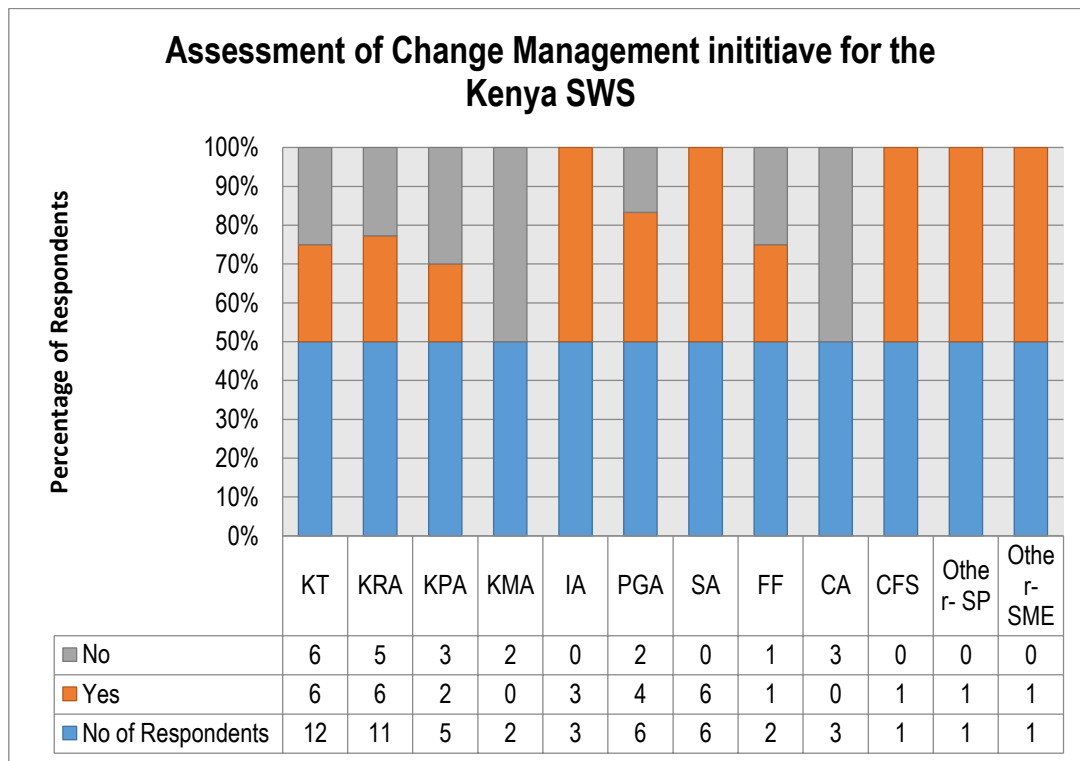


Figure 28: Sufficiency of change management initiative for SWS

This question focused on the change management process that was put in place at all stages of the SWS implementation. The respondents were given a chance to explain their views on the topic and an analysis shows that the answers depending on the role, operations, change of business processes and loss of functions some stakeholders

views were contrary to others. A summary of the respondents' views is presented in the table below.

Table 19: Summary of views on sufficiency of change management initiative for SWS

Stakeholder Category	Indicated Yes, Reasons stated by the respondent
Customs	<ul style="list-style-type: none"> • There was a lot of consultations and data collection through questionnaires on its viability • Necessary training was provided to key personnel and stakeholders • ORBUS and KESWS systems run hand in hand until KESWS was fully rolled out in its own time, thus the takeover. • There was proper and clear communication of start dates and no changes were allowed to set plans • A good attempt was made though it would have been better managed with enhanced communication to all stake holders without presenting the single window as a "you-have-no-choice" system.
Port Authority	<ul style="list-style-type: none"> • It was sufficiently addressed in the initial implementation i.e. IAR (Impending vessel arrival), BAPLIE and the manifest. The remaining modules became hard to implement due to the interconnectivity of processes and documentation e.g. the releases and entries (declaration). • There was a lot of resistance from stakeholders and the system took long to stabilise
PGA (Permits Issuance)	<ul style="list-style-type: none"> • For us it is still an on-going process. Transition management has been satisfactory. • though awareness should continue as still there those who still are resistant or don't know about the SWS • The change has enhanced trade processes and minimised corruption practices among officers

