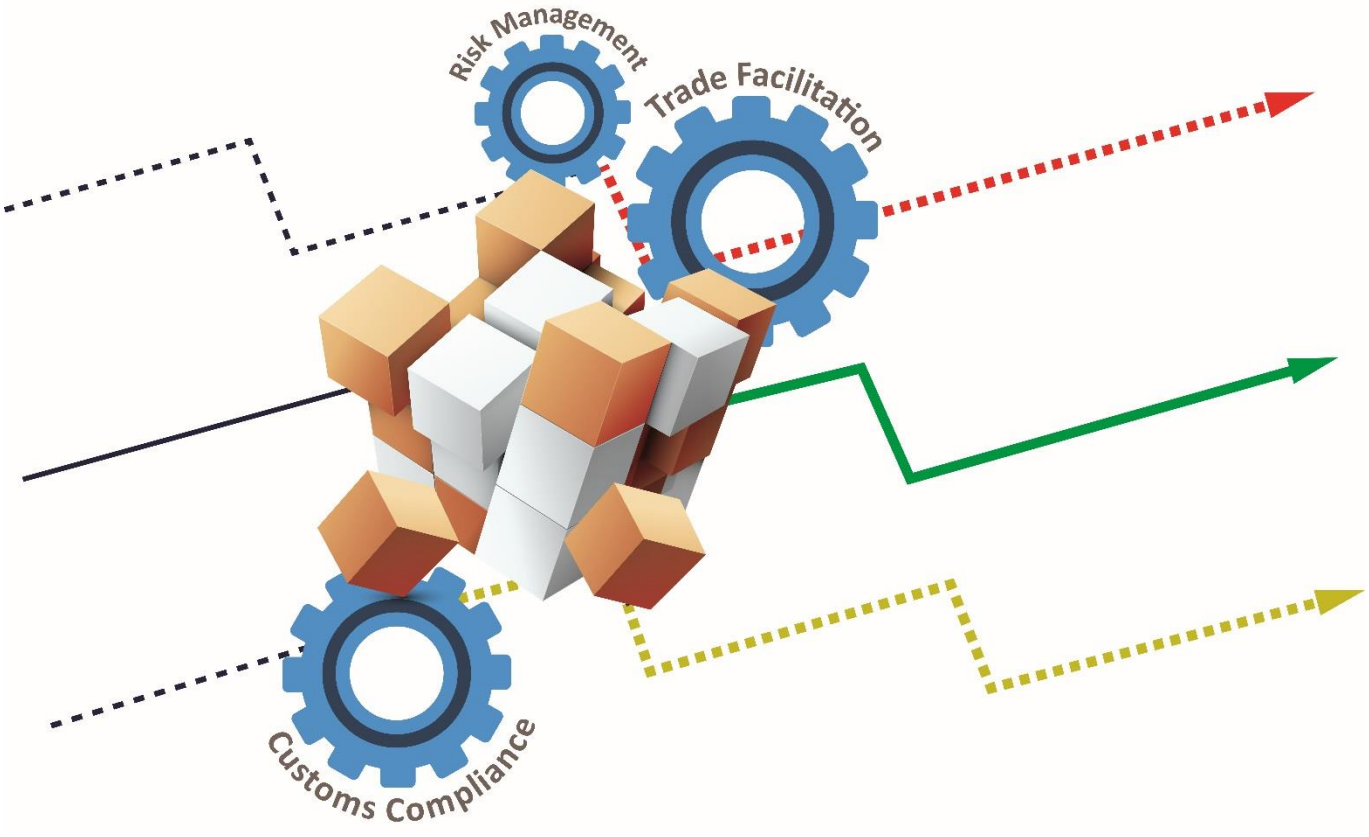
Standing Committee
for Economic and Commercial Cooperation
of the Organization of Islamic Cooperation (COMCEC)

COMCEC

# Facilitating Trade:
# Improving Customs Risk Management Systems
# In the OIC Member States




**COMCEC Coordination Office**

**February 2018**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**COMCEC Coordination Office**

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| | |
|---|---|
| ACD | Afghanistan Customs Department |
| ACDD | ASEAN Harmonized Customs Declaration Document |
| AEO | Authorized Economic Operator |
| AS/NZS | Australia Standards and Standards New Zealand |
| ASEAN | Association of Southeast Asian Nations |
| ASW | ASEAN Single Window |
| ASYCUDA | UNCTAD Automated System for Customs Data |
| ATA | Admission Temporaire/Temporary Admission |
| AW | ASYCUDA World |
| AWB | Air Waybill |
| B/L | Bill of Lading |
| BCP | Border Crossing Point |
| BI | Business Intelligence |
| BILGE | Turkish Customs Administration Computerized Customs Transaction |
| BPR | Business Process Reengineering |
| CA | Customs Administration |
| CAFAO | Customs and Fiscal Assistance Office |
| CCTV | Closed-circuit television |
| CD | Customs Declarations |
| CDPS | Customs Declaration Processing System |
| CEFTA | Central European Free Trade Agreement |
| CEN | Customs Enforcement Network |
| CENComm | Customs Enforcement Network Communication |
| CMAAA | Customs Mutual Administrative Assistance Agreements |
| CoO | Certificate of Origin |
| COoDep | Customs Office of Departure |
| COoEn | Customs Office of Entry |
| COoEx | Customs Office of Exit |
| CRM | Customs Risk Management |
| CRMF | European Union's Common Customs Risk Management Framework |
| CRMS | EU Common Customs Risk Management System |
| C-TPAT | Customs-Trade Partnership against Terrorism |
| DG AIDCO | Directorate General for International Cooperation and Development |
| DW | Data Warehouse |
| EDI | Electronic data interchange |
| ENS | Entry Summary Declaration |
| ESB | Enterprise Service Bus |
| ETI | World Economic Forum's Enabling Trade Index |
| EU | European Union |
| Fishbone analysis | Cause-and-effect analysis |
| FMEA | Failure mode effect analysis |
| GDP | Gross Domestic Product |
| HACCP | Hazard Analysis and Critical Control |
| HAZOP | Hazard and Operability Studies |

| | |
|---|---|
| HRM | Human resource management |
| HS | Harmonized System |
| IBM | Integrated Border Management |
| ICRM | Integrated Customs Risk Management System |
| ICS | Import Control System |
| ICT | Information and Communications Technology |
| INDIRA | Intercambio de Información de los Registros Aduaneros |
| ISO | International Organization for Standardization |
| IT | Information Technology |
| IU | Intelligence Unit |
| KC | Kosovo Customs |
| KPA | Key Performance Area |
| KPI | Key Performance Indicator |
| LE | Law Enforcement |
| LE IT System | Law Enforcement Information Technology System |
| LIO | local intelligence officer |
| MAA | Mutual Aid Agreement |
| MODSEL | Selectivity Module of the ASYCUDA |
| MoU | Memorandum of Understanding |
| nCEN | National Customs Enforcement Network |
| NCP | RILO National Contact Point |
| NCTS | New Computerized Transit System |
| OECD | Organization for Economic Co-operation and Development |
| OGA | Other Government Agencies |
| OIC | Organization of Islamic Cooperation |
| PAIS | Pre Arrival Information System |
| PCA | Post Clearance Audit |
| PCS | Port Community Systems |
| PESTLE | Political Economic Social Technical Legal Environmental |
| PI | Performance Indicator |
| RAU | Risk Analysis Unit |
| RDBMS | Relational Database Management System |
| RI | Risk Indicator |
| RILO | Regional Intelligence Liaison Office |
| RKC | WCO Revised Kyoto Convention |
| RMC | Risk Management Commission |
| RP | Risk Profile |
| RSS | Really Simple Syndication |
| SAD | Single Administrative Document |
| SECI | South-East Europe Cooperation Initiative |
| SEED | Systematic Electronic Exchange of Data |
| SELEC | Southeast European Law Enforcement Center |
| SEMS | South-East European Messaging System |
| SME | Small and medium-sized enterprises |
| SMS | Short Message Service |
| SOA | Service-Oriented Architecture |
| SOP | Standard Operating Procedure |

| | |
|---|---|
| SRMC | Strategic Risk Management Committee |
| SSTL | EU-China Smart and Secure Trade Lanes |
| SW | Single Window |
| SWIFT | Structure “What if?” |
| SWOT | Failure Mode & Effect Analysis |
| SYDONIA | Système DOuaNIer Automatisé |
| T1, T2 | Customs Transit Procedure |
| TCA | Turkish Customs Administration |
| TF | Trade Facilitation |
| TFI | Trade Facilitation Indicators |
| TIMS | Trade Information Management System |
| TIR | Transports Internationaux Routiers/International Road Transport |
| UN | United Nations |
| UNCTAD | United Nations Conference on Trade and Development |
| UNMIK | Customs Administration Mission in Kosovo |
| USAID | United States Agency for International Development |
| WCO | World Customs Organization |
| WCO SAFE | WCO Framework of Standard to Secure and Facilitate Global Trade |
| West AFRITAC | West Africa Regional Technical Assistance Centre |
| WTO | World Trade Organization |
| WTO TFA | WTO Trade Facilitation Agreement |
| XML | Extensible Markup Language |

## Executive Summary

The Study on Improving Customs Risk Management in the OIC Countries is the result of a research-based consultancy for the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC). The objective of the study is to document and analyses the state of implementation of customs risk management (CRM) in the OIC Member States (MS) to support the Member States' efforts to deepen and improve CRM.

Customs Risk Management (CRM) by definition of the World Customs Organization (WCO) is "the systematic application of management procedures and practices which provide Customs with the necessary information to address movements or consignments which present a risk."

The rationale for CRM lies in the evolution of CRM and has come from what is commonly known as the "gatekeeper style" of physically stopping all consignments to check all accompanying documentation, physically examine and tally all goods. Furthermore, important segment of the evolution of CRM is the analysis of the results to the advanced compliance-based approach of minimal physical interventions according to risk and high levels of self-assessed declarations and self-regulated supply chain security that are subject to compliance audit after the consignment has entered or departed the Customs territory. These modern applications are prevalent in the Authorized Economic Operator (AEO) programs.

Additional to reduced interventions, an important factor is the evolution of Customs Administrations with regards to their priorities for resource allocation and effort to fulfill traditional and emerging responsibilities to the government and the people. The progression from principally a revenue collector to one of principally border security can be used as a gauge of the progress of a nations system of taxation and its reliance on customs import revenue to support its budget for expenditure. The more progressed economies do not require their Customs Administrations to collect a large percentage of governments overall revenue. As the priorities and objectives change, so to do the risks. Risk Management is a tool to mitigate risks for achieving the Customs Administrations objectives.

Whilst attempting to analyze through the survey as many OIC Member States as possible, the final analysis was limited due to their partial participation or lack of any response. The final analysis was based on responses on the survey from 16 OIC MS and information publicly available.

The OIC member states evaluated are positioned at different stages on the timeline of CRM progression ranging from 29.8% having fully implemented CRM, 7% at an advanced stage, 43.9% at medium performance, 3.5% at the basic level, and 15.8% have no CRM.

As the analysis of the three global cases presents, the implementation of the CRM to the point where they are today has been a laborious task for all of those countries considered to be advanced in the concept. Constantly developing technologies and increased speeds and efficiencies of multi-modal transport dictate that whilst having achieved considerable levels of success, it is an approach that continues to develop and mature regardless of perceived or real levels of competence. The global nature of trade and the drivers of Trade Facilitation dictate a commitment to continuous improvement in all cross-border activities.

This study remotely examined the CRM systems of 3 non-OIC Member states, namely Australian, New Zealand and Kosovo Customs as global best examples. Whilst this approach only allowed for analysis of open source statistical data which represent the results of their CRM as opposed to obtaining more intimate knowledge of the mechanisms that make CRM work, it did provide the necessary evidence sought to establish the levels of interventions occurring and the subsequent risk tolerance for such high levels of non-intervention. In average, the rate of

physical intervention for these countries is 7.60%, and 3.40% success rate of physical inspection.

There is a correlation between full or higher levels of CRM implementation to lower rates of physical examinations and higher rankings on the World Bank Trading Across Border index. Turkey has a fully implemented CRM and reports physical interventions of 12.27% and has a trading across borders ranking of 70.

Nigeria provides a stark contradiction with an advanced stage CRM reported but red lane interventions at 81.22% and a trading across borders ranking of 181. According to the WB Doing Business Trading Across Borders 2017 data, the Republic of Albania is the best performer among the OIC MS and globally ranked on 65th place, but in WB LPI overall score is 2.41, ranked 117 out 160 countries.

In the context of economic development and CRM systems it is interesting to highlight that of the eight high-income OIC member countries, 7 of them have a fully implemented CRM and the 8th is in the advanced stage. Of the 16 low-income members, 2 have full CRM, 2 advanced, 10 had achieved medium level performance CRM and 2 had no CRM. As previously stated the path to full CRM implementation is long and arduous as well as expensive with highly developed technology and software used to assist customs administrations with their intelligence led risk profiling and constant monitoring and evaluation of feedback data for refining selectivity. The higher income countries can afford this investment where lower income countries are restricted to cheaper and less sophisticated systems such as ASYCUDA or have no system at all.

However, there are many other challenges that are not brought about just by the absence of budget support or investment. The following key areas for attention by policy makers and the executives of OIC Customs Administrations will assist with their CRM progress to full implementation as follows:

- Legal, strategic and other mechanism supporting CRM system – Ensure that Customs Laws and other allied legislation is aligned with a variety of international standards such as the Revised Kyoto Conventions and E-commerce and Cyber Security laws so that interagency and international information and data exchange can occur as well as Customs to Trade Cooperation and partnerships existing in the form of trade facilitation mechanisms such as the Authorized Economic Operator concept.
- Organization and management – Ensure that the framework for CRM to function as a technical component of the Customs Administration is in place with a CRM Steering Committee overseeing a CRM Department that integrates intelligence, investigations, compliance and monitoring analysts to support the day to day customs field operations as well as strategic and tactical responses. Implementation of appropriate Human Resource policy and training as well as the Risk Management Cycle is imperative for management as per the following paragraph.
- Risk Management Cycle – Clear policy direction and application of a methodology that identifies, analyses, evaluates and prioritizes the risks so that decisions on how best to mitigate those risks with resources can be made. Strategic decisions to accept risks that cannot be mitigated on a regular or constant basis are also made.
- Monitor and Review – A concerted effort to monitor and review the application and effectiveness of the CRM on a constant basis so that risk targeting parameters can be adjusted and more efficient interventions planned and executed in a timely manner.

- Enhanced Use of Technology – Appropriate use of technology in the form of infrastructure for non-intrusive examinations and monitoring and surveillance. Software solutions for data integration, warehousing, business intelligence and data mining. Sophisticated risk assessment and targeting software to ensure multiple numbers of risk criteria can be sifted to select the highest risk consignments. Data and Statistical analysis software for profile performance monitoring and feedback to the maximum extent to support the CRM.

# 1 Introduction

Customs risk management (CRM) is of great importance for developing appropriate techniques for systematic risk identification and implementation of all measures needed to facilitate legitimate trade, to limit exposure to risk, to implement strategies in accordance with the relevant legislation, analyzing and assessing risks, determine action and monitoring outcomes to facilitate, improve and streamline control procedures.

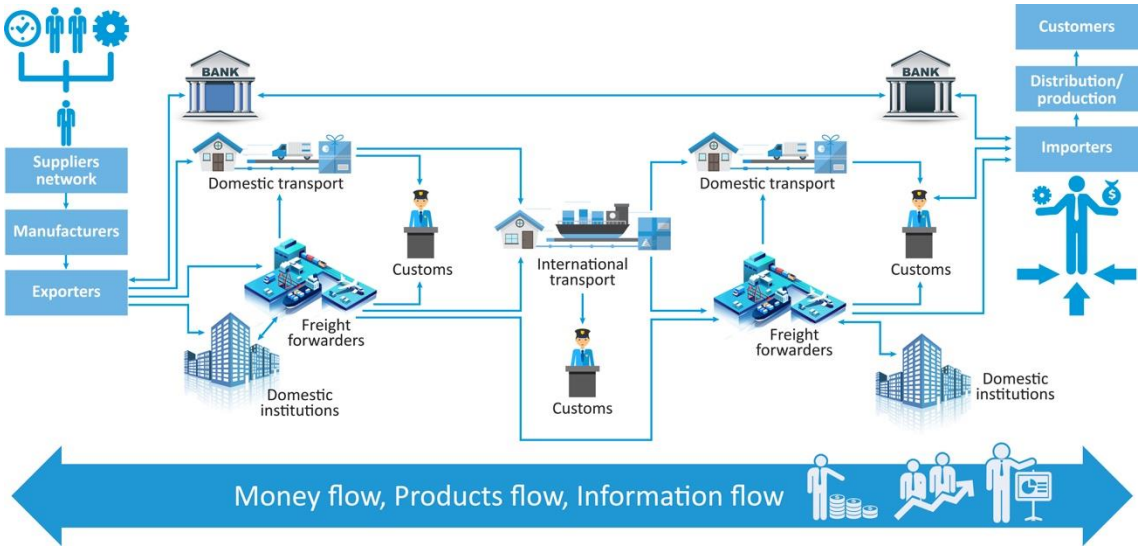
An effective CRM can reduce the time and costs in supply chain management, both for the traders and their customers, increase delivery of products and services, and improve CAs efficiency. Many unexpected and unpredictable disruptions add to the risks of a supply chain, and the risk has, thus, become the new norm in supply chain operations. Having in mind that there are many entities along the supply chain, it becomes clear that, in the global trade, the Customs Administrations have a significant influence on the supply chain efficiency and effectiveness (Figure 1).

Customs is one of the main postulates of the Trade Facilitation (TF) concept. The TF is the simplification, harmonization, standardization, and modernization of trade procedures. It seeks to reduce trade transaction costs at the interface between business and government and is an agenda item within many customs related activities. So, governments, but also international organizations include this concept as one of the top priority for full implementation. The World Trade Organization (WTO) have added Trade Facilitation Agreement[1] where in Article 7, point 4 the customs risk management is highlighted as an important part of trade facilitation process. With this agreement, member states shall adopt or maintain a risk management system for customs control because the Customs Administrations (CAs) are in the middle of the supply chain process.

The ways that traders are experiencing customs services are changing. On the one hand, there are traders expecting service simplification and quick flow of goods across the borders, use of web-based interfaces and easy access to the government services. On the other hand, the Customs are operating in competitive surroundings: the globalization, the wide use of Information and Communication Technology (ICT), the increasing knowledge in the trade and the processes which follow those trends, are forcing the Customs to change and take steps to catch up with traders in the provision of services. Indeed, they have realized the need, and they are making constant efforts to respond to challenges and requirements for introduction of electronic public services. Most of these significant attempts are not delivering the expected benefits in the form of costs and goods flow time, neither for the Customs nor the traders. According to the World Bank Doing Business report[2] many countries still have a significant amount of time and costs required for border and documentary compliance. Many studies report the impact of the Customs regarding reduction of costs and time, namely reduction of clearance time, increasing compliance and reduction of a number of documents required. CAs performs time release study based on WCO Time Release Study (TRS) from the clearance process or port dwell time using their data. This facilitates Customs to identify both the problem areas and potential corrective actions to increase their efficiency. The use of automation and other sophisticated selectivity methods can allow CAs to improve compliance and deliver the expected trade facilitation objectives.

[1] https://www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm
[2] http://www.doingbusiness.org/data/exploretopics/trading-across-borders

**Figure 1: Global supply chain and the role of Customs Administrations**




*Author's compilation*

"The United Nations Conference on Trade and Development (UNCTAD) estimates that the average customs transaction involves 20-30 different parties, 40 documents, 200 data elements (30 of which are repeated at least 30 times) and the re-keying of 60-70% of all data at least once. With the lowering of tariffs across the globe, the cost of complying with customs formalities has been reported to exceed in many instances the cost of duties to be paid. In the modern business environment of just-in-time production and delivery, traders need a fast and predictable release of goods.[3]" It is clear that the OIC MS average is below the average from the World for trade costs and time regarding border and documentary compliance (see section 2 - Conceptual Framework).

## 1.1 The Methodology of the Study

The methodology used in this Study is conducted in following stages:

- **Desk research** was conducted a literature review, including a review of the relevant literature as well as the works, documents, and experience of relevant international and regional organizations. The objectives of the conducted desk research were to review trends in CRM experiences globally, locate and analyze CRM systems in three non-OIC countries to develop three case studies related to their CRM and develop lessons learned and critical success factors/challenges arising from the implementation of CRM in different countries.
- **Data collection and systematization** as the second stage of the methodology covered creation and dissemination of the survey to the OIC member states, but also collection, systematization and analyzing of the statistical data from internationally available databases as World Economic Forum's Enabling Trade Index (ETI); Organization for Economic Co-operation and Development's (OECD) Trade Facilitation Indicators (TFIs); World Bank Logistics performance index. The objective of the data collection and

[3] 9th WTO Ministerial Conference, Bali, 2013, Briefing note: Trade facilitation — Cutting "red tape" at the border, https://www.wto.org/english/thewto_e/minist_e/mc9_e/brief_tradfa_e.htm (last check: September, 2017)

systematization was to document the current status of CRM systems in the OIC countries and develop benchmarking criteria to compare global trends with OIC MS.

- **Data analysis** is the third stage of the conducted methodology of the study that includes analyzing by different statistical tools as descriptive statistics to compare different variables and correlation analysis to find the influence of different aspects of CRM development in OIC MS with trade costs, country rankings related to trade facilitation and Gross Domestic Product (GDP) per capita.
- **Field visit case studies**. This stage includes field visits to three countries from each geographic region of OIC conducting detailed face-to-face interviews with representatives from relevant departments in customs administration. The objectives of this stage are to identify the major steps that are necessary to achieve an efficient and effective CRM in these countries. The results from these case studies are used to draw a series of conclusions and recommendations to identify best practice and opportunities for further improvement of CRM across the OIC member states.

## 1.2 The Sections of the Study

The second chapter of the Study introduces the **Conceptual Framework** around the Customs Risk Management (CRM), its evolution and adaptation to the specific needs of CAs that operate in a dynamic international trading environment. It must be stated at this point that the design of the CRM conceptual framework requires the commitment simplifying processes of the senior customs management at the strategic level, which is a prerequisite for the successful operational and tactical application of any risk management. The Conceptual Framework considers the external and internal context in which the CRM activities are managed. The focus of this section is on the goals, objectives, strategies, scope, and parameters of the CRM. External factors, such as the legal, economic and cultural environment and internal factors, such as organization structures, objectives, strategies, and capabilities of the CRM are part of interest as well. The framework also explains the risk management policy such as alignment of the CRM objectives with any law enforcement strategies, the definition of roles and responsibilities, resource allocation and CRM performance measurement.

In the third section **Global Trends and Best Practices** are presented the global trends and practices related to the Customs Risk Management objectives, the organizational aspects, operational structure, and legislative reform necessary to enforce customs control. This section also includes the results from the analysis of empirical data related to trade costs compared with global averages, OIC MS average and different groups of countries that already have implemented different policy measures associated with CRM. In this chapter, three non-OIC cases are described, and the benchmark criteria are used for comparison with the global trends in OIC MS.

The fourth section of the Study describes the results from the analysis of the OIC Member States' CRM data and information collected. In this chapter the following analysis is presented:

- the stage of Implementation of CRM for Each OIC Member State according to responses from the survey and available data analyzed;
- comparative analysis of CRM related to the implementation status of CRM, post-clearance audit, collaboration with other Government's agencies;
- comparative study of CRM standards, international agreements, and membership in international organizations;
- CRM performances according to the economic development of the OIC MS, coverage of the CRM cycle; and

- Impact of the stages of implementation of CRM on trade costs and other variables.

The fifth section of the Study, OIC MS Case Study covers in-country assessments in three OIC Member Countries. For each regional group, one country is selected avoiding the OIC Member countries that are using ASYCUDA as CDPS. The selection was made for Turkey, Senegal, and Albania. For each OIC Case study are analyzed following things: various aspects of risk management implementation, organization of CRM, legal aspects of CRM, Risk Management Process, Human resource management, and Intelligence.

The last section of the Study, **Conclusions and Recommendations** is focusing on identified challenges related to legal aspects and strategy/policy support of CRM to ensure legal and strategic support of CRM, organization, and management. The focus is on the position of the CRM within the CA and managerial aspects, CRM cycle, and coverage of CRM cycle in OIC MS, monitoring, and review to measure the performances and ensure the quality of the CRM system and technology related to the support of the technology to the CRM in OIC MS.

# 2 Conceptual Framework

Customs reform is a central aspect of trade facilitation: The modernization of customs practices supports improving regulatory enforcement, increasing revenue collection whilst facilitating trade. The automation of customs procedures and single-window approaches has drastically improved process performance and reduced time and costs for traders. Risk management is another element of modern customs practices that contribute both to increasing the effectiveness of customs control and simplifying formalities and procedures for trade. Governments worldwide increasingly use risk-based compliance management for Customs and other purposes such as food safety.

Risk management as a conceptual approach for customs control is not a new concept as such. The use of IT has evolved in the past years due to increased IT abilities to support risk management.

## 2.1 Customs Risk Management Framework (CRMF)

### 2.1.1 Definition

According to the WCO Risk Management Guide, **customs risk** *"is the potential for non-compliance with Customs laws."* Anything that prevents a CA from achieving its objectives would be considered the main risk. Because a risk also takes into consideration the consequences of specific events, it needs to be differentiated from uncertainty:

- *Uncertainty* is the lack of complete certainty, that is, the existence of more than one possibility. The "true" outcome/state/ result/value are not known. Measurement of uncertainty is a set of probabilities assigned to a set of possibilities. For example, - There is a 70% chance this trader will be non-compliant with the customs procedures next year, and 30% chance it will be compliant in the same period.
- *The risk* is a state of uncertainty where some of the possibilities involve a loss, catastrophe, or another undesirable outcome. Measurement of Risk is a set of possibilities each with quantified probabilities and quantified losses. For example, there is a 60% chance the trader to use double invoices to avoid customs duties of $1 million in next three years.

Hence, the two essential risk elements are: (1) the probability that something will happen and (2) the consequences if it happens. Both elements define the importance of specific risk for an organization such as customs administrations. The importance of the risk and associated risk level are the highest if the probability of an event to happen, and the negative consequences of this event are both high.

**Customs Risk Management (CRM)**, according to the WCO Risk Management Guide, is the systematic application of management procedures and practices which provide Customs with the necessary information to address movements or consignments which present a risk. The CRM is a means of CAs to improve trade facilitation processes by replacing full physical examinations of documents and shipments with planned and targeted working method determining the level and type of inspections. The objective of CRM is the effective selection of high - risk shipments and traders for control while allowing lower or risk-free trade to pass freely and with minimum waiting times.

### 2.1.2 Types of Customs Risk

CAs objectives continuously evolve, including the primary role of revenue collection and other objectives such as protection of public health, environmental protection, consumer protection,

etc. Trade facilitation has been added to Customs objectives in recent years, and CAs are increasingly taking over security role such as underpinning the WCO SAFE framework of standards. CAs has two primary roles: revenue collection and security of their citizens related to health, environment, products consumption, intellectual property rights, etc.

The variety of risks CAs is managing evolves accordingly. Table 1 provides an overview of types of customs risks in five distinctive areas from revenue collection, public health, environmental protection, fight against terrorism and fair competition.

**Table 1: Origin of risks for different customs objectives**

| | Revenue Collection | Public Health | Environmental Protection | Fight Against Terrorism | Fair Competition |
|---|---|---|---|---|---|
| Non-declared goods | ✔ | ✔ | ✔ | | ✔ |
| Proper Tariff Classification | ✔ | ✔ | ✔ | | ✔ |
| Proper Valuation | ✔ | | | | ✔ |
| Proper Country of Origin | ✔ | | | | ✔ |
| Trade Policy Measures | | ✔ | ✔ | ✔ | |
| Proper Customs Procedures | ✔ | ✔ | ✔ | | |
| Intellectual Property Rights (IPR) | | ✔ | | | ✔ |
| Trade Agreements Compliance | ✔ | | | | ✔ |
| Money Laundering | | | | ✔ | |
| Environmental Crime | | ✔ | ✔ | | |
| Smuggling | | | | | |
| Drugs and Precursors | | ✔ | | | |
| Weapons of Mass Destruction | | ✔ | ✔ | ✔ | |
| Firearms | | ✔ | | ✔ | |
| CITES | | | ✔ | | |
| Nuclear and Radioactive Materials | | ✔ | | ✔ | |
| High Customs Duty Goods | ✔ | ✔ | ✔ | | |

*Author's compilation*

### 2.1.3 Sources of Information for CRM

A risk-based approach relies on the collection, evaluation, and analysis of information in different forms, of different types, and from different sources. Information supports decision making at the different levels of a CRM approach[4]: information is evaluated at strategic, tactical and operational level. Table 2 shows the evaluation of the information on the strategic, tactical and operational level.

[4] Bocij P., Greasley A.: Business Information Systems: Technology, Development and Management for the e-Business, 3nd Edition, Pearson education Limited, 2006, page 19-20.

**Table 2: Evaluation of the Information on the Strategic, Tactical and Operational levels**

| Management Level | Time Period | Frequency | Source | Certainty | Area | Scope |
|---|---|---|---|---|---|---|
| Strategic | Long-term | Low | Mostly External | Less Certain | Broad | Summarized |
| Tactical | Midterm | Medium Ad hock | Internal/ External | Medium Certainty | Specific | Detailed |
| Operational | Short-term | High | Mostly Internal | More Certain | Specific | Detailed |

*Source: Authors compilation based on Bocij P., Greasley A.: Business Information Systems: Technology, Development and Management for the e-Business*

The WCO Risk Management Compendium (Volume 2) describes the following sources of data that are internal to a CA: seizure reports; strategic, tactical, operational reports of other Customs administrations; intelligence data; information exchange with other Customs Administrations; risk signals from Customs officers and other law enforcement personnel; cooperation or interviews with other knowledgeable people from the import and transportation trade, e.g. Customs brokers, cargo agents, warehouse personnel, etc., transport documents such as manifests, airway bills, etc., available national Customs (or other law enforcement agencies) databases, signals and alerts.

It's now common to divide sources of information two different types: external and internal information. The information used in CRM can also be categorized as primary and secondary sources of information. The primary source of information includes interviews, reports and other first-hand information[5]. Secondary sources of information are publicly available information, whether they are coming from within the organization or from the outside that provides:

- Internal search for multiple types of information such as databases, text documents, reports, visual objects such as maps and graphs, e-mail and intranet discussions.
- An external search of web-based sources such as web pages, messaging services, and databases.
- Comprehensive, adaptable word-based searches, phrases, concepts, dates, and other search capabilities.
- Web indexing using a "spider" application based on predefined queries by the user.

Sources of risk management at border crossing points for goods clearance can be divided as follows:

- Intelligence products created at the local and regional customs intelligence offices and strategic intelligence products created at the central customs headquarters;
- Information sharing with other government and law enforcement agencies;
- Information and feedback based on customs controls, in the form of seizure reports;

[5] Fuld L. M.: "Intelligence Software Report 2008-2009", Fuld & Company (http://quoniam.info/competitive-intelligence/PDF/ebooks/fuld_CI_2008_review.pdf)

- Cooperation with stakeholders (airlines, shipping lines, agents, airport/port operators, competitors);
- Other customs administrations and international sources;
- Open source information (Internet, Really Simple Syndication – RSS, etc.), social media (Facebook, Twitter, etc.);
- Tax collection agencies;
- Informants.

Despite a growing trend towards automation and use of IT systems in CRM, the role of the Customs officers cannot be overseen. Customs Intelligence offers, and risk analysis experts, and the operational staff at borders and informants are valuable information sources for the CRM and are need to understand and give meaning to date and documents.

In addition to human sources, CAs can use an open source of information like message services, newsgroups, and other external forums.

### 2.1.4 Risk Management at Border Crossing Point

Border crossings points (BCP) are the official points of entry and exit into a country and national customs territory. Goods are placed under customs control and are subject to compliance with national regulations including customs law and traffic regulations. The customs clearance procedure itself, however, does not necessarily take place at the border crossing point. Thus, different control procedures apply at border crossing points, and the risk management approach and practices also differ. The differences in risk management at border crossings and risk management as part of the customs clearance procedure lie with the nature of risks and sources of information used for targeting. In addition, targeting is commonly not automated.

At BCP, the control of commercial risks is less important compared to the control of risks related to public health, environmental protection, national security and fight against terrorism (Table 1). Security is the main border threat and has grown in importance in past years[6] due to the focus on fighting terrorism. Smuggling of weapons and prohibited goods that can be used for attacks should be prevented at border crossings. CA and other government agencies also enforce regulatory objectives, such as protection of human, plant and animal life and the environment are also enforced at border entry points, to prevent harmful substances, pests, and diseases to enter the territory. Because of this different environment and nature of risks, Customs officers at BCP, therefore, have to rely on different information sources for the risk management. The targeting at BCP uses local profiles, intuition, intelligence and other information sources from third parties, such as military, immigration, forwarding agents as explained above.

Entry procedures at border crossing points frequently cause long waiting times and delays as traffic volumes are growing and the infrastructure and design of border stations are often not adapted to the border control operations. Effective control of goods, passengers, and means of transports is therefore complex and difficult. A specific risk management approach at BCP enables CA to improve performance and to facilitate border crossing, including through simplification measures such as fast lanes. Integrated border management and Common IT systems are essential aspects underpinning risk management at border crossing points.

[6] Michel Zarnowiecki, Borders, their design, and their operation, in Gerard McLinden, Enrique Fanta, et al (2011) Border Management Modernization, (World Bank) page 43

### 2.1.5 Specifics of Risk Management Related to Modes of Transport

Modes of transport describe the different ways of transportation used in international trade; maritime, air and road. Different means of transportation are used for each mode. Each mode has specific characteristics relevant for Customs control and CRM. A CAs, therefore, needs to adopt dedicated control strategies for each mode taking into account the specificities of each mode of transport.

#### *2.1.5.1 Air transportation*

The specificities of air transportation allow an efficient application of RM: There are few operators and they are normally subject to strict governments controls requiring professional operations and respect of international rules including security; In addition entry points of air cargo are limited to airport facilities which are facilities tightly regulated (scrutiny and authorization of staff, adoption of quality and security protocols) and managed following international and national norms; and finally, information on goods and persons is available by the carrier in electronic format and the submission of pre-arrival information is now mandatory in many countries. In addition the journey follows a most direct route, limiting opportunities of access to the cargo for non-authorized persons so that air cargo operators and the carriers can effectively control cargo.

The most valuable document related to air cargo transportation is the air waybill (AWB). The AWB consists of the unique identification number, shippers, and consignees' name, and address, the airport of departure and destination, declared the value and the information related to the transported goods (content, weight, quantity). On the basis of the AWB which is transmitted to CA in advance, CA can start processing, namely the risk analysis process to target shipments for inspection upon arrival.

#### *2.1.5.2 Land transportation*

Land transportation as a specific mode of transport can be conducted through rail transportation and road transportation.

**Rail transportation**; Rail stations are defined as railroad systems with at least one switch, providing a starting and ending point for trains and allowing them to swerve or turn[7]. Rail transport has a shortage of variants and flexibility because they have to move along the railroad and as a result of this they like the air, water and pipe transport make the transportation from terminal to terminal, and not from point to point unless the companies have a railroad in their premises. The infrastructure of rail modes of transport is composed of rail stations (properties, buildings and other facilities to perform safe cargo and passengers transport by rail) and railroad systems. At border crossing points and specific inland stations as a part of rail station infrastructure, there is customs authority authorized to control passengers and cargo transported by the rail.

**Road transportation**; Road transportation is effectuated with cars and buses for passengers and trucks for goods. Trucks can transport the goods for medium costs that can vary based on the sensitivity of goods transported, fluctuations of the cost of fuel and the condition of roads. In most of the cases, the risk assessment for road mode of transportation related to trucks, cars, buses, or foot passengers can carry out through their identity information (vehicle and passengers information) with the help of an automated system (intelligence, suspect list, alert

[7] Harald Gleissner, J. Christian Femerling: Logistics, Basics – Exercises – Case Studies, Springer International Publishing Switzerland 2013

systems) at the BCPs. Also, of utmost importance is the knowledge and experience of customs officers at the BCPs to identify suspicious or anomalous behavior by passengers and implement further examination.

#### *2.1.5.3 Sea transportation*

Sea transport remains the major mode of transport in international trade. Maritime shipping is generally used for large quantity shipments with lower commercial value and a longer delivery timeframe. The transport document used in the sea transport is the bill of lading (B/L), and a B/L has important information for that can be used for risk assessment before the actual arrival of the ship. Table 3 presents the different modes of transport and CRM elements:

**Table 3: Modes of Transport and CRM Elements**

| Mode of Transport | | | | |
|---|---|---|---|---|
| Processes | Air Transport | Rail Transport | Road Transport | Sea Transport |
| Cargo pre-arrival information | Easy | Easy | Easy | Easy |
| Passenger pre-arrival information | Easy | Difficult | Difficult | Difficult |
| Speed | Fast | Slow | Moderate | Slow |
| Costs | High | Moderate | Moderate | Low |
| Cargo Selectivity/Targeting | Easy | Easy | Easy | Easy |
| Passengers Selectivity/Targeting | Easy | Difficult | Difficult | Difficult |
| Tracking and Tracing of Shipments | Yes | No | No | Yes |

*Source: Author's compilation*

#### *2.1.5.4 Other modes of transportation*

In addition to these three above mentioned modes of transport, other conveyance possibilities can be used to transport specific types of goods.

- **Pipelines** are a mode of transport restricted to commodities that are liquids or gas such as oil and natural gas.
- **Electronic transport or cable** is the fastest mode of transport, but it is limited to special commodities that can be transported electronically, such as electric energy, data, and products containing electronic data such as music, pictures, and text.
- **Unmanned aerial vehicle transport** is still in a testing stage (Amazon.com and other transportation companies). This method uses drone transportation of goods and currently is used on a regional or national level, but the technological developments are promising. This mode of transport could become a global option for express transport of small quantity of goods and small-parcel delivery.

These modes of transport, especially the transport through pipelines and the electric transport, energy are performed by authorized traders that are part of the risk assessment in the authorized process. On the other hand, these modes of transport use equipment that can precisely measure the quantity of the transported goods.

## 2.2 Setting Up and Operating CRM

### 2.2.1 Management support for CRM

The first stage in setting up CRM system is ensuring that there is enough strategic management support. The risk management process requires top-to-bottom and bottom-to-top communication, collaboration and decision-making. Risk management needs to be applied to the head customs office, the regional customs, at the BCPs, and everywhere the CA is present. Furthermore, collaboration is needed to communicate and collaborate on a daily basis with other customs units dealing with investigation, operations, etc.

To give a strategic context of the CRM and ensure support of the top-level management, the CA can establish a *Strategic Risk Management Committee (SRMC)*. This committee is a high-level body within the customs and the CRM. It meets annually to plan for and oversee strategic risks and provide strategic direction to risk management issues. The members of such an SRMC are typically the Director General (Chairman), Director of Enforcement, and Head of Risk Management Department.

The key roles of this committee are to:

- Ensure that the customs and CRM Strategic Plan and associated yearly action/work plans are aligned with this policy;
- Ensure that this policy is applied and enforced throughout all customs and CRM activities, including operational and administrative areas, procedures, business practices and training courses;
- Make strategic decisions on which the customs and CRM should prioritize risks; and
- Ensure that customs and CRM resources are deployed to reflect the highest risks areas.