Industry Association	<ul style="list-style-type: none"> • Stakeholders were involved from the initial stage and rolling out the modules in phases. • The KenTrade team made wide consultations with all the service providers with the view to understanding their current systems and their requirements prior implementation. Additionally, they conducted many stakeholders review meetings as the implementation progressed. This facilitated successful transitioning to the system.
Shipping Agents	<ul style="list-style-type: none"> • Stakeholders were informed, enough seminars on what the SWS would entail were held followed by official training. Thereafter ample time was provided on the training on SWS followed by the piloting and official launch. • User training was well done • It was as its time taking and we appreciate the time taken by KenTrade • Very consultative and inclusive. We particularly laud their follow ups to our premises whenever there were issues.

Table 20: Summary of views from respondents on change management

Stakeholder Category	Indicated No, Reasons stated by the respondent
Customs	<ul style="list-style-type: none"> • Political directives superseded proper planning and proper project management practices. • There are users who can develop their system which suits their operations like customs.
Port Authority	<ul style="list-style-type: none"> • More technical aspects need to be scrutinized for proper integral of the systems and addressing the pertinent issues of interfacing the various systems • Automation of some of the processes could have been better managed e.g. shipping lines lodging manifests on SWS, transmitted to the Revenue Authority for approval, approval sent back to SWS for transmission to port authority was not the most efficient method • there was a lot of resistance from stakeholders and the system took long to stabilise
PGA (Permits Issuance)	<ul style="list-style-type: none"> • Resistance from other stakeholders
Industry Regulator	<ul style="list-style-type: none"> • More knowledge was required by the stakeholders before shift into the system. • regulatory framework should be enhanced

Question 8

Do you think that the implementation of the Kenya SWS has an impact on the regional trade and logistics linkage? Please select one and provide any comments