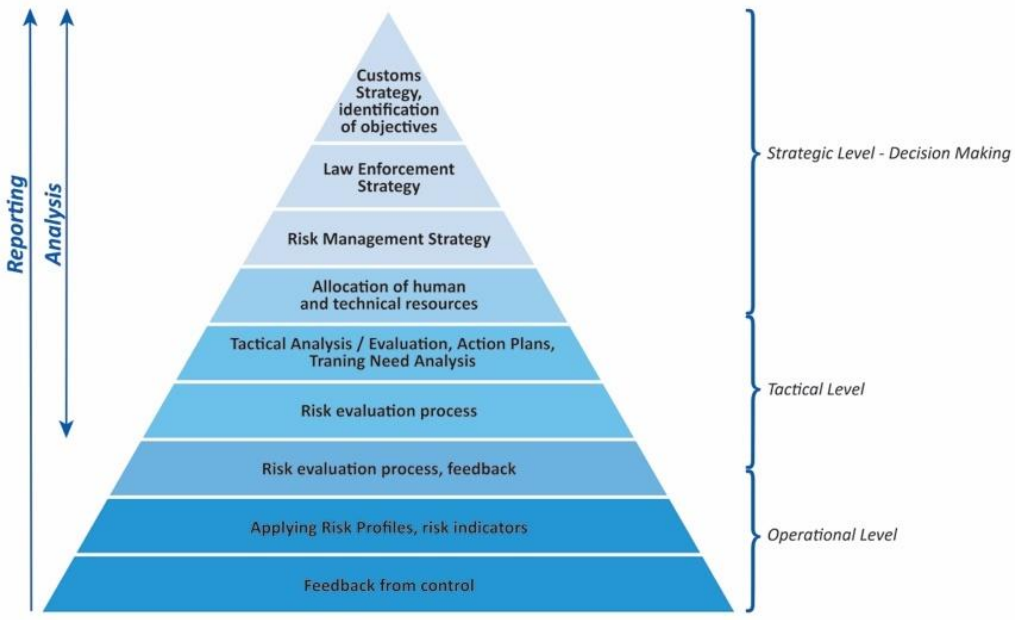
Risk management can be deployed at three levels –see (Figure 2).

The **strategic level** relates to CA long-term strategy and responds to changes in the criminal surrounding, threats to public security, peace, and order. It also takes into account organizational and legal abilities to control and stop these kinds of activities. At these level strategic decisions, such as Customs strategy, Law enforcement, and risk management strategy, are formulated and adopted. Risks that occur at this level are strategic risks that result as a by-product of planning or executing the strategy. They can arise from unexpected changes to assumptions underlying strategic planning, inadequate assessment of strategic plans or improper implementation of strategic plans. These risks should be taken into considerations in the strategic decision-making process. Risk management at the strategic level is commonly a manually driven process. The predictive analytics can be used at this level. At the **tactical level**, Customs makes decisions to support the execution of the strategy. This includes the allocation of resources, analysis of training needs and the tactical analysis. Also, the analysis of actual trends and modus operandi related to the criminal activities - individuals and criminal groups, what kind of illegal activity entities perform, whether the person works alone or not, whether entities are linked with criminal groups, how they are connected, how are they organized, etc. This level provides the details for the execution of the CRM strategy and leads risk evaluation and monitoring and feedback.

The **operational level** is dealing with the execution of the strategy based on the tactical analysis. This includes detection and prevention of non-compliant activities of any type (including the specific criminal relations of the individuals and groups, their modus operandi and their abilities, vulnerability, the limitation and their aim) and the feedback on the irregularities to the CRM.

The tactical and operational levels of risk management are commonly referred to as risk analysis, which should ideally cover all aspects from identifying and quantifying risk, to determining the risk, to monitoring the effect of any intervention (i.e., control measure). The risk analysis is important to iteratively improve the accuracy of the identification and quantification of risks.

**Figure 2: Strategic, tactical and operational level of CRM**



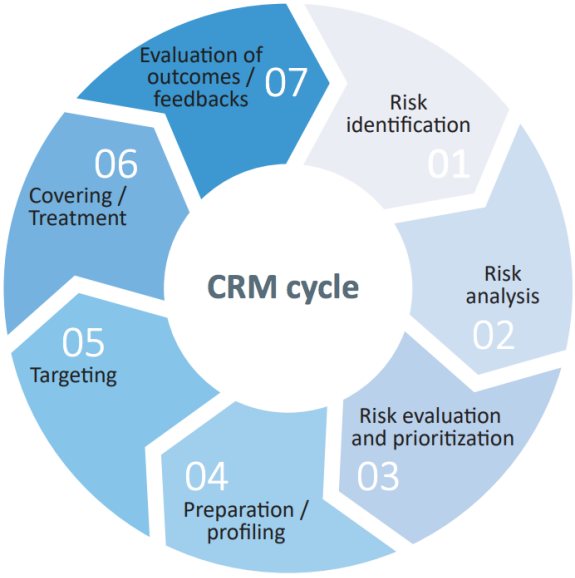

*Source: Author's compilation*

### 2.2.2 Risk Management Cycle

WCO Risk Management Compendium[17] presents the risk management cycle as a perpetual cycle (Figure 3). It starts with three risk assessment steps (risk identification, analysis and evaluation, and prioritization), and continues with preparation/ profiling, targeting, covering/treatment, evaluation of outcomes/feedback.

The first three steps of the cycle all relate to the assessment of risks. **Risk assessment** is the estimation of the risk level or degree in any customs activity; given the probability of risky events and their consequence. More specifically, the risk assessment covers three important steps of the risk management process: identification, analysis, and evaluation and prioritization.

**Figure 3: Risk management cycle**




*Source: WCO Risk Management Compendium*

### *2.2.2.1 Risk Identification*

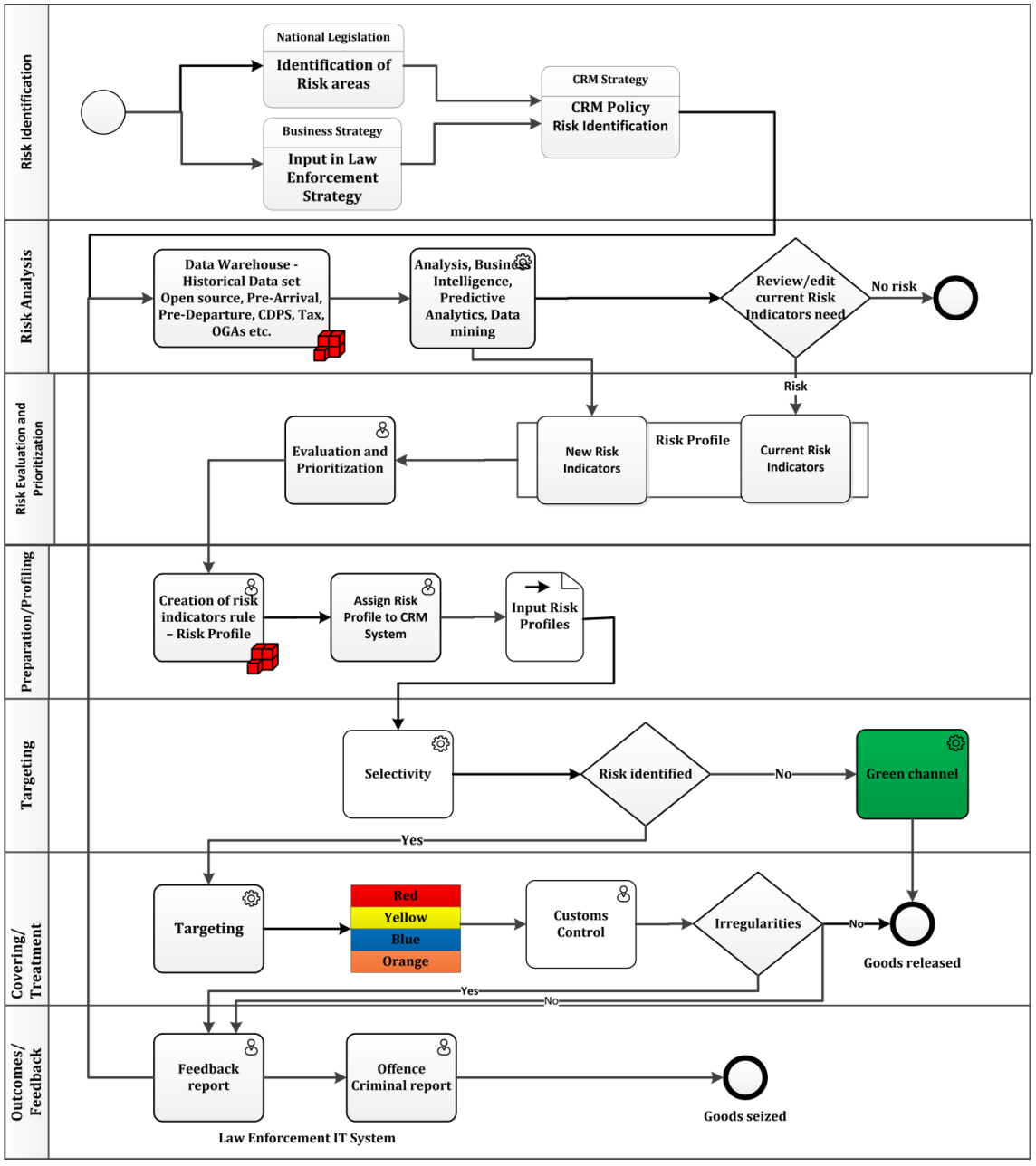
The first step is risk identification. To identify risks, CA first needs to define the critical risk areas. Risk areas can be detected in the existing national legislation that deals with customs controls. This stage in the CMR cycle requires categorization of possible risks for the administration. The main risk areas can be identified at the most sensitive challenges for customs officers, for example, the potential non-compliance with the correct tariff measure, or legislative requirements. Risk indicators, on the other hand, are the factors that can increase or decrease the level or degree of risk within each risk area. Depending on the risk area, several risk indicators are used for risk assessment. The ISO Standard 31010:2009 recommends techniques that can be used in a risk identification stage: Brainstorming; the Delphi technique; structured or semi-structured interviews; use of check-lists; primary hazard analysis; Hazard and Operability Studies (HAZOP); Hazard Analysis and Critical Control (HACCP); environmental risk assessment, scenario analysis, Structure "What if?" (SWIFT); Failure mode effect analysis (FMEA); and Cause-and-effect analysis (Fishbone analysis).

### *2.2.2.2 Risk Analysis*

During the risk analysis stage of the CRM cycle, the probability of the risk and consequences of the risks are determined. CA quantifies the level of risks combining probability and consequences in the analysis. Risk analysis techniques attempt to quantify these risks to develop control procedures, for example, selection for documentary check or physical examination, and to concentrate control efforts by customs officers on those risk areas where breaches of the regulations are most likely to occur - whether deliberate or not. All identified risk areas and indicators that in this stage have a small probability to occur and small consequences for the customs can become part of the trade facilitation process (release without customs control – green channel).

Figure 4 present the Business Process Model of the Risk Management Cycle:

**Figure 4: Business Process Model of the Risk Management Cycle**



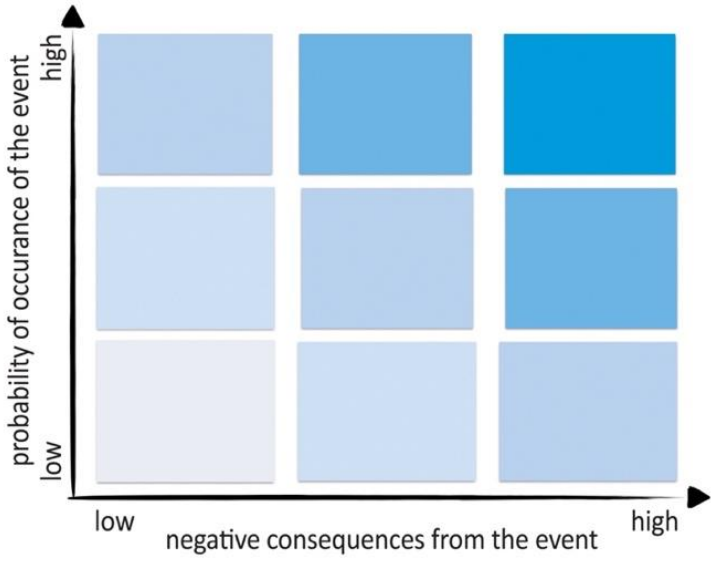

*Source: Author's compilation*

The Risk analysis is primarily a rule-based approach. The procedures for measuring the risk and the possible consequences of a high level of uncertainty are defined at this stage of the CRM cycle. In many CAs, this is the most challenging stage since many people think that this is unmeasurable. If CA understands how to measure risk and uncertainty that have already been identified in the first stage of the cycle, they can effectively implement risk analysis process that will be the basis for all the next stages in the risk management cycle.

#### *2.2.2.3 Risk Evaluation and Prioritization*

Risk evaluation and prioritization is the last stage in the risk assessment process and results in the determination of risks as High (H), Medium (M), or Low (L) risks based on analyzed probability and negative consequences (Figure 5). This stage of CRM cycle helps to focus customs controls on areas with the highest risk while allowing the majority of trade to flow relatively freely through customs. Depending on the assessment result, the decision stage will define the type of control (physical, documentary, a posteriori) taking into account resources and other constraints, including burdens on trade.

**Figure 5: Risk levels based on probability and consequences of the event**




*Source: Author's compilation*

#### *2.2.2.4 Preparation/Profiling*

A risk profile is the means by which a CA puts risk assessment (the first three stages of the cycle) into practice. Based on the results from the previous steps, profiling refers to linking risks to certain types of shipments based on their risk level. Risk rules, commonly called risk profiles, are used to evaluate information in a CD and supporting documents.

Risk profiles are rules based on observations of passengers, traders, goods, means of transport, specific information from the international customs community, and predictive data analytics. Any declaration is matching at least one of the risk profiles targeted for physical inspection which is conducted according to recommended control measures. These rules are a logical combination of two or more indicators, ranging from relatively simple to highly complex algorithm. An example of a simple profile is: commodity code = equal to "xx" and country = equal to "yy." More complex rules typically combine several conditions or calculations. Most risk profiles have a relatively short lifespan - from a few hours to a day or a week. Continuously updating existing rules or defining new rules is vital for the effectiveness of CRM.

A risk profile should contain a description of the risk area, an assessment of the risk, the counter-measures to be taken, an action date, the results, and an evaluation of the effectiveness of the action taken. The counter-measures included in risk profiles are instructions on how to deal with the particular shipment given the circumstance of the event. Such circumstances can impact the treatment decision for a particular shipment.

#### *2.2.2.5 Targeting*

Targeting refers to applying the risk profiles to information about transactions to obtain the risk rating. Risk ratings determine the treatment to be given, whereby high-risk shipments are selected for specific forms of compliance action in the next step of the cycle – covering/treatment. The risk profiles are used for the targeting of shipments for inspection and the decision on the treatment of the risk.

This step is performed automatically by a risk selectivity module, commonly embedded in the CDPS, or it can be subject to manual interaction based on officer's intuition.

#### *2.2.2.6 Covering/Treatment*

At this stage of the CRM cycle, specific measures of control or combination of different measures for each identified risk are implemented. These control measures are categorized into the following widely accepted channels (with three main and two secondary categories):

- **Green** - indicating that the declaration poses low risk and can be further processed (i.e., automatically released) without manual intervention (i.e., the shipment can pass uninspected);
- **Yellow** - indicating that the declaration poses small to medium risk and requires closer examination (typically focused on the documents) to determine whether or not an inspection of the shipment is necessary;
- **Red** - indicating that the declaration is high risk and that physical inspection is obligatory;
- **Blue** - indicating that the trader is selected for post-clearance audit;
- **Orange** - indicating that the shipment/means of transport is selected for scanning gamma ray or x-ray.

Also, customs officers receive detailed instructions on what to check and how to check.

#### *2.2.2.7 Evaluation of outcomes/feedback*

The last stage in the CRM cycle is the evaluation of the results to determine whether risk has been addressed, targeted and treated properly. There are two objectives for the evaluation: continuous improvement of the CRM as a whole; and measurement and assessment of the effectiveness of the entire CRM. To ensure efficiency of the CRM, all the stages of the process must constantly be monitored and assessed against their success.

The monitoring and evaluation shall enable the development of a flexible risk management system taking into account the changes occurring with certain risks, i.e., the decreasing, increasing or disappearance of already identified risks, as well as the occurrence of new ones.

### 2.2.3 Transactional and Behavioral Risk Management

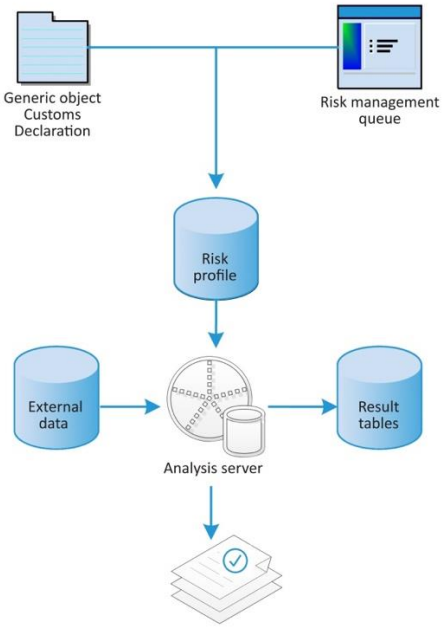
**Real-time or transactional risk analysis** is a form of risk classification (or filtering) of Customs Declarations - CD and supportive documents (the analysis objects) submitted by the trader. The risk classification performed either solely on the basis of the information in the submitted document; or by all available supplementary information about a trader, including the information in the CD. What characterizes such an application is its real-time nature, where the standard risk cycle is stopped pending the output of the risk analysis and the subsequent flow is dependent on the output. The objective is essential to classify the transactions or events (e.g., the incoming declarations or items in the declaration) into some categories (dependent on the type or the purpose of the calling system) each requiring a particular type of action. The most straightforward example involves classification of the objects into two categories – those

requiring some form of intervention (e.g., a customs inspection) before the CRM cycle can resume and those that do not require any intervention before the CRM cycle can resume. The transactional risk module is tightly integrated, or "plugged into" the processing flow of the corresponding part of the CDPS (e.g., clearance - import, export, etc.). As such, it is triggered (or called) by the production system that needs the risk module to undertake a risk analysis, and the risk module makes its output available back to the calling system in a suitable form.

In the Customs context, one of the main purposes of using the transactional risk analysis is for risk screening related with the goods in clearance process (including pre-clearance): pre-arrival information (e.g., manifest) and customs declarations. The transactional risk analysis determines the risk associated with the shipment (either at the level of the whole shipment or on the individual consignment level) and the need for physical intervention.

The overall composition of the transactional risk analysis module illustrated in Figure 6.

**Figure 6: Transactional Risk Analysis**




*Source: Author's compilation*

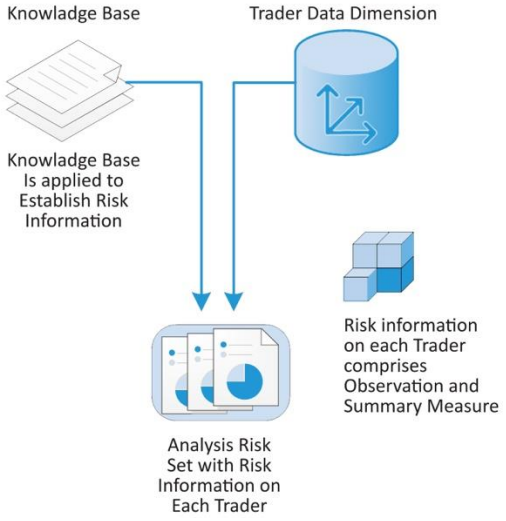
The objective of **behavioral risk analysis** is to undertake in-depth profiling of the risk entities (e.g., traders, passengers, means of transport, etc.) from various risk perspectives, to supporting a subsequent business process which is dependent on this risk rating (see Figure 7). The analysis is performed on user request - either on an ad-hoc basis or according to some predetermined schedule (e.g., when a trader first registers or at a particular time of the year). Behavioral risk analysis is used for different purposes (with a separate dimension of risk being dedicated to each purpose):

- To provide qualifying input into the transactional risk analysis stage – for example, rules in the transactional risk analysis stage often invoke a rating of the trader associated with the transaction being analyzed to provide a greater level of precision in the transactional analysis;

- To rate the risk entity regarding one or more certification programs (such as an AEO program, the partnership program, the key customer program);
- To identify which of the risk entities need to be subjected to some form of control action, as is the case in post-clearance audits and various types of quality assurance audits.

In the Customs context, both risk analyses have an important role to play. The strength comes when transactional and behavioral risk analysis are connected into a unique, holistic risk approach whereby the output of the one form of risk analysis (and the results of performing the identified control measures) serves as input to the other form of risk analysis and vice versa. For example, the transactional risk analysis of an import declaration is enhanced by being able to draw on the behavioral risk rating of the trader which would be cumbersome, if not impossible, to calculate on the fly if reasonable processing times for the real-time risk analysis are met. Due to the fact that such trader risk ratings typically represent both a historical perspective (by virtue of the historical data that is drawn upon) and a third party perspective (by virtue of the third party data that is drawn upon), incorporating the behavioral risk rating into the real-time risk assessment enhances another dimension to the analysis of the current event – and as such import declarations that might have been scored in one way in isolation may reach a completely different result. Likewise, the cumulative output of the risk analyses of all the import declarations constitutes a behavioral pattern that can subsequently affect the risk rating of the related traders. In the Customs context, one of the main purposes of using the transactional risk analysis is for risk screening related with the goods in clearance process (including pre-clearance): pre-arrival information (e.g., manifest) and customs declarations. The transactional risk analysis determines the risk associated with the shipment (either at the level of the whole shipment or on the individual consignment level) and the need for physical intervention.

**Figure 7: Behavioral Risk Analysis**




*Source: Author's compilation*

## 2.3 Benefits of Setting up CRMs

Risk management creates many benefits for the Government Authorities and the trading community.

### 2.3.1 Benefits for Government Authorities

**Resource Allocation**. A benefit that Governments and Customs Administrations could gain by implementing CRM is improved allocation of resources. Working with limited human, physical, technical and financial resources while facing increased movements of goods and means of transport, drives CAs into "strategic thinking" mode. Under such circumstances, CAs can decide the allocation of the limited resources to the border crossing points where the risk is higher. Improved allocation of resources, especially human, will ensure that the existing skills and experience in the administration is effectively used and will yield better results in achieving the main objectives.

**Quality of Customs Control**. By implementing the CRM, CAs prepare themselves for the future. The quality of customs controls is improved by analyzing and predicting risks and focusing the most critical resources on the areas of highest risk. Superficial control of everything and anything will be replaced with exhaustive controls over those movements and shipments that pose highest risks. A CRM that embraces evaluation of outcomes and control feedback will allow the management to identify operational weaknesses and improve current control procedures to increase operational efficiency.

**Revenue collection and protection, security and safety of society**. A CRM that results in improved quality of customs control is beneficial for the Governments because CAs is the critical authorities in revenue collection and protection of society against prohibited or restricted goods. Focus on revenue collection remains the primary objective of most CAs. The CAs in the developing countries are focusing on revenue collection since this is the primary means of funding government operations.

**Public Credibility**. Effective CRM guarantees equal implementation of laws and regulations for all domestic and international legal entities and persons. This will boost the public's confidence in the customs activities. The public would trust administrations more if they used clear criteria to identify acceptable and unacceptable levels of risk.

### 2.3.2 Benefits for the trading community

**Lower costs for the private sector**. Risk management is a central aspect of building a trusted partnership between traders and Customs administrations, as it rewards traders' compliance. Traders obtain the benefits of lower inspection rates, lower cost and time for customs formalities, in return for their investments into compliance. Having a solid basis of CRM and compliance management enables customs administrations to adopt schemes such as authorized economic operators, which provides various simplification measures for traders meeting multiple criteria of good compliance and record management.

**Supply Chain Security**. The development of partnership programs with other parties to the overall supply chain is a CRM tool that helps minimize disruptions to the supply chain. The emerging principles underlying a public-private partnership approach to cargo security can be summarized as a "trusted supply chain partner program.[8]" This is similar to the C-TPAT: Customs-Trade Partnership against Terrorism[9], of the US Customs and Border Protection program through which the administration works with the trade to strengthen international supply chains and, at the same time, improve border security. The main actors in such a program can be companies managing the global supply chains; port and border crossing authorities who

8 Kleindorfer, P.R., Saad, G.H., 2005. Managing disruption risks in supply chains. Production and Operations Management 14

9 More information about this program can be found here: https://www.cbp.gov/border-security/ports-entry/cargo-security/ctpat

have the responsibility for clearing cargo and for its loading/unloading; and local, regional and national agencies, including those who have the responsibility for assuring security at various levels, including responding to threats and abnormal conditions [8].

**Reducing trade costs and times.** Time and costs remain important determinants of companies' competitiveness and ability to integrate into regional and global value chains. The physical infrastructures for trade, roads, and ports, have an impact on the time and costs for traders. A World Bank study conducted in 2010 found that "only about a quarter of the delays in the sample were due to the poor road or port infrastructure - in part because our exporter was located in the largest business city. 75% of the delays were due to administrative hurdles-numerous customs procedures, tax procedures, clearances, and cargo inspections-often before the containers reach the port[10]." Effective CRM can bring huge improvements and can, therefore, be considered to enable trade facilitation[11].

Trade costs are divided into two segments. The first segment is related to the expenses that are liable for external factors rather than policy choices (such as the distance of the market, (international and national); transport and insurance costs; transit fees, charges, and time; expenses related to the transport and the insurance; and membership in the same economic community, international agreements etc.). The second segment of trade cost is related to internal factors, including:

- The infrastructure for the free flow of the trading - land, air, and sea;
- Quality of logistics services– freight forwarders, shipping agency, inland carrier, terminal operator, port authority, etc.;
- The international regular connections - sea, air, and land;
- Trade facilitation systems – CDPS, SW, PCS, etc.;
- Multiple productions of the same documents being presented at numerous agencies (including CAs) different physical locations to obtain a variety of permits, certificates or licenses;
- Poor or non-existing Customs and OGAs coordination is resulting in multiple physical interventions at different times and even on different days;
- In many cases, customs officers require the trader to present the documents on paper physically.
- Tariff and non-tariff measures.

Current studies on trade facilitation and trade costs do not measure the impact of CRM as a single factor. Instead, CRM is considered to be one of many possible TF reform measures that can significantly reduce the trade costs. WTO Economists calculated the aggregated financial benefit of implementing the Trade Facilitation Agreement (TFA) including the obligations regarding CRM. "Trade costs could be reduced by an average of 14.3% and boost global trade by up to $1 trillion per year, with the biggest gains in the poorest countries"[12].

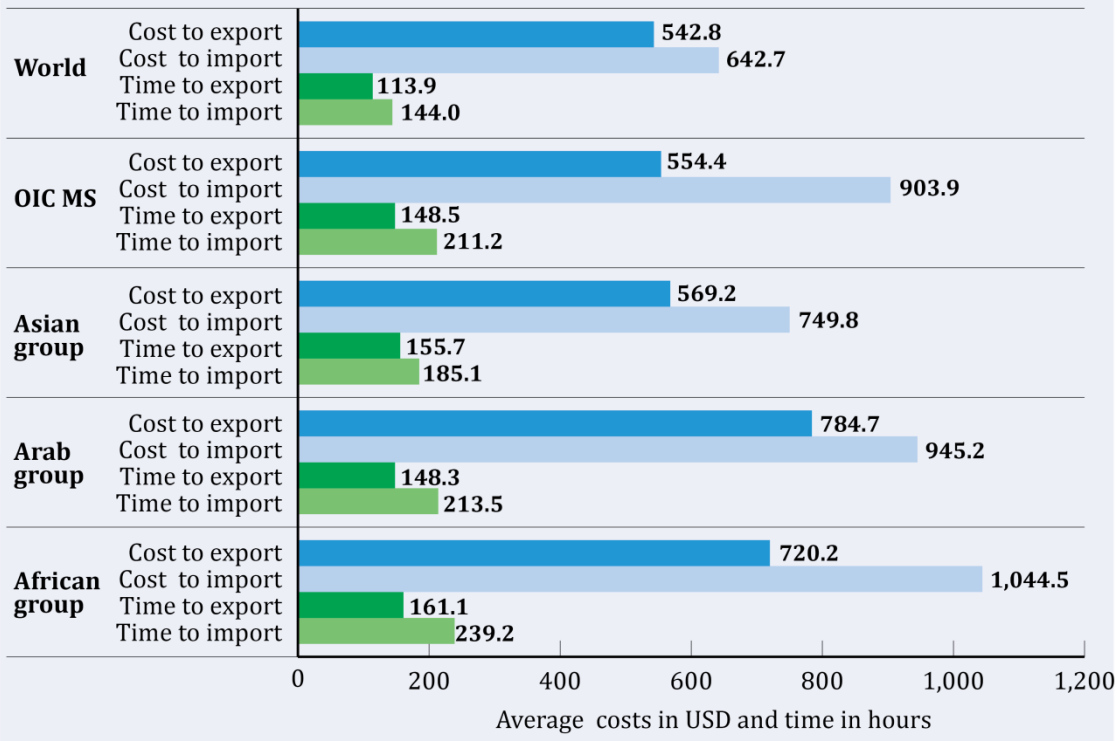
[10] Djankov, S., Freund, C., Pham C. S., Trading on time, The Review of Economics and Statistics, February 2010, 92(1): 166–173 (Research conducted for World Bank).

[11] Trade facilitation is a term used to describe efforts aiming at reducing these delays and creating better predictability through simplification, transparency, cooperation, harmonization and standardization.

[12] WTO (2015) World Trade Report 2015, page 73.

Many studies report the impact of the CRM regarding reduction of time, namely reduction of clearance time and cost to import/export, commonly measured by the World Bank Doing Business Trading Across Border indicators of time and number of documents. Figure 8 below is showing that costs and time for export and import in OIC MS is higher than the World average. More details on trade costs and time performance and correlation with CRM performance are presented in the Annex 1 (variable correlation cross-matching).

**Figure 8: World Bank Doing Business Trade Costs Comparative Analysis**




*Author's compilation based on World Bank Doing Business Trade Costs*

## 2.4 Authorized Economic Operators (AEO)

Risk management is an essential component for the adoption of simplification measures, such as authorized traders and economic operator's schemes. The AEO as a concept has emerged in the second pillar of the SAFE Framework of Standards which promotes customs to a business partnership. The concept rests on the premises that customs can build close partnering relations with reliable traders. These traders can apply for AEO certification and, once they have been granted an AEO status, they can benefit from simplified control procedures, fewer physical inspections, and fast customs clearance procedures. In such a setting, the customs increases trade efficiency while lowering administrative burden and focusing its attention on the areas of highest risk. CRM is responsible for the selection of trusted business partners. The proper risk assessment will guarantee the proper selection of trusted business partners.

The trader, or the economic operator, is an important factor which influences the overall risk assessment and risk profiling at several stages. The traders' unusual behavior, their import or export of novel goods, the change of places of operations, their new commercial partners, may all constitute risk indicators. In general, the operator's fame and compliance with customs or fiscal regulations have to be taken into consideration.

As indicated above, behavioral risk analysis is often undertaken on an on-demand basis, e.g., for a specific application to a program, where the objective would be to generate a risk score and observations that could support the evaluation of the target (e.g., the AEO applicant) concerning the program. The score would be instrumental in determining the suitability of the candidate for the program, while the observations could be used to help in deciding on further control measures that should be completed as part of the program. Behavioral risk analysis is potentially performed on all available data about the trader – ranging from data reflecting ongoing trading activities; through to results generated by the execution of previous control measures and supplemented with third-party data where available.

## 2.5 International Agreements, Standards and Recommendations

### 2.5.1 World Trade Organization (WTO) Trade Facilitation Agreement (TFA)

The WTO TFA is the most comprehensive legal instrument on trade facilitation currently available that have entered into force in February 2017. 126 WTO Members have already ratified the Agreement[13]. It contains rules in many areas from transparency, consultation, and cooperation, appeal and review procedures, Customs procedures, formalities, Customs cooperation, transit procedures, and formalities. The TFA prohibits practices that are discriminatory or that create unnecessary burdens to import, export and transit. It encourages countries to simplify harmonies and standardize laws, formalities, and procedures, and review and modernize their practices. WTO Members, who ratified the Agreement, are expected to implement these rules, and the scope of these rules extends to all Government – including executive agencies such a Customs.

The WTO TFA covers CRM directly and indirectly. It requires WTO Members to implement a CRM (Article 7.4) and to accept documents and data before arrival to expedite clearance (Article 7.1). The Article 7.4 urges Members to adopt or maintain a CRM system and to concentrate customs controls on high-risk consignments to expedite the release of low-risk consignments. The WTO TFA does not define a CRM in the text of the Agreement but suggests MS use selectivity criteria such as Country of origin, and type of means of transport. Other rules of the WTO TFA have a functional linkage with CRM without however directly mentioning it. This means that existing IT infrastructure, processes and operational practices of the CRM can be mobilized for the implementation of other commitments; i.e., to approve authorized operators using risk analysis (Article 7.7), and to select a person or consignment for post-clearance audit based on risk analysis (Article 7.5).

### 2.5.2 Revised Kyoto Convention on the Simplification of Customs Procedures

The initial International Convention on the Simplification and Harmonization of Customs Procedures (known as Kyoto Convention) was adopted in 1974, and it brought important provisions for the establishment of principles of trade facilitation through the implementation of simple, uniform and transparent customs procedures. In 1999, the WCO Council revised and updated the Kyoto Convention (known as Revised Kyoto Convention (RKC)) to create a useful model for customs procedures to further the implementation of simplification and harmonization of Customs procedures through standards and recommended practices. The Convention entered into force in 2006 and became the main trade facilitation Customs

[13] http://www.tfafacility.org/ratifications (Based on information update on 08.12.2017, last checked on 12.01.2018).

convention. The RKC is a binding agreement, and until today 112 contracting parties[14] of the 182 WCO member states[15] have signed the Agreement. Chapter 6 of the RKC General Annex Guidelines puts its focus on the Customs control and emphasizes the need for Customs to minimize interventions in cargo movements and maximize levels of trade facilitation by applying risk management controls.

### 2.5.3 WCO SAFE Framework of Standards to Secure and Facilitate Global Trade

In June 2005 the WCO adopted the Framework of Standards to Secure and Facilitate Trade (SAFE), known as the SAFE Framework of Standards. These standards were designed to secure and facilitate movements of goods globally, by encouraging Customs Administrations to use a harmonized approach, based on Customs-to-Customs and Customs-to-Business cooperation and partnership. The Framework draws on four core elements[16].

- Harmonizing the advance electronic cargo information requirements by Customs on all shipments modes;
- Using a consistent risk management approach to address security threats;
- Performing an outbound inspection of high-risk shipments at the request of the receiving customs administration using non-intrusive detection equipment;
- Defining benefits that Customs will provide to businesses that meet minimal supply chain security standards and best practices to encourage strong partnership with the trade.

### 2.5.4 WCO Risk Management Compendium

Recently, the WCO issued its Risk Management Compendium[17] which expands the risk management process that was previously covered in the WCO Risk Management Guide, with principles, development of an organizational framework and the risk management processes based on AS/NZS ISO 31000: 2009. The expanded risk management architecture is shown in as Risk Management "architecture." The WCO Risk Management Compendium is the most comprehensive document with guidelines and specific risk indicators[17] that can be used by customs administrations to develop, implement, and improve CRM.

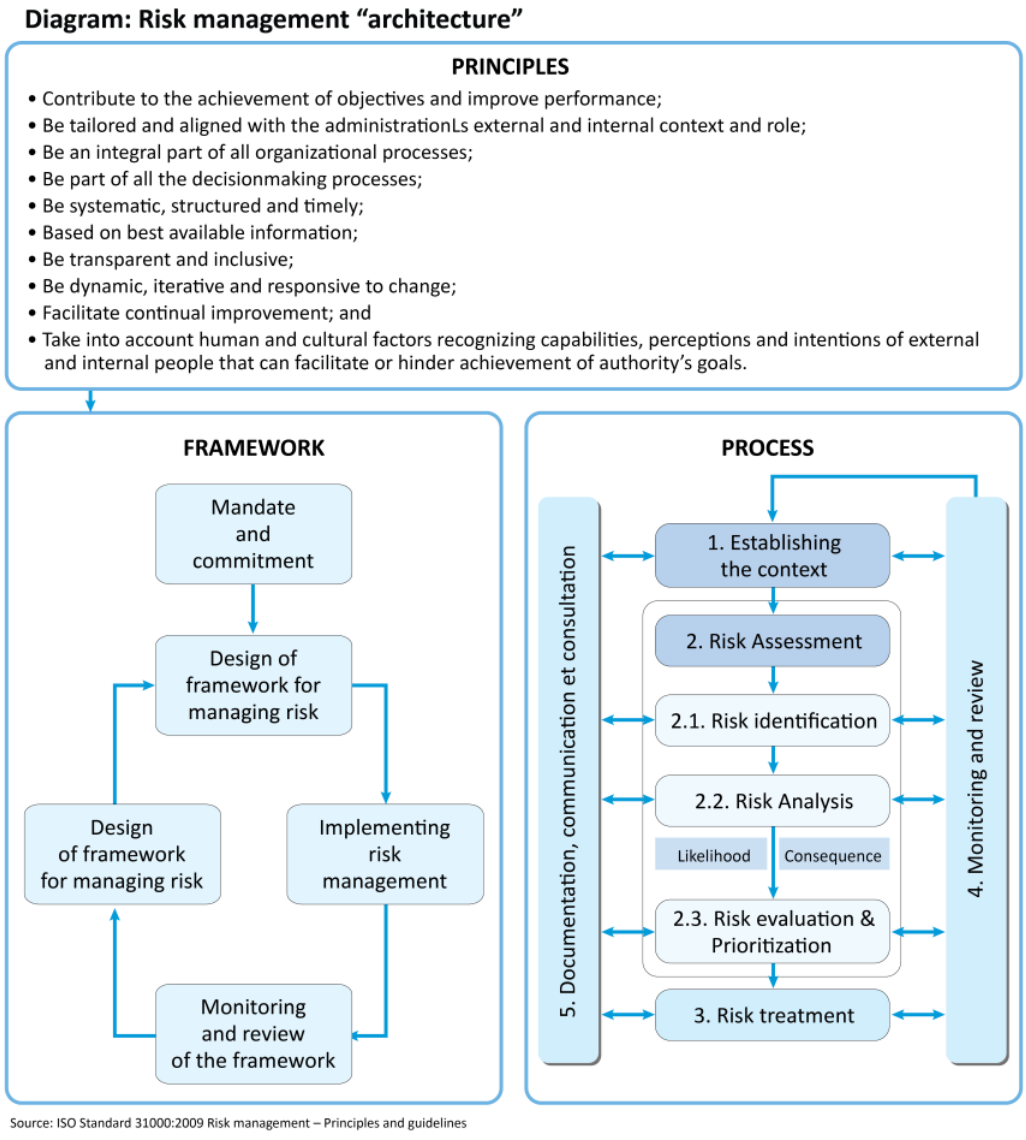
### 2.5.5 AS/NZS ISO 31000: 2009

AS/NZS ISO 31000: 2009[18] is a risk management standard that replaced the AS/NZS 4360: 2004 risk management standard that was prepared jointly by Australia and New Zealand. In 2005, the International Organization for Standardization (ISO) recognized the AS/NZS 4360:2004 as the first international risk management standard and used it for the publication of ISO 31000:2009. This was the first standard developed by the ISO that was to serve for the management of all and any risks at any location. The standard defines risk in general terms, as the effect of uncertainty on objectives, and therefore it can be applied to any risk in any organization. The standard is covering five clauses covering risk management scope, terms and definitions, principles, framework (Figure 9) and process; and an appendix covering attributes of enhanced risk management. The RM framework design requires implementation of 7 steps, as shown in Figure

[14] List of the Contracting Parties to the Revised Kyoto Convention: http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_revised_kyoto_conv/instruments.aspx Last checked: September 24th, 2017
[15] WCO Membership, http://www.wcoomd.org/en/about-us/wco-members/membership.aspx, Last checked, September 24th, 2017
[16] World Customs Organization (WCO) (2007), WCO SAFE Framework of Standards
[17] World Customs Organization (WCO), 2010, Risk Management Compendium Volume 1
[18] https://www.iso.org/standard/43170.html

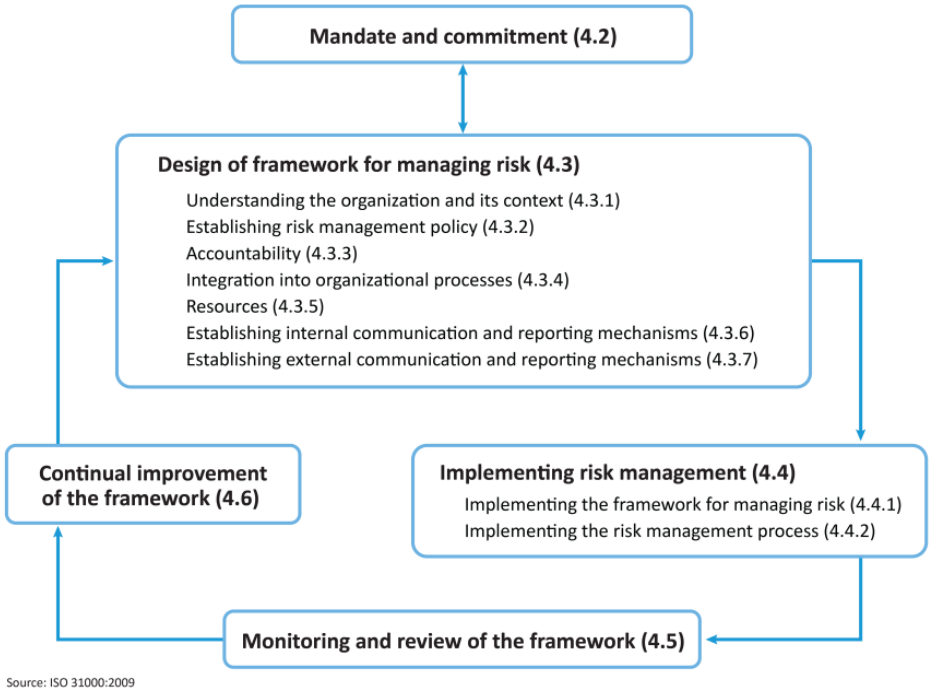
3. The design and implementation of an effective CRM are impossible without these principles. The topics as recommendations and guidelines covered with each of these documents are presented in Table 4.