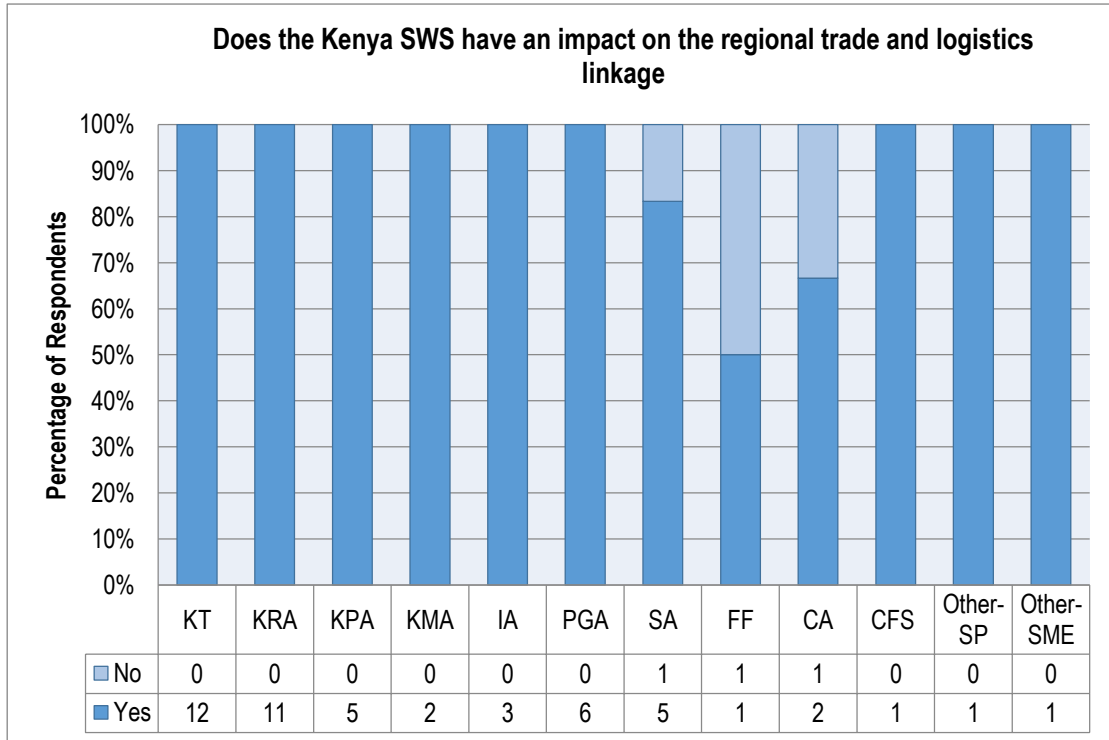


Figure 29: Impact of the SWS on regional trade and logistics

50 out of the 53 respondents agree that due to Kenya’s strategic location and as a transit port for other EAC countries, the KNESWS has an impact on the regional trade and logistics linkage. The respondents noted the investment by Kenya in the infrastructure and the regional integration as the key reasons as to why they felt that the SWS will indeed impact on the regional trade. The three respondents with divergent opinions stated main reason as the fact that the EAC countries are still not using the SWS or lack of integration of their systems with the Kenya SWS as summarized by the table below.

Table 21: Summary of divergent views on linkage of the Kenya SWS to regional trade and logistics

Stakeholder Category	Indicated No, Reasons stated by the respondent
Freight Forwarder	<ul style="list-style-type: none"> All other Countries in EAC are still on their old system and interaction isn't as probably designed to operate with the SWS.
Clearing Agent	<ul style="list-style-type: none"> It is difficult to comment as we have not tried to focus the impact on regional trade and know whether it has made any change.
Shipping Agents	<ul style="list-style-type: none"> Our understanding is KNESWS is not yet used by the whole region.

Table 22: Summary of positive views on linkage of the Kenya SWS to regional trade and logistics

Stakeholder Category	Indicated Yes, Reasons stated by the respondent
Customs	<ul style="list-style-type: none"> Convergence of technology is the way to go and the starting point is a single view of trade and the answer lies in the Single Window Systems The KNESWS goes in line with the vision 2030. Goods can be able to be monitored by the clients within the East African Community States. The SWS will fasten regional integration

Port Authority	<ul style="list-style-type: none"> • SWS will result in faster movement of cargo and processing of documents • The implementation brought users into one platform and a single transacting system thus made an impact to the regional trade. This was before the Single Customs Territory and it will be prudent that it also captures the spirit of the regional SWS. • The marked improvement in faster documentation, cargo clearing and movement has improved business all round and customer satisfaction is high.
PGA (Permits Issuance)	<ul style="list-style-type: none"> • If the service level agreements (SLA's) between clients & PGA's are fully honoured. Operationalization of Authorised Economic Operators (AEO's) concepts implemented, regional trade will greatly improve and regional logistic linkages greatly enhanced.
Industry Regulator	<ul style="list-style-type: none"> • Yes it has but there is a need for other regional countries also establish similar platforms which will facilitate trade and implementation of the single customs territory
Industry Association	<ul style="list-style-type: none"> • Simplified and faster processing of docs means faster cargo deliveries to the importers and there reduced cost of doing business. Improved regional competitiveness for Kenya products.
Shipping Agents	<ul style="list-style-type: none"> • It has an impact on the regional trade as clients can track their cargo and do all documentation processes through SWS. On logistics linkage clients can plan their cargo movement well in advance and arrive on time without delays. • Yes Kenya being one of the preferred transit destination it has made Kenya to monitor and curb diversion of transit cargoes
Freight Forwarders	<ul style="list-style-type: none"> • The SWS has improved efficiencies basically on time which is a key indicator. • Traders have been relieved from enormous storage charges due to lesser time taken in cargo clearance, this has translated into profits.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This research analyzed the impact of trade facilitation on the shipping and logistics sector in Kenya through the evaluation of the impact of the use of the single window system on key trade stakeholders. The study further sought to investigate the role that the establishment of the SWS has played in improving the efficiency of the stakeholders operations in the cargo clearance process by analyzing the benefits and challenges the stakeholders have experienced from the onset of the SWS roll-out.

The research therefore sought answers to the following questions

1. Has the implementation of a single window system improved efficiency in the shipping and logistics processes in Kenya?
2. Is trade facilitation a determinant factor in improving the efficiency of the shipping logistics process in Kenya and the EAC region?
3. What role does change management play in the impact of the SWS implementation and operationalization process?
4. What are the critical success factors vital to the successful implementation of the SWS?

Based on the research questions, different categories of SWS stakeholders were identified to take part in an online questionnaire survey to evaluate their SWS experiences based on identified key issues which are categorized as the CSFs for successful implementation of SWS. The empirical findings are presented in chapter five with a summary of findings for each question presented per stakeholder category.