**Figure 9: Risk management Architecture**




*Source: ISO Standard 31000:2009 Risk Management – Principles and guidelines*

**Figure 10: Risk management framework**




*Source: ISO Standard 31000:2009 Risk Management – Principles and guidelines*

**Table 4: Agreements Standards Recommendations**

| | RKC | WCO SAFE | WCO RM Compendium | EU CRMF | ISO 31000:2009 | TFA |
|---|---|---|---|---|---|---|
| Strategic Support of Risk Management | ✔ | | | | | |
| Top level support and commitment | | | | | ✔ | |
| Steps to Implement CRM | | | ✔ | | | |
| Development of organizational framework for managing risk | | | ✔ | ✔ | ✔ | |
| Embedding risk management as an organizational culture | | | ✔ | | ✔ | |
| Risk management "architecture" | | | ✔ | | ✔ | |
| Principles | | | ✔ | | ✔ | |
| Framework | | | ✔ | | ✔ | |
| Process | | | ✔ | | ✔ | |
| Customs-to-Customs Partnership | ✔ | ✔ | | | | |
| Integrated Supply Chain Management | | ✔ | | | | |
| Authority to customs to inspect shipments | | ✔ | | | | |

| | RKC | WCO SAFE | WCO RM Compendium | EU CRMF | ISO 31000:2009 | TFA |
|---|---|---|---|---|---|---|
| Use of Modern Technology in Inspection | | ✔ | | | | |
| Establish CRMS | | ✔ | | | | |
| Joint Targeting and Screening | | ✔ | | | | |
| Cooperation with other authorities | | ✔ | | | | |
| Strong anti-corruption system | | ✔ | | | | |
| Outbound security inspection on high-risk cargo | | ✔ | | | | |
| Customs-to-Business Partnership (AEOs) | ✔ | ✔ | | ✔ | | ✔ |
| Partnership program with AEOs | | ✔ | | ✔ | | |
| Pre-determined security practice in AEOs | | ✔ | | ✔ | | |
| AEOs Validation and accreditation process | | ✔ | | ✔ | | |
| Modern and advanced technology by AEOs | | ✔ | | ✔ | | |
| Continuous update of Customs-to-Business Communication | | ✔ | | ✔ | | |
| Joint Efforts With AEOs | | ✔ | | ✔ | | |
| CRM Cycle | | | ✔ | | ✔ | ✔ |
| Risk Identification | | | ✔ | | | |
| Risk analysis (pre-arrival and pre-departure) | | | ✔ | ✔ | | |
| Risk evaluation and prioritization | | | ✔ | | | |
| Preparation/Profiling | | | ✔ | | | |
| Targeting | | | ✔ | | | |
| Covering/Treatment | | | ✔ | | | |
| Evaluation of outcomes and feedback/ Performance Measurement | ✔ | | ✔ | | ✔ | |
| Continuous improvement of CRMS | | | ✔ | | ✔ | |
| Use of IT | | | ✔ | | | |
| Exchange of information using Risk Information Form (RIF) | | | | ✔ | | |
| Advance Electronic Information (pre-arrival and pre-departure) | | ✔ | | ✔ | | |
| Data storage and security | | | ✔ | | | |
| Data mining | | | ✔ | | | |
| Valuation database as a risk assessment tool | | | ✔ | | | |
| Risk Indicators | | | ✔ | | | |

| | RKC | WCO SAFE | WCO RM Compendium | EU CRMF | ISO 31000:2009 | TFA |
|---|---|---|---|---|---|---|
| Common Risk Criteria (CRC) | | | | ✔ | | |
| Priority Control Areas (PCA) | | | | ✔ | | |
| Post-clearance control (audit) | ✔ | | ✔ | ✔ | | ✔ |
| General high-risk indicators | | | ✔ | | | |
| Standardized risk assessment | | | ✔ | | | |
| List of air-Cargo risk indicators with manual | | | ✔ | | | |
| List of land-cargo risk indicators with manual | | | ✔ | | | |
| Risk Indicators for IPR | | | ✔ | | | |
| Intelligence | | ✔ | ✔ | | | |
| Intelligence Cycle | | | ✔ | | | |
| Information gathering techniques and tools | | | ✔ | | | |
| Intelligence products | | | ✔ | | | |

*Source: Author's compilation*

# 3 Global Trends and Best Practices

Against the background of growing attention given to trade facilitation in the past 15 years, more CA give importance to risk management approaches. Changes in the IT sector also contribute to the popularity of CRM approaches as process or parts of it can be supported effectively by IT systems and ensure a faster and deeper analysis.

It is difficult to assess how many CA now use CRM approaches for control purposes as there is not a single database reporting efforts globally[19] ; CRM approaches vary, and comparison on a single criterion has little value in terms of reflecting the depth and effectiveness of CRM[20]. According to the 2017 Second Global Survey on Trade Facilitation and Paperless Trade Implementation conducted by the United Nations Regional Commissions (UNRCs) covering 120 countries from 8 regions, 58 countries (48.33%) reported that they fully implemented; 51 (42.50%) reported partial implementation stage; 4 (3.33%) in planning stage and 7 (5.83%) have not implemented CRM. 34 OIC MS was participating to the 2017 Second Global Survey on Trade Facilitation and Paperless Trade Implementation; 13 (38.24%) reported that they have fully implemented CRM; 15 (41.42%) reported partial implementation stage; 2 (5.88%) in the planning stage and 7 OIC MS have not implemented CRM.

Based on the information provided by WCO MS[21], the 73 countries have operational AEO programmes and 17 AEO programmes are in the implementation stage. 44 MRAs were concluded and 42 MRAs are under negotiation.

In addition, CRM is continuously evolving in terms of information technology, cross-border collaboration, and use of intelligence, cross-organizational integration, and depth of analysis. This chapter presents these trends and three non-OIC Member case studies as practical illustrations of these trends.

## 3.1 Emerging Global Trends in CRM Development

The most important emerging global trends in CRM development that will be explained in this chapter are following:

- Current short and long-term risk trends requires changes in the way how the cross-border management currently operates;
- **Mutual Assistance Agreements between Countries** is important global trend to assist CAs to share information and intelligence on real-time basis and upon request;
- **Information exchange between CAs** to support CRM particularly with the information related to high-risk shipments on pre-arrival and pre-departure basis;
- Larger focus on **Intelligence** as support of CRM and other CAs functions;
- Risk analysis stage - **use transactional and behavioral risk analysis** as scientifically proven analytical techniques;
- The last trends in **information technology** related to CRM are to ensure appropriate and smooth implementation of previously mentioned trends especially related to the real-time exchange of information, communication between CAs, customs officers, OGAs, etc.;

[19] The WCO conducted a study on CRM in 2015

[20] http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/enforcement-and-compliance/activities-and-programmes/risk-management-and-intelligence/crim-survey/cbra_crim_report_final_mar2011.pdf?db=web

[21] http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium-2017.pdf?la=en

- **Integration of reporting and analysis services** - Data Warehouse (DW), Business Intelligence (BI) and Data mining that will support and Integrated CRM System.

### 3.1.1 Cross-Border Management of Customs Risk

Customs is a rapidly evolving environment that is gradually shifting from manual/mixed processes and independent tasks to the integrated CRM solutions. Following the business needs, the CDPS and the CRM should no longer offer standalone concept restricted to requirements; quite the contrary, the CRM needs to be modernized and be open to future extensions according to the current short and long-term risk trends.

#### *3.1.1.1 Change in border management approach*

Border management has seen a major evolution in the past years by taking account a cross-border and regional dimension. The focus of control of imports, exports, transit and people at physical border post has shifted on two dimension; internal cooperation and re-location of controls away from the physical border; and cross-border collaboration.

To avoid current practices – physical borders and increase the border security and management, three key objectives should be pursued to achieve effective border security and management: (1) Development of national strategies of "virtual" border management to outline the long-term cooperation, arrangements, and inter-institutional coordination; (2) Open but controlled and secure borders, in accordance with WCO SAFE Framework of Standards initiatives; and (3) Appropriate mechanisms for regular exchange and joint assessment of information at bilateral, regional and global levels.

Different concepts and terms are used to describe this evolution from cross-border management, integrated border management and "border virtualization," which is a term increasingly used in the EU external border context[22].

##### *3.1.1.1.1 Applying the Concept*

The objectives of these changes in the management approach are trade facilitation and security. Beyond other aspects, these approaches include mechanisms for regular exchange and joint assessment of information and therefore impact CRM. The other aspect is the cross-government integration at policy and operational level.

To achieve the cross-border co-operation between border agencies on risk assessment and controls CAs will need to develop:

- Agreements and mechanisms for intra-organizational risk assessment, intelligence sharing, conduct of coordinated and cross-border joint control and operations;
- Risk assessment instruments (joint collection, development, and management of risk indicators; storage and analysis of data; analysis of threats, etc.);
- Share the infrastructure – facilities, tools, and equipment for the inspection and examination of goods;
- Mechanisms and procedures for the exchange of information (strategic/tactical intelligence, operational information, inter-service communications, liaison officers);
- Joint operating procedures (legal framework; common training; procedures, military-to-civilian reporting procedures).

As presented in Chapter 2.1.3, CRM depends on information and the analysis thereof. CAs increasingly integrates and consult information made available by other CAs. One can observe

[22] http://frontex.europa.eu/intelligence/eurosur/

different types of information exchange: transaction-related information, such as the goods declaration data and movement information; and risk management information.

Transaction-related information exchange takes the form of data exchanges between CAs using IT. Several examples of systematic electronic exchange of customs data exist, including Systematic Electronic Exchange Data (SEED) EU-China Smart and Secure Trade Lanes[23] (SSTL), Intercambio de Información de los Registros Aduaneros (INDIRA) of Mercosur[24], ASEAN SW, and bilateral initiatives such as the Canada/US Smart Border Agreement[25].

#### *3.1.1.2 Risk Averse Principles - Risk Management Principles*

The traditional style of risk-averse principles is characterized by the customs intervention or a 100% physical check. On the other hand, the CRM approach, however, outlines the identification of high-risk areas, with resources allocation according to the risk relevance. The CRM require minimum customs control on identified low-risk areas.

#### *3.1.1.3 Collaborative Border Management*

A critical segment of CRM is the collaboration between all stakeholders – participants in cross-border movement of passengers and consignments. Collaborative Border Management is a modern cross-border management strategy based on a strong relationship between the traders and the border authorities. An essential part of this concept is the intelligence-driven risk management, using information related to goods and passengers electronically in advance of their physical arrival at the border. Table 5 summarizes the key aspects of this concept.

**Table 5: Key aspects of Collaborative Border Management**

| Practice type | Common practice | Collaborative border management practice |
|---|---|---|
| Policy | Balance between facilitation and control | Optimization of both facilitation and control |
| | Mistrust of supply chain actors | Trusted collaboration of supply and transport chain partners |
| | Limited customer segmentation | Customer treatment based on differentiation and service culture |
| | Limited incentives for compliance | Strong incentives for compliance |
| | Focus on physical border controls | Focus on virtual border controls |
| | Adversarial relationship with trade | Constructive partnership with trade |
| | Limited cooperation and data exchange | Extensive collaboration and information sharing |
| Processes | Output-based functional model | Outcome-based process model |
| | Focus on goods and revenue | Focus on information |
| | Single treatment for all clients | Flexible solutions for different clients |
| | Agency specific risk management | Cross-agency, intelligence-driven risk management |
| | High levels of physical inspection | Intervention by exception |
| | Transaction-based procedures | Exception-based procedures and audit based control |

[23] https://ec.europa.eu/taxation_customs/general-information-customs/customs-security/smart-secure-trade-lanes-pilot-sstl_en

[24] http://www.wcoomd.org/en/topics/research/~/~/media/A69B791DADF9434DB5BEB2B8CF11D92A.ashx

[25] The Smart Border Declaration contains 30-point Action Plan related to four objectives: secure flow of people, flow of goods, secure infrastructure, and coordination and information sharing between law enforcement agencieshttps://2001-2009.state.gov/p/wha/rls/fs/18128.htm

| Practice type | Common practice | Collaborative border management practice |
|---|---|---|
| People | Physical control at the border | Customer compliance focus through intelligence-driven risk management |
| | Limited transparency | Full transparency |
| | Organizational performance measurement | Clear measures of individual and collective performance |
| | Standard training, mainly administrative | Capability modeling, commercial and administrative |
| Information and communications technology (ICT) | Black box systems—systems viewed solely through input, output, and transfer characteristics, without knowledge of their internal workings—using proprietary software | Extensive use of open source software systems (free software whose inner components or logic are available for inspection) |
| | Isolated data capture and information processing | Service-oriented architecture |
| | National silo-based data architecture | Regionally integrated common solutions |
| | ICT security limited to intrusion protection | Business continuity assured through security and contingency arrangements |
| | Emphasis on back-office transaction processing | Move toward self-service, front office solutions and direct access to trade systems |
| | Reliance on outmoded commercial off the shelf or nationalistic solutions | Shared services build of common component solutions |
| Infrastructure and facilities | Agencies operating on a standalone basis | Single window interagency collaboration |
| | Individual trader integration with multiple agencies | One stop shop |
| | Predominance of in-house build and delivery | Value-added outsourcing |
| | Output-based procurement | Outcome-based procurement |

*Source: Gerard McLinden, Enrique Fanta, David Widdowson, Tom Doyle; Editors, Border Management Modernization, 2011 the International Bank for Reconstruction and Development / World Bank*

**Box 1: Albania-Montenegro Border Virtualization**

Albania and Montenegro is an example of using border virtualization to cut costs and time for traders and passengers. Both CAs share their infrastructure (facilities, tools, and equipment for the inspection and examination of goods), use common operating procedures and risk assessment instruments. Albania is the most effective OIC country when it comes to trading costs and time.

**Box 2: Australia and New Zealand Collaborative Border Management**

The Australian Government recognizes the need for collaborative border management and set up an independent agency. In 2015, the Australian Customs and Protection of Borders Service ware merged with the Department of Immigration and Border Protection in a single collaborative organizational structure –Australian Border Force.

The New Zealand Customs Service has established a New Zealand's Integrated Targeting Operations Centre (ITOC). ITOC is staffed with members of the New Zealand Customs, Border Service, Ministry of Agriculture and Forestry Agency. The ITOC is managing the intelligence risk assessment from all border agencies.

### 3.1.2 Mutual Assistance Agreements between Countries

To implement border virtualization approach as a global trend, it is not enough to have in place legislation that will allow such exchange of sensitive information. The exchange of data in real-time or upon request between CAs and other agencies requires building a stronger relationship with other countries, especially on a regional level. In last decade, one of the global trends related to this issue is a measure to encourage countries to sign mutual assistance agreements with other countries to facilitate the process of data exchange. Exchange of customs data supported by mutual assistance agreements can bring the following advantages and benefits to CAs, CRM, and other state authorities:

- **Trade Facilitation**; extending the pre-arrival data with the exchange of Certificates (CoO, Phyto, Veterinary, etc.) before the arrival of the goods, will speed-up the issuing of entry permits and certificates;
- **More effective use of customs resources**; Improved Customs' ability to manage and control customs procedures at the border, as well as to effectively and efficiently implement CRM and Law Enforcement functions;
- **Application of Risk Analysis on the pre-arrival data**; Analysis and assessment of information received in advance for improved and more effective Customs targeting and selectivity procedures;
- **Promote/improve cross-border communication and cooperation**; It will contribute to closer cross-border cooperation, harmonization, and modernization of procedures, practices, and processes;
- **Exchange of LE information and intelligence**; The exchange of LE information and intelligence will improve the prevention of smuggling and the fight against organized crime; it will enhance the CRM and the allocation of the resources (WCO Nairobi Convention – 20 OIC MS are contracting parties[26]);

The WCO in 2004 has drafted a model bilateral agreement on mutual administrative assistance[27] in customs matters to facilitate cooperation between CAs. The WCO model, according to Article 3, propose exchange of information that will help CAs to combat noncompliance and the security of the international trade supply chain related to: (a) new law enforcement techniques having proved their effectiveness; (b) new trends, means or methods of committing Customs offences; (c) goods known to be the subject of Customs offences, as well as transport and storage methods used in respect of those goods; (d) persons known to have committed a Customs offence or suspected of being about to commit a Customs offence; (e) any other data that can assist Customs administrations with risk assessment for control and facilitation purposes. On request, the requested CA shall provide the requesting administration with information on: (a) whether goods imported into the territory of the requesting Contracting Party have been lawfully exported from the territory of the requested Contracting Party; (b) whether goods exported from the territory of the requesting Contracting Party have been lawfully imported into the

[26]http://www.wcoomd.org/-/media/wco/public/global/pdf/about-us/legal-instruments/conventions-and-agreements/nairobi/naireng1.pdf?la=en
[27]http://www.wcoomd.org/en/topics/enforcement-and-compliance/instruments-and-tools/~/media/DFAAF3B7943E4A53B12475C7CE54D8BD.ashx

territory of the requested Contracting Party, and the Customs procedure, if any, under which the goods have been placed[28].

As an example of mutual assistance agreement between countries is the Canada/US Smart Border Agreement[29]. The agreement is signed between the United States and Canada to improve border security, information sharing, and law enforcement co-operation between the two countries. The Smart Border Declaration contains 30-point Action Plan. There are 4 main sections in this declaration that are related to; the secure flow of people, secure flow of goods, secure infrastructure and coordination and information sharing between Law Enforcement Agencies:

Another example is Association of Southeast Asian Nations (ASEAN) SW based on the Agreement signed in December 2005. ASEAN Member States agreed to establish and implement the ASEAN Single Window (ASW), a gateway for exchange the data that uses the NSWs for further dissemination of data (CA, OGAs, etc.). Currently, 4 MS (Singapore, Vietnam, Thailand, and Malaysia) are participating in the exchange of Certificate of Origin (CoO). The ASW MS adopted the ASEAN Harmonized Customs Declaration Document (ACDD), and they are planning to start the exchange of the ACDD by the beginning of 2018. At the same time, preparations are performed for the exchange of the Sanitary-Phytosanitary and Fishery Certificates.

The SEED system is used in the six CAs in the Western Balkans: Albania (OIC MS), Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia. The legal basis for the SEED is represented by the bilateral:

- Customs Mutual Administrative Assistance Agreements (CMAAA); followed by the
- SEED Memorandum of Understanding (MoU);
- Protocol on electronic exchange of data (which, among other things, defines the scope of data to be exchanged).