The findings confirm that the identified CSFs for SWS are critical for the successful implementation and operations of stakeholders. The establishment of SWS is highly dependent on the policy and regulatory frameworks in place relating to international trade and customs. The policy frameworks will determine the technical operations of the SWS and financial model needed to sustain the SWS operating agency.

Change management is also highlighted as one of the most critical factors that need to be addressed from the initial stages during the pre-implementation process. It is therefore vital that all SWS stakeholders are involved in the all the stages of the SWS processes to have ownership and buy-in of the system.

From the research findings, the evaluation of all stakeholder business processes during the pre-readiness survey and post implementation can establish redundant processes that will be ideal for business re-engineering as well as organizational structure realignments that may occur as a result of the BPR changes. Due to the complexity and multi-stakeholder engagement of SWS, the BPR process should be prioritized and done with the full engagement of all stakeholders as most of the trade documentation processes are interdependent on each other. The use of a project management approach is also identified as one of the ways to efficiently manage SWS implementations taking into account the technological aspects of SWS as well as resource management for all project aspects –human resources, technical and financial.

This survey shows that although the SWS provide a centralized portal for lodgement of trade pre-clearance documents and collection of the requisite duties and fees by government agencies. This therefore presents the SWS as ideal for collection of trade statistics nationally and regionally. The data can be used by governments for strategic planning and improvement of national trade policies. The SWS also provides transparency on the pre-clearance and documentation process for all stakeholders thereby reducing corruption and enhancing service delivery standards. The use of SLAs among government and private SWS stakeholders can be said to positively improve customer relationships through the definition of minimum acceptable service standards.

It should be noted that there are some processes which are not yet fully integrated into the SWS at present. For example, as shown in Table 5 some modules are being carried over the upcoming Integrated Customs Management System.

This gap is a consequence of the lack of comprehensive SWS planning, regulatory and implementation framework. This has caused a replication of processes between KenTrade and Customs.

6.1 Observed Challenges on the Policy Framework for the KNESWS Operations

The absence of a concrete legal framework guiding the implementation of the SWS and comprehensively covering the trade facilitation agenda has been an impediment to the mandate of KenTrade as a trade facilitation agency. The lack of a comprehensive SWS policy framework has hampered the centralisation of coordination among government departments, government agencies, industry regulators and key stakeholders of trade facilitation efforts such as the SWS by the lead agency. This can be tackled by the harmonization of the legal framework underlying the SWS operations and a coordinated effort from all government agencies within the trade sector.

The weak policy framework on SWS operations also affects the SWS operations by resulting in slow resolution of issues that require intervention of multiple agencies. To counter this it is recommended that a proposed inter-ministerial steering committee be established to offer an oversight role. The SWS operations have also been hampered by technical issues relating to the lack of technical capacity by some government agencies to use the system across the country due to slow internet connectivity and lack of ICT equipment. It is recommended that all government agencies whose operations are reflected on the SWS are supported to acquire internet and computer equipment especially for the PGAs at border points.

The illustrations below represent the relationships between the elements of SWS that form the legal framework for SWS. It is recommended that the alignments take place in line with UNESCAP's recommended structure below.

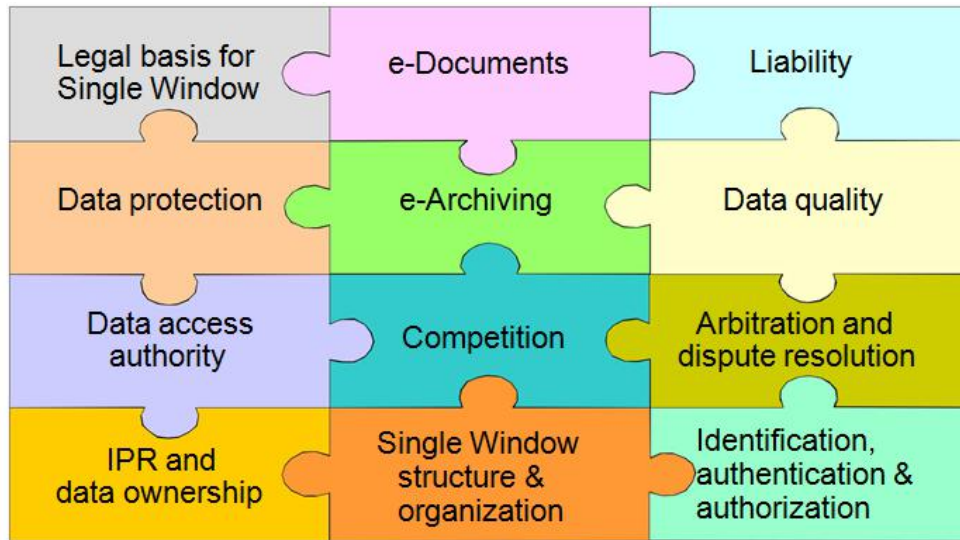


Figure 30: Enabling Legal Environment for SWS
Source: (UNESCAP 2015)

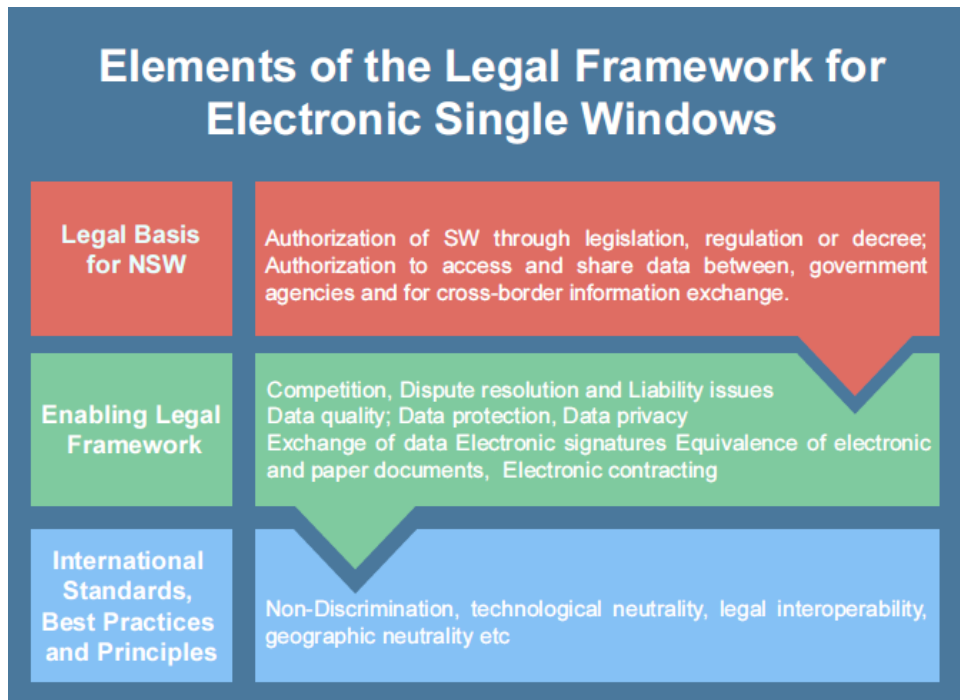


Figure 31: Elements of the Legal Framework for Electronic Single Window Systems
Source: (UNESCAP 2015)

6.2 Research Limitations and Opportunities for Future Research

The implementation and success of Kenya SWS implementation shows that the stabilization and maturity of national SWS is dependent on their national success which ultimately is expected to foster inter-regional trade cooperation especially for landlocked economies that rely on trade facilitation measures and efficient hinterland connectivity for the successful clearance of cargo destined to their countries. The success of national SWS can be used to develop regional SWS using either nation SWS integration or shared systems which can ultimately translate to efficient trade procedures. Most literature on the subject base the success of SWS to the establishment of a comprehensive legal basis since they require changes to customs procedures and structure and processes of other government agencies.

In conclusion, it is vital to align national trade policies and regulatory frameworks after ratification of international trade agreements to promote trade facilitation measures such as the SWS. Due to the limited scope and time for this research, further research work is required to explore the importance of policy and regulatory frameworks in the establishment and operations of single window systems as this has been identified as the key element for the success of single window systems.