Recently, the six Western Balkans Customs Administrations and Moldova (who are the signing Parties of the Central European Free Trade Agreement (CEFTA) Agreement) adopted the "Additional Protocol 5 to the CEFTA Agreement[30]" which provides common legal base for extension of the scope of the SEED system to include technical agencies and inspections (Phytosanitary, Veterinary, etc.) in the data exchange.

**Box 3: OIC MS participating in ASEAN SW**

| |
|---|
| Three OIC MS is participating in the ASW – Brunei Darussalam, Indonesia, and Malaysia. Malaysia and Indonesia are exchanging the data with other ASW MS; by the end of 2017, Brunei will be integrated into ASW. |

### 3.1.3 Information Exchange supporting the CRM

#### *3.1.3.1 Risk Information Exchange*

Risk information exchange is an essential part of building efficient CRM system that will enable fast and easy-to-use ways to exchange customs control results and risk-related information amongst CAs. In this way, CAs will be able to build their own CRM framework based on a mutual assistance agreement to improve their border virtualization initiatives and will have up-to-date

[28] http://www.wcoomd.org/en/topics/enforcement-and-compliance/instruments-and-tools/~/media/DFAAF3B7943E4A53B12475C7CE54D8BD.ashx
[29]https://2001-2009.state.gov/p/wha/rls/fs/18128.htm
[30] http://cefta.int/event/6-april-2017-belgrade-kick-off-on-eu-funded-project-to-support-facilitation-of-trade-between-cefta-parties/

information related to the high risks areas. Risk information exchange is ensuring that information will assist to identify risks and distributed in a timely and accurate manner. For the efficient exchange of information, the dataset and messaging standards need to be standardized and harmonized according to WCO Data Model that defines the standards of messaging/communication protocols. The types of risk information exchange are following:

- Risk profiles/indicators and selectivity criteria - enforcement targets, high-risk shipments, modus operandi, etc.;
- Pre-arrival risk assessment;
- Information on AEO;
- Information on high-risk traders/ status for importers;
- Best practices concerning tax compliance, assessment, audit, and investigation.

The EU Member States and the EU Commission has implemented inter-linked automated support systems for the implementation of risk management in the EU common customs domain. In this context, the EU Common Customs Risk Management System[31] (CRMS) becomes an essential element in the strategic development and implementation of a CRMF standard in the CAs of the European Union. The CRMS is designed to be fast, simple and easy to use exchanging risk related information between customs officials who are best placed to take any necessary action. The CRMS is providing information on the techniques or methods that can help to detect such irregularities, i.e., a physical examination or a tariff classification decision. The customs officials are obliged to enter the feedback (evaluation) form in the CRMS for the actions taken on the operational or a central level. The feedback is important for the evaluation of the effectiveness and efficiency of the CRMS. The IT system is based on a centralized architecture. The EU CRMS has the following functionalities:

- Create, modify and consult risk related information;
- Generate a notification to registered users whenever a risk related information is created;
- Generate information reports and to produce statistical information.

#### *3.1.3.2 Pre-Arrival Exchange of Information*

An additional global trend is the pre-arrival exchange of information that requires electronic submission of the declaration data and other information to CA before the arrival and before departure of goods. In such a way CRM can be used to its full potential. The benefits which could be gained by the CAs are following:

- Acceleration of customs procedures and facilitation of legitimate trade;
- Prevention of undervaluation – revenue collection;
- Promote/improve cross-border communication and cooperation;
- Automated data matching - less documentary and physical control;
- Pre-arrival risk assessment – pre-arrival clearance.

**Box 4: SEED – Systematic Electronic Exchange of Data**

SEED provides an automatic electronic exchange of data between Customs Administrations in Western Balkans[32] covering Customs Documents: Transit and Export Customs Declarations;

[31] https://ec.europa.eu/taxation_customs/general-information-customs/customs-risk-management/measures-customs-risk-management-framework-crmf_en

[32] Albania (OIC MS), Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia

- TIR and ATA carnets;

- Simplified Procedure accompanied document (i.e., Invoice);

- Records about border crossings of empty trucks.

It is planned to extend the scope of the SEED system to include technical agencies and inspections (Phytosanitary, Veterinary, etc.) in the data exchange

Such bilateral or regional information exchanges require a legal framework negotiated and agreed bi-laterally or regionally by the participating governments and administrations. They include, in the case of SEED Customs Mutual Administrative Assistance Agreements (CMAAA); SEED Memorandum of Understanding (MoU); and Protocol on electronic exchange of data (which, among other things, defines the scope of data to be exchanged).

An example of regional initiatives and framework for the exchange of customs data is the ASEAN SW, which is expected to allow in future[33] the exchange of the ASEAN Harmonized Customs Declaration Document (ACDD) and supporting documents from other government agencies.

Pre-arrival exchange of information is also supporting CRM. An increasing number of CAs now requires that operators submit declaration data and other information to CA before the arrival and before departure of goods. In such a way CRM can be used to its full potential – see the EU Entry Summary Declaration (ENS)[34]. The information is processed by the Import Control System (ICS) so that these goods can be subject to customs control upon arrival at the first point of entry. As well, the Customs Offices of Transit is receiving the data and risk results through the New Computerized Transit System (NCTS).

In US trade, regulations from US Authorities are in place which could be called "customs preclearance" or "push US Customs advanced information." The US authorities require declarations of the contents of each transported container at least 24 hours before the vessel leaves the last port of loading. This rule enables a possible refusal of single containers to enter US territory. The purpose of these pre-arrival requirements is not only to target shipments for inspection upon arrival but to treat risk, whenever possible, before arrival, de facto before departure. In the EU approach, whenever the customs office of the first port or airport of entry in the EU identifies a risk for goods carried on the vessel or aircraft, it will pass on the risk results to the customs offices in subsequent ports or airports, and can ask for assistance from the CA of the partner country. The U.S. Customs and Border Protection have more than 600 law enforcement officers and agriculture specialists stationed in 15 air preclearance locations in 6 countries[35].

A different form of information exchange for CRM purpose is the exchange of risk information which in medium and long-term can develop into the development of a common risk management framework between countries. The type of risk information that is supporting CRM and can be shared by CAs includes the following:

[33] Currently 4 ASEAM MS (Singapore, Vietnam, Thailand, and Malaysia) are participating in the exchange of Certificate of Origin (CoO). The exchange for the ACDD is expected to begin in 2018 and the exchange of the Sanitary-Phytosanitary and Fishery Certificates is prepared.

[34] http://ec.europa.eu/ecip/documents/procedures/entry_summary_declaration_en.pdf

[35] https://www.cbp.gov/border-security/ports-entry/operations/preclearance

- Risk profiles/indicators and selectivity criteria - enforcement targets, high-risk shipments, modus operandi, etc.;
- Pre-arrival risk assessment;
- Information on AEO;
- Information on high-risk traders/ status for importers;
- Best practices concerning tax compliance, assessment, audit, and investigation.

Such cross-border collaboration is a necessary underpinning of Customs Unions, where national controls are incrementally replaced by controls at the entry into the Customs Union territory. The EU, for example, adopted a Common RMF to provide an equivalent level of control at external borders – see Box 5.

**Box 5: EU Common Risk Management Framework**

The EU has progressively adopted a common risk management approach with the objective to provide an equivalent level of protection in customs control at external borders and harmonized application of customs control by MS. As the EU is a Single Customs territory Customs at the first point of EU entry has a legal obligation to carry out the security and safety risk analysis of the cargo regardless of the EU country of destination.

The CRMF provides a common risk management framework that controls for security, health and safety, CITES, drug, financial, trade and counterfeit and in addition to that addresses risks that could not be addressed efficiently at the national level, including community financial risks. It also provides a necessary identical level playing field for legitimate trade as recognized by the EU wide AEO status, and ensure a uniform and appropriate protection of the movement of goods at external borders.

The EU Common Risk management framework (CRMF) comprises the identification of priority control areas, the systematic and intensive exchange of risk information, the recognition of the AEO status for RM and the pre-arrival / pre-departure security risk analysis based on cargo information submitted electronically. It leads to the identification and control of high-risk goods movement using common risk criteria that are applied in a decentralized manner by MS risk analysis systems.

To provide support for the CRMF, the EU common customs legislation was amended – starting with the security amendment 648/05 (Council regulation), and 1875/06 (Commission regulation) and a common computerized system developed. The common customs legislation now contains the following obligations for MS:

- Obligation to base their controls on CRM;
- Obligation to apply common risk criteria and standards for security and safety risk analysis – adopted in Commission decisions and supported by non-legal guidelines;
- Compulsory electronic exchange.

### 3.1.4 Intelligence

Information is raw data which may be subject only to minimum analysis or processing. It is basic statistical data used principally as management information on volumes of traffic, total numbers of import entries, and the total value of imports in a given period. General trends, e.g., increase/decrease in traffic can be identified to enable management decisions on staffing numbers at specified locations, etc. Information becomes intelligence when it is analyzed to identify trends in risk areas or areas of potential fraud, or when it is used to build up a case against a fraudulent or potentially fraudulent individual/organization. The intelligence is

playing a major part in the identification and prioritization of the risk indicators. There are three types of intelligence:

- Tactical intelligence is the actionable information on the current or imminent location and movement of, for example, a suspicious consignment arriving from an export country for customs clearance at a specific point of entry. It requires immediate enforcement response to effect detection and seizure; tactical intelligence is often time-critical and applies to fraud and smuggling in general.
- Operational intelligence refers to information gathered to provide analytical support to the investigation and prosecution process. Information relating to individuals or organizations is collected and analyzed. The analysis reveals the identity and activity of organizations, establishes relationships and uncovers conspiracies.
- Strategic intelligence is evaluated information on broad patterns and trends to be used by customs policy planners and management to identify problem areas and make appropriate resource and legislative decisions. Strategic intelligence includes information on smuggling methods and trends and the identification of fraud patterns.

#### *3.1.4.1 Regional intelligence networks*

The importance of exchange of intelligence can be recognized by WCO's Regional Intelligence Liaison Office (RILO)[36] that was established by the WCO with the intent of creating a Global Intelligence Network. Each of the 11 Regional RILO offices assists the CAs and responds to their intelligence needs at the regional level. In addition to intelligence related requests, the RILO network supports its WCO Member administrations by providing the operational support, designing and implementing target-oriented intelligence analysis projects and regional intelligence-led operations, facilitating mutual administrative assistance and promoting and maintaining regional co-operation with other law enforcement agencies and organizations. The RILO network reports to the WCO Enforcement Committee. Each participating WCO Member needs to designate a National Contact Point (NCP) of RILO that will regularly:

- Collect information on seizures, including all required details relating to Customs offenses, from existing sources at national level;
- Distribute intelligence reports, alerts and other relevant publications received from the WCO and RILOs at the national level;
- Initiate and participate in special regional projects conducted by RILOs to identify new trans-border smuggling threats and trends
- Cooperate nationally with the full gamut of enforcement agencies or services
- Task the RILO with specific analytical studies and participate in the process of evaluating the effectiveness

### 3.1.5 Trends Related to Risk Analysis

A major changed occurred in the way CAs analyses information, in particular as a result of more fluent and scientifically proven analytical techniques that integrate both transactional and behavioral risk analysis. Some of the global trends in this field are following:

#### *3.1.5.1 Data-driven risk analysis*

In developed countries as EU MS, the CRM system is based on open standards architecture, designed to access all existing data sources within the national domain and to process the

[36]http://www.wcoomd.org/en/topics/enforcement-and-compliance/activities-and-programmes/intelligence-and-risk-management-programme/rilo.aspx

information from the common domain (i.e., information exchanged with other EU MS CAs). Data analysis helps the CRM in the detection of deviation by providing a system foundation based on a combination of indicators, profiling of similar entities (people, means of transport) and commodities combined with the analytical tools and data mining algorithms. By using the CRM system, customs specialists can define peer groups and compliance models for declared consignments and people. They can perform a retrospective comparative analysis of customs data for a specific type of consignment, based on attributes such as weight, country of origin or shipping dates - that assigns risk scores using statistical methods. These basic indicators are entered into the CRM system and used to calculate the score. Use/combine of additional indicators can trigger a comparative analysis. The various indicators combined with the historical non-compliance models can assist in the creation of risk profiles. The CRM should be able to calculate the value for each indicator in the non-compliance model to a standard numeric score by comparing an individual indicator value against another consignment that is being profiled. The more a consignment suspiciously deviates from its peers, the higher is the assigned score. Finally, a hierarchy of scores or "ground for suspicion" is created from the profiles, with high-risk consignment being flagged for selection and review. Data mining drives the success directly affecting the "hit rates" of inspections of targeted consignments. Effective targeting, through the ability to produce accurate and timely decisions about potential fraud violations can help in improving the regulatory enforcement and resource deployment. At the same time, compliant cargo and passengers can be quickly processed.

#### *3.1.5.2 Selection of high-risk shipments with data analysis tools*

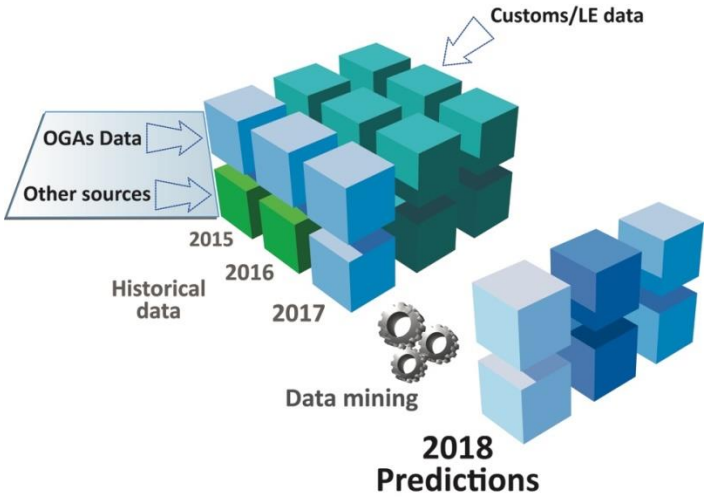
The BI system can assist the CRM analysts to enhance case selection, and proactively prevent fraud and other regulatory violations. The data analysis tools provide the CRM analysts with more efficient ways to manage and mining the data to identify importers/exporters that are misdeclaring their consignments. Exchanging experience within the field of fraud prevention, the OIC CAs can recognize similarities between CAs and be able to leverage existing, proven technologies and methods to develop a CRM approach that can be efficiently applied in their national domains. Many elements would need to be adopted and designed according to the legislative and regulatory framework for specific CA.

CRM gather a wide variety of structured and unstructured data. The DW/BI is the solution to manage such a complex data layers. The CAs must have a clear understanding of what drives their business and technological needs. Examples of the structured and unstructured data can include:

- Historical crime incidents: location, crime type, severity, victims, suspects, convictions, criminal behaviors, and attributes;
- Enabling factors: place, route, time of year, month or week;
- Trigger events: holidays, weekends or working day;
- Unstructured data: pictures, audio/video, and text contained in irregularities reports, e-mail and open source.

This information is critical for analyzing interactions and uncovering the attitudes, desires, and motivations of entities to get the details ahead with offenses. Figure 11 is presenting the DW setup (Customs, OGAs, other sources data) for analysis services and predictions as the output of the data mining.

**Figure 11: Data Mining Prediction Concept**




*Source: Author's Compilation*

CRM and intelligence must evaluate past predictions and actions captured. The feedback loop lets the predictive models grow smarter and helps CRM to focus effort in the areas.

**Data Mining -** Crime prediction and prevention analytics from data mining can assist OIC MS CRM to make the best use of the resources and information and to measure and predict crime and crime trends. Mining of the LE data provides insight that lets CRM and intelligence to track criminal activities, predict the probability of crime/incidents, effectively deploy resources and solve cases faster.

The data mining can assist the CRM in following perspectives:

- Instrumented - Information/enforcement records collected from multiple data sources and analyzed for hidden patterns and relationships that are vital to fighting violation of Law;
- Interconnected – DW, BI and data mining can provide CRM with quick and reliable access to easily understand analytic crime forecasts based on historical data, intelligence, open sources, etc.;
- Intelligent - Criminal behavior, patterns, and proactive tactical enforcement decisions - generated in predefined time frame or ad – hoc basis, on the dashboard, reports, and analysis CRM will need to extend the domain of the data, by implementing the text mining techniques that are capable of extracting knowledge from text data about something that was previously unknown.

**Text Mining** - Text databases are rapidly growing due to the increasing amount of information available in electronic form. This includes electronic publications, news articles, research papers, books, digital libraries, e-mail, etc. The Worldwide Web can be used as an interconnected, dynamic text database. The data and information should be stored in the form of structured text databases. Unlike the field of database systems, focused on query and transaction processing of structured data, in text mining is a way to organize and retrieval of information from a large number of text-based documents. The goal of text mining is to discover or derive new information from data, finding patterns across datasets, and/or separating signal from noise (or snowflakes). There are many approaches to text mining, which can be classified from different perspectives. The approaches are differed on the inputs in the text mining system

and the data mining tasks to be performed. The major approaches to text mining, based on the kinds of data they take as input are:

- The keyword-based approach; where the input is a set of keywords or terms in the documents;
- The tagging approach, where the input is a set of tags; and
- The information-extraction approach, which inputs semantic information, such as events, facts, or entities uncovered by information extraction.

The data that can be used for risk assessment are from the intelligence database, analytical intelligence reports, data from offense reports/protocols, data from criminal reports, data from the mass media, etc. In this way, the CRM can enter into a process of self-learning about risk assessment with the application of text mining. For example, Macedonian Customs Administration has performed a practical test of the use of text mining in the process of customs risk assessment of data from web news articles published in the media. This process consisted of the following steps:

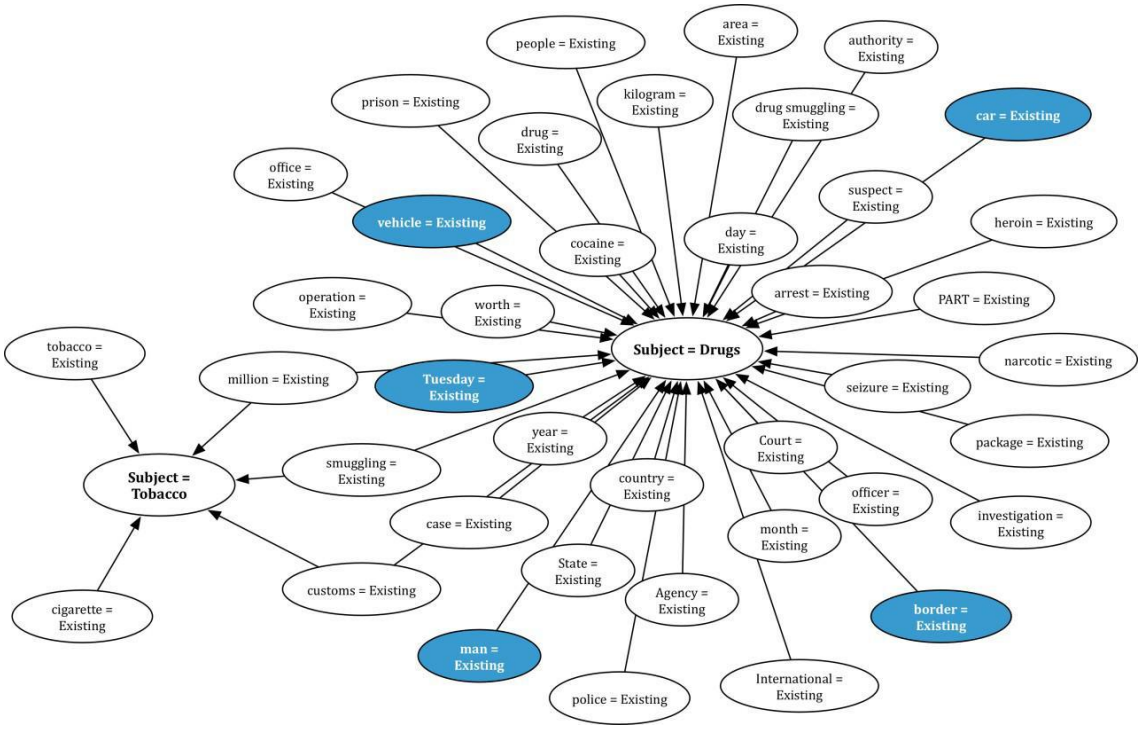
- Collection of news articles from the web by using the keywords using RSS. This approach allows quick collection of hundreds of textual bits of information about seizures or customs fraud;
- Structuring the information in a database, classified by keyword and relating to the text (the keyword used to find the information);
- Application of text mining techniques;
- Obtaining results from the text mining techniques that can be in various forms (Rules, Associations network, classification tree, etc.).

As a result, the data is presented in the form of a dependency network. The dependency network presents the relating elements to drugs and cigarette smuggling - risky timeframe, mode of transport and modus operandi.

The advantages of the use of text mining techniques for self-learning in regards to customs risk assessment are huge since they allow extraction of knowledge of previously unknown events.

Without application of text mining techniques, it would be near to impossible to extract any knowledge/ information from the collected information. As a good example is collection and analysis of over 100 news articles containing over 200 pages in Macedonian Customs Administration (see Figure 12).

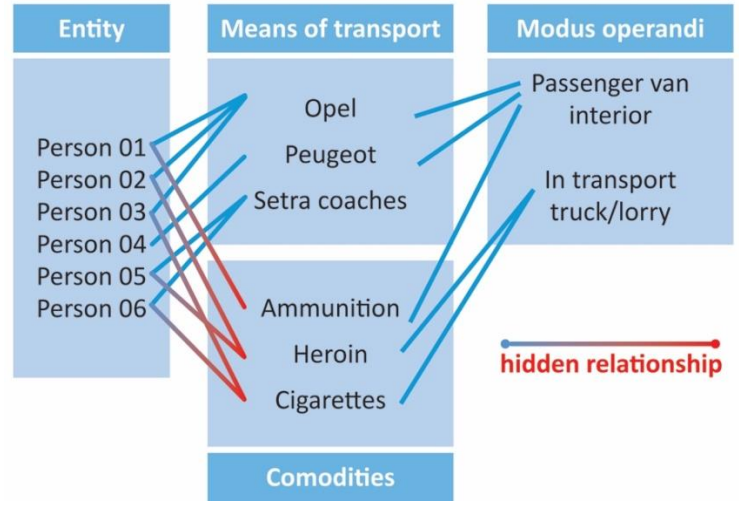
**Figure 12: Example of text mining dependency network**




*Source: Author's compilation dependency network based on text mining*

**Predictive analysis** is of great importance to CRM considering the output of predictive and descriptive models. The predictive analysis will increasingly be embedded into Customs IT systems and draw out insights (Figure 13).

**Figure 13: Example of uncovering hidden relationships in data mining**




*Source: Author's compilation*

Within this information environment, analysis becomes second nature. CRM at any level have ready access to useful information that helps them make decisions grounded in data. Better

decisions, based on data prediction, help CRM to predict forthcoming events, prevent irregularities, delegate, and allocate the resources and to provide an accurate and timely response.

### 3.1.6 Information Technology (IT)

Information technology is one of the most important things when it comes to increasing efficient implementation of CRM system. The IT plays an important role related to data collection, data exchange and data analysis and reporting. The importance of this trend can be seen through different IT solutions developed by WCO available for their member states to be used in the collection, exchange, and analysis of data.

#### *3.1.6.1 Data Collection*

The data sources are usually stored in many different structured and unstructured databases on different heterogeneous platforms from different vendors. Querying different data sources is a complex task, and requires allocation of human and IT resources. Data must also be available from external data sources, many of which are stored in a heterogeneous data environment. Many vendor products can more easily enable accessing and acquiring the data from these sources and use them for updating the data warehouse.

The DW is a solution to organize the data sources stored in different data layers. A data warehouse is a common data layer that is organizing the associated data models in cubes and dimensions from multiple data sources. Data must be extracted from the Operational Data Store (ODS) (CDPS, LE IT, etc.) and other available data sources. The data must be cleaned, mapped, and transformed before being load in the data warehouse. When the conditions are met, the DW can be used for query processing and analysis.

The importance of data collection process in intelligence and effective CRM system can be seen by the WCO Customs Enforcement Network (CEN) developed by the WCO to assist the Customs enforcement community in collecting data and information for intelligence purposes. The CEN is a central depository for enforcement-related information provided by all WCO Members. The CEN application is an analytical tool that allows users to mine data that can be used to define strategies, create intelligence reports, find modus operandi, locate customs non-compliance risks, prepare risk indicators and identify trends. It is important for customs administrations to be part of the RILO and have access to the WCOs CEN application through their NPCs to:

- Record seizure data electronically into the CEN, or submit the data to the RILO by fax or mail;
- Obtain/provide photographs of significant seizures or new and interesting concealment methods for incorporation into the CEN Concealment Picture Database which could then use to produce alerts;
- Analyze information collected at the national level to identify new or unusual smuggling methods, consistent patterns, smuggling trends;
- Use CEN database to mine data.

Also, the WCO has developed National Customs Enforcement Network (nCEN) to assist CAs to collect and store law-enforcement information at the national level. The system also possesses the additional capability to exchange this information at the regional and international levels. Through the adoption of nCEN, the CAs can manage information about seizures and offenses, suspected persons or business entities at the national level, to assist all their law-enforcement functions. This is the easiest way for countries to ensure a national system accessible through the Government network securely. nCEN can communicate with the CEN, and information on

thresholds by the specific RILO can be shared to CEN from the nCEN. This approach renders global risk indicators and analysis available to all WCO member states.

#### *3.1.6.2 Data Exchange*

Another tool developed by the WCO is the **Customs Enforcement Network Communication (CENComm).** The CENComm allows customs law enforcement authorities to exchange and disseminate real-time information in a secure environment during special enforcement operations. It is a web-based platform that enables closed user group to exchange messages via encrypted electronic mailing system, like an ordinary email, for the duration of an operation. The CENComm enables three standardized message templates that can be customized by the WCO on the request:

- Warning message, allows users to send a profile of a shipment to be part of customs inspection and control.
- Feedback message to report on the actions undertaken by the customs based on the warning message.
- Seizure message to record details related to the seizures.

The **South-East European Messaging System (SEMS)** is a gateway for the secure, accurate, and real-time exchange of data. The system has an integrated early warning system, which could be easily customized and used for the exchange of any information. The SEMS could, also, be used for many other purposes, for instance, as a tool for the collection of data for selectivity, risk assessment, and targeting. It enables participating CAs to focus the resources on the high-risk areas. The SEMS facilitates quicker clearance at the borders and safer road, railway, river and sea traffic. This system has a long history and has become a mature software package. Short term plan is to upgrade the SEMS system to a secure web-based data exchange platform. Supplemented with the SEED, it is an important tool that supports the CRM and intelligence functions. Following experiences learned from the PAIS (Pre Arrival Information System), which was in use in Albania, in late '90, the SEMS was initially developed during 2000 by the IT Support of the Customs and Fiscal Assistance Office Program (CAFAO) Programme[37], funded by the European Commission DG AIDCO. The SEMS was accepted by Southeast European Law Enforcement Center[38] (SELEC) MS as a standard form for the exchange of operational customs and excise data. At the Regional (South-East Europe) Law Enforcement Conferences, Ohrid 2007 and Tirana 2012, the SEMS was accepted by the Regional Customs Administrations as a tool for exchange of pre-arrival information.

Other examples of systems for exchange of customs data are the EU-China Smart and Secure Trade Lanes[39] (SSTL) and Intercambio de Información de los Registros Aduaneros (INDIRA) of Mercosur[40].

#### *3.1.6.3 Data Analysis and Reporting*

CAs CRM needs to recognize changing business dynamics and challenges, smuggling and crime modus operandi, and respond in accurate and timely manner. CAs must also anticipate trends, identify new opportunities, transform operational strategy and reorient resources - the key to succeeding is information.

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[37] Customs And Fiscal Assistant Office to Western Balkans
[38] http://www.selec.org/m105/Home
[39] https://ec.europa.eu/taxation_customs/general-information-customs/customs-security/smart-secure-trade-lanes-pilot-sstl_en
[40] http://www.wcoomd.org/en/topics/research/~/~/media/A69B791DADF9434DB5BEB2B8CF11D92A.ashx

CAs collects significant volumes of data and has access to even more data from outside their domain (OGAs, Banks, Tax Administration, Statistic, etc.). The objective is to transform the raw data into actionable information by capturing, consolidating, organizing, storing, distributing, analyzing, and providing quick and easy access to it. All of this is the goal of Business Intelligence (BI). BI helps the CRM in the creation of knowledge from the information to enable better decision making and to convert those decisions into action. BI analyzes historical data that is created by enforcement, customs operation, open source, etc. to understand and interpret trends, strengths, and weaknesses. The CA CRM benefits of using BI are following:

- BI is moving closer the CA strategic and tactical levels together. This is because strategic time frames, action plans, allocation of resources, etc. are shrinking to enable CA to become more responsive to business needs and traders requirements;
- The CRM analytic applications will be used more for proactively delivering business intelligence to users, rather than requiring them to discover it for themselves. It also put actual CRM performance into context by comparing it against objectives and targets;
- Dashboards are the becoming the preferred method for delivering and displaying business intelligence to users. Dashboards are more visual and intuitive, and typically provide linkages that can enable people to take immediate action.

## 3.2 Analysis of Global non-OIC Best Cases

### 3.2.1 Kosovo Customs Risk Management System

The reason why the Republic of Kosovo is proposed as a Case Study for non-OIC MS is the recent development of the Integrated Law Enforcement System – LE IT System (one of the first worldwide). The LE IT CRM module is used for feedback analysis from the AW selectivity module, data warehouse, and business intelligence platform (for advanced reporting and analysis services). The SPSS platform is used for data mining on the LE IT System data and AW/ Trade Information Management System (TIMS) historical data. The Customs Intelligence and CRM Department are the end users of the data mining results. Kosovo is a good example to all OIC MS that are using AW on how to use external tools to improve their CRM.

#### *3.2.1.1 Evolution of the CRM implementation in Kosovo Customs Administration*

The Customs Administration Mission in Kosovo (UNMIK) was established under the mandate of the United Nations (UN) and by the pillar of the EU, Regulation No. 1999/3 of August 1999[41] and the United Nations Security Council resolution 1244. After Kosovo's independence declaration in December 2008, the UNMIK Customs became Kosovo Customs (KC) with a new Customs Code adopted in November 2008 by the Kosovo Assembly. The Republic of Kosovo became a member of the WCO at the beginning of 2017. The National Legislation confers power to Customs regarding seizure of goods, means of transport, and to arrest people (with a court order, max 24 hours). The KC has *authority to conclude administrative agreements/MoU* and has already signed such agreements with Trade/business community, OGAs, other Customs administrations, Port Authorities in R. Albania, Airlines and courier services operating in Kosovo.

[41]http://www.unmikonline.org/regulations/1999/re99_03.pdf

#### *3.2.1.2 Authorized Economic Operator*

The Government of the Republic of Kosovo introduced the AEO concept based on addendum of the Customs and Excise Code in Kosovo no. 03/l-109 in May 2012[42]. The Kosovo Customs published the AEO Manual in November 2017, ensuring common understanding for both, KC and economic operators[43]. KC promoted the AEO concept and had several meetings with companies, but so far, no companies have applied for AEO.

Currently, the KC is operating on 12 BCP and ten inland terminals with 622 customs staff. Till 2012, goods were cleared at the BCP's, and since then, the goods are cleared in the inland terminals. The volume of means of transport in 2016, presented in Table 6Table 6:

**Table 6: Volume of means of transport in Kosovo 2016**

| Road | Rail | Air cargo | Air |
|---|---|---|---|
| 244,461 | 1,018 | 17,200 | 604 (postal) |
| | | | 356 (combined) |

*Source: Kosovo Customs*

#### *3.2.1.3 Business strategy*

The KC develops strategic plans and regularly publishes Annual Reports. The Report summarizes the administration's performance and results. There is no actual formal Business Strategy document. No Business Strategy can be used for the management decisions without tangible KPIs. It should be noted that adequate definition, objectivity, and usefulness of KPIs could only result from practice and continual improvement. Therefore, their development and validity require sustainable attention both from the strategic unit staff and from the top management of Kosovo Customs. The Strategic Planning Sector was recently established in KC. This unit should be tasked with providing continuous support for Business Strategy, drafting its Action (or Business Change Management) Plan, and monitoring progress in the course of the strategy implementation based on KPIs.

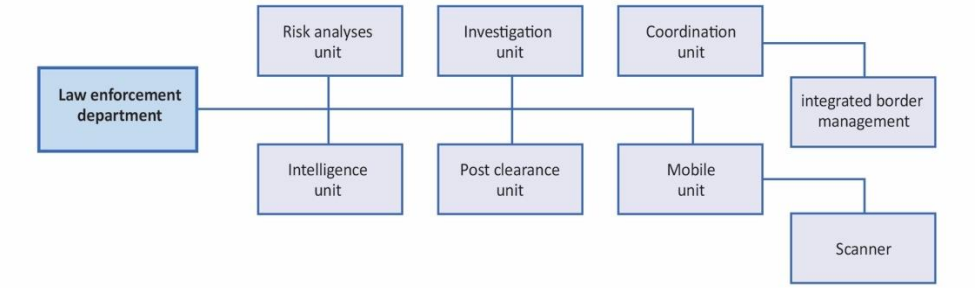
#### *3.2.1.4 Organizational Aspects*

Regarding organization, the Law Enforcement (LE) Department is a separate Department within the KC (Figure 14). It consists of six units, managed by heads of units, which report directly to the LE Department Director.

[42] https://www.kuvendikosoves.org/common/docs/ligjet/Law%20on%20amending%20customs%20and%20excise%20code.pdf

[43] https://dogana.rks-gov.net/wp-content/uploads/2017/11/Authorized-Economic-Operators.pdf

**Figure 14: Kosovo Customs organizational structure**




*Source: Kosovo Customs*

Additionally, the KC has implemented a unique governance structure. To monitor the risk management process, the KC established a Risk Management Commission (RMC). Special order from the Director-General approves the composition and the mandate of the RMC. The RMC consist of 5 members, 4 of whom are regular, and one is assigned by rotation every six months. The RMC reports directly to the KC Director-General. The KC established their Law Enforcement Department in 2005, with the assistance from UNMIK and CAFAO[44]. The Risk Analysis Unit (RAU) became operational (as Compliance Unit) focused on customs compliance and revenue collection. In 2006, the RAU became more concerned with the protection of society, from the smuggling of drugs and other prohibited goods. The KC organizational structure has a centralized CRM, while risk management tasks are carried out in a decentralized manner.

#### *3.2.1.5 Risk management methodology and control policy in Kosovo CRM*

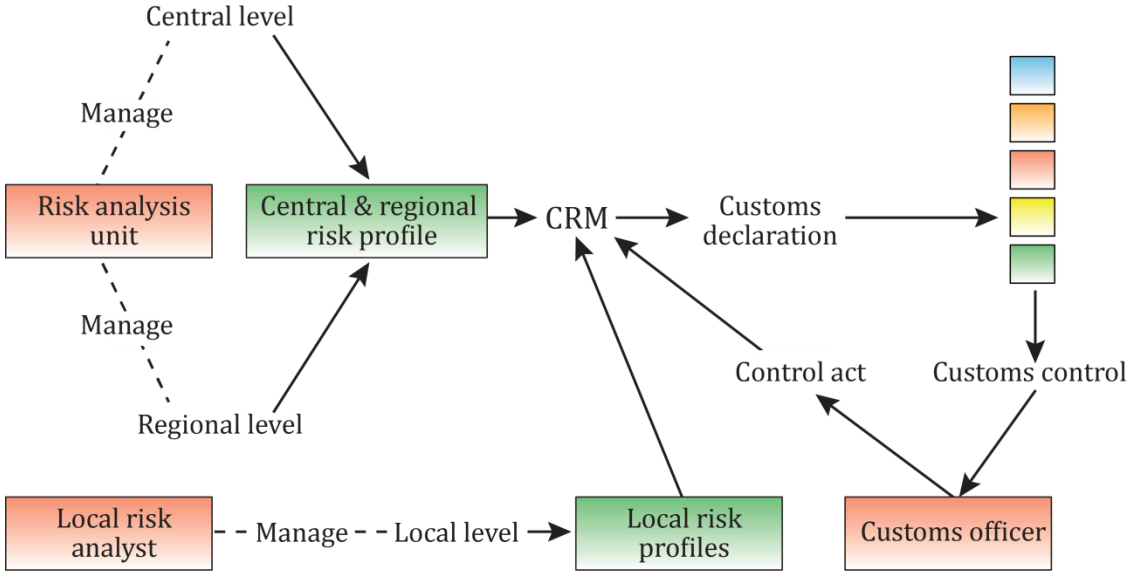
Kosovo Customs Risk Management Strategy is oriented towards detecting smuggling, preventing noncompliance, revenue collection, and trade facilitation. The KC CRM operates on three levels: *strategic level* - goals defined and linked to Customs objectives; *tactical level* dealing with the organization, methodology, and allocation of the resources (human and technical) and *operational level*. The KC has adopted the statutory instruments related to Customs Risk Management: the Customs Code, Administrative Instructions, and Standard Operational Procedures. The LE Strategy is the outcome of the KC's Mission Strategy, and it's Strategic Objectives[45]:

- Preventing and combating smuggling, tax evasion and other crimes on the entire territory of Kosovo and the borderline, applying modern law enforcement techniques: Intelligence, Investigation Measures, Risk Assessment, Post-Documentary Controls, and Anti-Smuggling;
- Play their role as stipulated under the approved national strategies (national security strategy, strategy on Integrated Border Management (IBM), the strategy against organized crime, strategy against drugs, etc.), but also assist and cooperate with other agencies towards full implementation of these strategies;
- To investigate offenses under the leadership of the public prosecutor;
- Administrative and human capacity building;
- Implementation of the Code of Ethics, increase of measures in combating the corruption;
- Implementation of measures to protect intellectual property.

[44] Customs and Fiscal Assistance Office (CAFAO)- https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial_assistance/ipa/2007-018-830_-_ipa_cafao-_c2007-3083_of_27062007_en.pdf
[45] Strategic Plan 2016-2018

The KC is managing the CRM on three levels; central (applicable on the Central level – Kosovo), regional (specific for a particular region, i.e., applicable for all BCP's with R. Albania) and on the local level (applicable to a particular BCP or inland terminal). The central and regional CRM is managed centrally by the RAU. For the local risk profiles, the customs officers are playing a major role. The local risk analysts are monitoring the correct implementation of selectivity, supervising if the performed controls are corresponding to pertinent messages and if CDPS provides control feedback. The feedback is entered into the "Control Act." Customs offices are the holding structures of the local/basic risk level; the customs officers are responsible for the RM in the zone where they operate. They implement certain procedures, which along with their intelligence and experience help them make decisions for the local RM. When the analysis performed using risk indicators and/or available information sources, gives rise to doubts about the customs declaration's accuracy, the customs officers may conclude that the consignment of concern should be subjected to control levels higher than those automatically determined by the system. The customs officers are, in this case, entitled to increase the risk level and/or re-channel (reroute) the declaration with the approval from the head of customs office or his deputy, and the local risk analyst. The control process is visualized in Figure 15.

**Figure 15: Visualization of the control policy in Kosovo CRM**




*Source: Author's compilation*

The RAU and the Monitoring Office can monitor online the customs clearance process in AW, and through CCTV. In case there are reasonable doubts about the accuracy of a customs declaration and customs control, the RAU and the Monitoring Office can increase the control level by re-routing the declaration in the AW. In this case, the customs officers must fill out the "Stop and Search form" in the Law Enforcement IT System (LE IT). Feedback must be provided in the LE IT System, with detailed information regarding the type of control performed, results/findings, penalties established, legal base and other undertaken measures (if any), based on the recommendations. In case of irregularities, the customs officer is entering the data in seizure/detain module of the LE IT system. LE IT is automatically opening a case, and the data is immediately available to all LE units. If the evaded duties are less than 5000 €, the case is considered an offense. Cases of evasion of duties in amounts higher than 5000€ will result in a

Criminal report created by the LE IT and managed by the Investigation and Legal Department. The RAU has read-only access to all cases in LE IT. The Intelligence Unit closely cooperates with RAU, and they are actively involved in the CRM.