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APPENDIX 1 QUESTIONNAIRE



Information Sheet for Participants

The Impact of Trade Facilitation on the Shipping & Logistics sector in Kenya – A Case Study of the Implementation of the Kenya National Electronic Single Window System

Introduction

This research is aimed at showing the value of trade facilitation tools to improve efficiency in the cargo clearance process in the shipping logistics chain. This is expected to enhance the ease of engaging in trade, which in turn affects Kenya's GDP. The implementation of single window system as a tool for trade facilitation is recommended by the UNCTAD and as part of the agenda for the implementation of the World Trade Organization (WTO) Trade Facilitation Agreement.

This research seeks your considered opinions and experiences in identifying the benefits and challenges experienced in the implementation of the Kenya National Election Single Window System.

Your participation in this research is welcome as completely voluntary, under the World Maritime University (WMU) research ethics guidelines.

Please carefully read the following sections.

Why am I doing this research?

This research is in partial fulfilment of the requirements for the award of the degree of Master of Science in Maritime Affairs specializing in Shipping Management and Logistics at WMU. It is anticipated that the research will provide useful information for the development and improvement of the trade process as well as the economy of Kenya.

What is the purpose of the research?

The purpose of the research is to analyze the impact of the implementation and operationalization of the single window system as a tool for trade facilitation in Kenya.

How will the study be conducted?

The research will be conducted using structured online surveys.

A small number of qualitative interviews may also be used to enhance understanding of underlying issues.

These interviews may be recorded if the participants give their consent

Who can take part in the research?

Stakeholders from several sectors of the economy, including shippers and freight forwarders, and government agencies involved in international trade in Kenya who have interacted with the Single Window System will be selected for the research.

What are the possible disadvantages or risks in taking part?

There are no known risks or disadvantages connected with this research since all interview questions and answers will be kept confidential and anonymous.

What are some of the research questions?

1. Do you feel that there is a necessity for implementing the Kenya National Electronic Single Window System (SWS)? Why?
2. Has the establishment of the Kenya National Electronic Single Window System (SWS) led to the simplification in the lodging of preclearance trade documents?
3. Has the SWS eliminated the duplication of data by providing a centralized portal for lodging of preclearance trade documents to the respective government agencies and regulatory bodies?
4. Has the SWS improved your business processes?
5. What benefits have you as a stakeholder accrued from the implementation of the SWS?
6. What are the possible shortcomings, of the SWS implementation and operationalization in relation to the contemporary maritime trade and logistics issues?
7. Do you feel that the process of transitioning to the SWS was sufficiently well addressed?
8. Do you think that the implementation of the Kenya SWS has an impact on the regional trade and logistics linkage?

Do I have to take part in this research?

Your participation in this research is completely voluntary and you can withdraw at any time even during the interview session without giving any reason.

Will my taking part in the study be kept confidential?

Yes, all the information you provide will be confidential and used for the purposes of this study only. No third party other than the researcher will have access to the data. The data will be collected and stored in accordance with the highest international standards for data protection. All data collected will be disposed of in a secure manner at the end of the research.

Thank you for taking time to read this information sheet.
Click the Start button below to begin the survey



- Name of respondent (Optional)
- Please confirm your email address
(Your email address will only be used for follow up question purposes if necessary)
- Organization Type
- If you selected Other, Please specify your organization category type

Question 1.

Do you feel that there is a necessity for implementing the Kenya National Electronic Single Window System (SWS)? Why?

- select
Yes
- Please provide comments on your choice above.

Question 2.

Has the establishment of the Kenya National Electronic Single Window System (SWS) led to the simplification in the lodging of preclearance trade documents? Please select one and provide your comments.

- select
Yes
- No
- Please explain your choice above.

Question 3.

Has the SWS eliminated the duplication of data by providing a centralised portal for lodging of preclearance trade documents to the respective government agencies and regulatory bodies?

- Select
Yes
- No
- Please explain your choice above.

Question 4.

Has the SWS improved your business processes?

- **Select**

Yes

No
- **Please explain your answer choice briefly**

Question 5.

What benefits have you as a stakeholder accrued from the implementation of the SWS?

N/A

Question 6.

What are the possible shortcomings, of the SWS implementation and operationalization in relation to the contemporary maritime trade and logistics issues?

Question 7.

Do you feel that the process of transitioning to the SWS was sufficiently well addressed?

- **select**
Yes

No
- **Please provide any comments.**

Question 8.

Do you think that the implementation of the Kenya SWS has an impact on the regional trade and logistics linkage? Please select one and provide any comments

- **select**
Yes

No
- **Please provide any comments.**