Kosovo Customs is *exchanging the CD pre-arrival information* with neighboring countries (R. Albania, R. Montenegro, R. Macedonia and R. Serbia) in real time. When goods are released for transit or export procedure in the neighboring countries to Kosovo, the KC receives a message through the SEED gateway system with ten data elements (vehicle registration, gross weight, consignee, consignor, Harmonized System (HS) code, country of origin, etc.) The SEED gateway system has a risk management engine "ALERT" that is used exclusively by RAU and Intelligence. The RAU and the Intelligence Unit can enter the indicators, and if the indicators (criteria) match the submitted data, the SEED system will send warning SMS and email with instruction(s) defined accordingly. o CRM with its current approach**.**

Table 7 compares the Kosovo CRM with its current approach**.**

**Table 7: Kosovo CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| 100% physical inspection of shipments | 26434 CD 11% green channel with 5% random selectivity, 154268 CD 67% yellow channel, 36730 CD 16% red channel, 4883 CD 2% blue channel, 8457 CD 4% orange channel, average effectiveness 3.66 % (2015 offences, criminal reports) |
| No CRM selectivity | 463 risk profiles and 9 selectivity lists activated in the AW. Risk profiles kept being analysed and consequently modified (42), de-activated (35) or added (18) - approximately 1200 profiles were applied in the CDPS's from 2005 till 2017 |
| No CRM/Intelligence Unit established | Intelligence and Risk Analysis Sector established and incorporated within the Department for Law Enforcement |
| No reporting/analysis services, no feedback from control | Implementation of DWH and Business Intelligence platform |
| Use unsecured, different and technologically obsolete text and data processing system for management of Law Enforcement information (CRM and Intelligence) | Implementation/Integration of Law Enforcement IT System |
| Single Customs National Domain data repository | Exchange of customs data in real time with neighbouring countries (SEED) |
| | Risk Assessment on pre-arrival information |

*Source: Author's compilation*

### *3.2.1.6 Border Clearance Performances*

KC is sustainably improving the border clearance performance also through the successful operation of its Monitoring Office introduced at the end of 2013. There are 27 experienced officers in the HQ unit dealing with verification of import declarations supported by AW selectivity features including valuation issues and SAD (CD) validation rules. All Customs

procedures, including international transit, use pre-arrival information for early controls with the AW Selectivity module. Excise declarations are currently processed on paper.

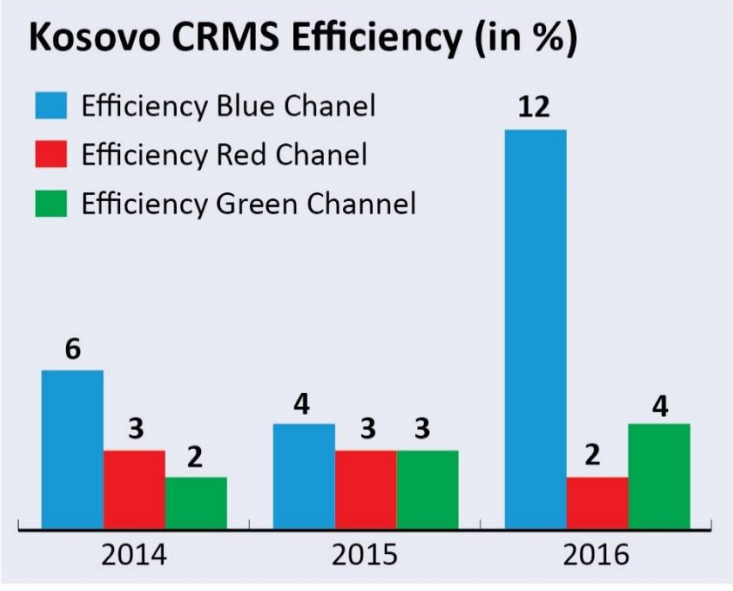
Undervaluation of imports presents a significant risk to the KC. KC has developed an AW Valuation module for managing lists of specific goods with an additional HS sub-classification of four extra digits. The sub-classification helps distinguish customs values of specific goods, i.e. brands, models, used or new, and so on. Currently, there are few thousand codes maintained for that purpose in the KC. The Monitoring Office also checks declarations and clearance activities to minimize undervaluation risk.

Post Clearance Audit selects trade operators based on risk analysis. Depending on the level of risk, the PCA decides to undertake desk audit and/or visit the company, and at the same time, they are opening a case in the LES. The first activity is always a preparatory task (desk audit) assigned to each member of the team including the team leader. If the outcome of the preparatory tasks identifies additional risks, the Head of the PCA can extend the scope of the controls to include these other/additional risks. Depending on the findings, the audit officers may prepare an audit report to be shared with the company. When the audit has resulted in the identification of debt, feedback is sent to the relevant unit for further processing, or a referral if the scope of the finding exceeds the administrative area of responsibility of Kosovo Customs.

#### *3.2.1.7 Performance measurement in Kosovo CRM*

Currently, the RAU is managing approx. 500 active risk profiles (average 3-5 risk indicators) in the AW. In total, approximately 1200 profiles were applied in the CDPS's from 2005 till 2017. The RP includes the automated random selectivity - 5% of total CD under IM4 procedure (Import declaration, direct import). Before applying the RP in the AW, the RAU performed tests on CD historical data in the data warehouse/business intelligence system (DW/BI). The test is performed for two or more RP in parallel, and the RAU measures scoring and performance of RP and RI before RP is entered in the AW. The efficiency of the risk profiles is given in Figure 16.

**Figure 16: Efficiency of the risk profiles in Kosovo Customs**




*Source: Author's compilation*

The lowest rate of RM performances is on the yellow channel, due to the exchange of information (SEED[46]) with neighboring countries.

Currently, due to the limitation of AW, the CRM includes only the automated selectivity within cargo verification. This automated selectivity is established through the management of risk profiles and risk indicators, which are coded in AW integrated within the Selectivity Module (MODSEL).

In the case when the SAD data is not matched with the data from SEED, the customs officer informs the RAU and other departments/units in the KC, as per the instructions. The Customs officer verifies that the T1 (transit document) is in the system; if it is not, the consignment is on hold until a T1 is submitted;

- Consignments can be weighed if necessary, and the weights are recorded;
- Physical inspections of goods and objects can be done if deemed necessary by the Customs Officer;
- The consignment is immediately released from the BCP if the importer qualifies for simplified procedures (AEO), the means of transport remains at the BCP area for a minimal amount of time, and if there is no further Customs intervention within that time delay, it may proceed to the importer's premises;
- Consignments that do not qualify for simplified procedures are released from the BCP and proceed to the inland terminal.[47]

The Intelligence Unit (IU) may increase the risk level and re-route the CD in the AW. The increase of risk level by the IU must be based on the available information when:

- There are reasonable doubts about the CD accuracy and reasons of urgency when the RAU due to sensitivity of the information cannot process and analyze the risk;
- For issues related to safety and security;
- The information is classified and cannot be followed up.

The IU can re-route the CD and control the goods to their end destination. Usually, the mobile teams coordinate the requisite actions for controlled shipment in advance.

The KC tends to keep the physical control rate of around 20% combined with random RP control. The physical inspection must be approved by the Monitoring Office or the IU, based on information and intelligence.

*3.2.1.8 Kosovo CRM use of IT*

From 1999 till 2004, the UNMIK Customs used BRICO, an MS Access database, for CD processing. From 2004 till 2012, the KC was using the TIMS[48] - Trade Information Management System - installed locally on every BCP for customs clearance. The TIMS CDPS was based on an obsolete technology (RDBMS Oracle 8). The KC explored several possibilities for implementation of a new CDPS. At that time, investment in the upgrade of TIMS was too expensive. Therefore, the management decided to adopt the AW as an interim system and as of 2012, the KC has been using the ASYCUDA World CDPS. Mid-term plans are to replace the AW with the EU DG TAXUD CDPS that will be fully compatible and integrated with EU Customs Systems. For reporting and analysis the KC is using DW/BI and now is in the process of implementing the data mining system that will be integrated with the LE IT and the AW. Since the beginning of 2017, the

[46] http://www.eu-seed.net/pages/SEEDMaintenance.aspx?PageView=Shared#c3
[47] https://dogana.rks-gov.net/wp-content/uploads/2017/06/Kosovo-Time-Release-Study-Final.pdf
[48] www.minfin.bg/document/1944:1

exchange of information between the units in KC LE was paper or e-mail based in an unsecured manner. There was a barrier for sharing the data; operational information and data on persons, companies, transport means and seizures were limited and obsolete, MS Access data layers were separate for each unit within the LE. Identical or similar bits of information were stored in different systems; search and analysis of data were very limited. Accuracy and quality of data were poor, limited to text fields, nearly impossible to link information, intelligence, cases, and entities. The RAU had a paper-based system to document the risk profiles and indicators. With the implementation of the LES at the beginning of 2017 (financed by the EU), the KC can now exchange data with agencies in Kosovo, and, through official channels, with international organization and agencies. The exchange of data is automated and requires human interaction/approval (dissemination of intelligence) only in some instances. The KC has the authority to exchange risk indicators/information/intelligence with national and international LE agencies, other Customs Administrations and regional and international organizations. The LE IT is an agency-wide Information Technology System that provides collection, storage, maintenance, handling, archiving, and viewing of information, records, documents, or files about Law Enforcement Operations. The implementation of LE IT in KC is improving the TF, allowing further enhancement and supplementing routine controls. It also enhances the allocation of resources – human and technology.
The LE IT allows the CRM to focus on serious, organized smuggling and crime, to provide a flexible response, and to support the KC communication with National and International Authorities. The LE IT covers the entire customs Law Enforcement lifecycle from the initial generation to its completion. The modules are presented in Table 8. An effective LE IT allows single entry of data while supporting multiple analysis/reporting mechanisms on strategic, tactical and operational levels.

**Table 8: LE IT System modules**

| Intelligence Unit | FAST/Scanner Unit |
|---|---|
| Operational Centre (part of the Kosovo Integrated Border Management (IBM)) | Professional Standard Unit |
| Risk Analysis Unit | Web-Based Risk Management - Aid memoires |
| Investigation Unit (fine, customs offenses, criminal report sub-module) | Integration/messaging Module |
| External Audit (Post Clearance Control) | Stop/Search Form |
| Task/Activities Sub-system | Seizure/Detain Module |
| Declaration of Monetary Instruments | |

*Source: Kosovo Customs*

The investigation module of the LE IT System is designed to establish a common task force for the Kosovo Tax Administration and the KC, allowing them to perform joint investigations. The short-term plan is to create a common/integrated risk management system that will include the Tax Administration, OGA's that will participate in the KS Single Window and the Kosovo Police. Table 9 is presenting the statistics extracted from the LE IT system for the period January – September 2017.

**Table 9: LE IT System Statistics**

| Case Type | Number of Cases | Reports | Number of Reports |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Intelligence | 98 | Intel reports | 49 |
| Investigation | 42 | Risk profiles (outcome from LE IT) | 82 |
| Monetary declaration | 568 | Criminal charge | 15 |
| Offence | 1298 | Offence decision | 931 |
| Post control | 315 | Seizure | 281 |
| Seizure | 249 | Post control decision | 100 |
| Seizure money | 3 | | |
| Overall cases | 2573 | Number of reports | 1458 |

*Source: Kosovo Customs*

#### *3.2.1.9 Success Factors for Implementation of CRM in Kosovo Customs*

One of the key success factors for KC CRM is matching the KC business strategy objectives and their implementation through LE and CRM with adequate tools and procedures.

The key success factors are achieved with the implementation of the DW/BI that supports reporting and analysis services for the overall KC and, in particular, LE and CRM. The KC is continuously managing risks using a step-by-step process involving identification, analysis and evaluation, treatment, monitoring and review of risks, as outlined in the KC Risk Manual and the LE and CRM Standard Operating Procedure (SOP). The purpose of the SOP is to define all necessary processes and procedures within the CRM, ensuring a standardized, auditable and transparent approach to the drafting, submission, and approval of all risk profiles/indicators. The KC is committed to the implementation of risk management based procedures, processes and principles across the Customs and planned – Tax Administration and common / integrated RM in Single Window concept.

### 3.2.2 New Zealand Customs Service Risk Management System

#### *3.2.2.1 Evolution of the Risk Management Implementation*

Between 1840 and 1970 the NZC operated using a paper-based system. According to the Customs Law, all goods entering NZ were subject to customs control and required 100% compliance. Customs procedures (import and export) would last ten days and would process 60 documents per procedure on average. In 1996, the New Zealand Customs was renamed as New Zealand Customs Service (NZCS)[49]. The digitalization of the customs procedures took place in 1981 with the implementation of the Customs and Statistics Processing of Entries and Retrieval (CASPER) and was operational until 1996. It was difficult to operate and maintain the CASPER system due to the high cost and obsolete technology. In 1990, the NZ Customs Modernization program started (CusMod). The CusMod was focused on change management (review of the procedures, customs strategy), and design and development of a new CDPS. The CusMod CDPS was operational until 2016 when the new, Joint Border Management System (JBMS) was introduced. The JBMS system consists of two integrated sub-systems; risk targeting and customs declaration processing components (including the Trade Single Window), and passenger processing system. The JBMS is used by the NZ customs and other border agencies – primarily Ministry of Primary Industries[50] (MPI).

[49] https://en.wikipedia.org/wiki/New_Zealand_Customs_Service
[50] https://www.mpi.govt.nz/

#### *3.2.2.2 Business strategy*

Customs' Trade priority aims to streamline and simplify trade processes with New Zealand's key trading partners. This supports access to markets for New Zealand traders, which is critical to the Government's priority to build a more competitive and productive economy, that is export focused. NZCS will deliver the following key achievements:

- Reduced disruption to legitimate trade by implementing advanced risk assessment capabilities in the JBMS, which is critical to protecting New Zealand and enabling Customs, MPI, and other border agencies to manage biosecurity and other border-related risks through an integrated risk management approach;
- A reduced compliance burden for traders, and increased productivity and efficiency for traders and border agencies by delivering the Trade Single Window (TSW), an electronic portal that enables traders to meet the requirements of multiple border agencies through a single transaction[51].

According to the NZCS Strategy, the main drivers of the customs are:

- Intelligence-led, risk-based approach which will ensure Customs is positioned to combat illicit traders and organized crime more effectively and efficiently, and reduce harm to the community;
- Integrated intelligence and operational data sets that support a more efficient frontline and interception capability;
- Customs to offer sector-wide alerting services to border agencies;
- Real-time data sharing capabilities between operational functions across the agency;
- Passenger imaging and biometric passenger processing capabilities.
- Efficiency for Customs will ensure the best possible services are delivered within baseline;
- Effective collaboration between Customs Departments;
- Integrated systems and increased reuse reduce time to deliver and cost;
- Increased automation (e.g., Scaled SmartGate and Next Generation SmartGate);
- Deliver well defined transparent and agile services to Customs.
- Information-driven intelligence - developing new information sources, and extracting value from the information Customs holds in systems, key for the future success;
- Drive additional value out of Customs data and information sets;
- Develop and execute Information Management Strategy;
- Look for opportunities to intersect with sector information management work;
- Establish Customs wide content management and workflow capability.

The NZCS Strategy provided a reference to other relevant strategies in areas such as enforcement, risk management, and information technology.

#### *3.2.2.3 Legislative framework*

The NZCS approved new Legislative framework in 1996 - (*The Customs and Excise Act*). The Act is providing a regulatory framework for risk management and supports a series of measures to TF and ensures compliance. The legislative framework also placed the responsibility for compliance upon the importer or their agent, enabling Customs to adequately target known high-risk entities and assist other entities to comply. Under the Customs and Excise Act, the

[51] https://www.parliament.nz/resource/0000195555

importer is held solely accountable for making a declaration. These key measures enable the Customs to assess all transactions for risk and only to intervene when required. Key measures that support the approach also included:

- Electronic clearance of customs declarations before the physical arrival of the goods. Advance electronic information about border flows enabled Customs to decouple border control from physical movement across the border, and enable risk assessment in advance of arrival;
- Access to advance rulings and review and appeal mechanisms;
- Deferred payment schemes, which means that payment of any duty or tax can occur separately to the physical clearance of the goods;
- Published regulations and procedures, including on the Internet;
- Strengthening of client service and the working relationship with the trading community. Through the introduction of initiatives such as a Call Centre and a dedicated programme for working with new business and small and medium enterprises. These initiatives established greater levels of voluntary compliance;
- Effective regulatory powers, including penalties and sanctions for non-compliance, and support for voluntary disclosure;
- Effective post-clearance audit mechanisms[52].

#### *3.2.2.4 Bilateral/multilateral cooperation*

The NZCS has established a Joint Electronic Verification System (JEVS) with the China Customs. The purpose of the JEVS is to exchange the data and provide assurance that goods qualify for tariff preferences – mutual recognition of Certificate of Origin (CoO). In July 2017, the NZCS signed the "Agreement between the European Union and New Zealand on Cooperation and Mutual Administrative Assistance in Customs Matters[53]." The EU and New Zealand agreement foster a closer working relationship between customs administrations on trade and border protection matters. To further facilitate legitimate trade and manage risk, New Zealand and China in 2017 signed a Mutual Recognition Arrangement (MRA) for Arrangement on Mutual Recognition of Organic Product Certification[54] and Trade agreement on electrical and electronic equipment[55].

#### *3.2.2.5 CRM Organizational Aspects in NZCS*

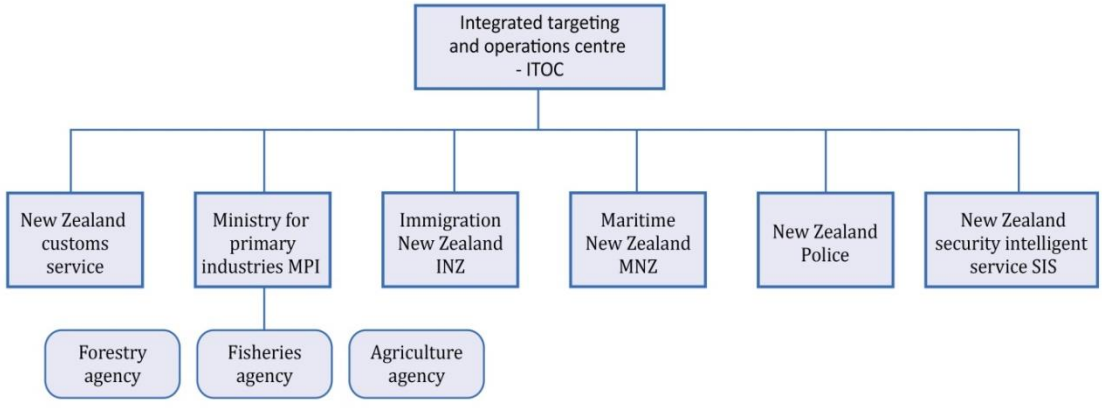
Currently, the NZCS operates on 8 BCP's and 11 inland terminals and has about 1300 employees. The Audit and Risk Committee is a key governance body. Its purpose is to provide advice to ensure that Customs has an effective and comprehensive framework for corporate governance, and to ensure that significant risks have been identified and mitigated. At the beginning of 2013, the Committee consisted of both internal and external members chaired by the Comptroller of Customs. As a result, in January 2013, a new Committee was created with external members only and an independent Chair, although members of Customs' senior management attend meetings depending on the agenda items. The Customs Audit and Risk Committee provide independent advice to the Comptroller and provide considerable relevant experience from members who have worked in and alongside Customs and other government agencies involved

[52] https://www.wto.org/english/tratop_e/tradfa_e/case_studies_e/rm_nzl_e.doc
[53] https://ec.europa.eu/taxation_customs/new-zealand_en
[54] http://english.cnca.gov.cn/news/201612/t20161213_53011.shtml
[55]http://www.mbie.govt.nz/info-services/business/trade-tariffs/trade-environment/trade-agreements-and-partnerships/trade-agreement-with-china-on-electrical-and-electronic-equipment

in the border, information management, enforcement and revenue collection. The Committee has met four times annually, supported by the Comptroller of Customs and other senior managers who have been available and prepared for discussion on key risks, issues, and opportunities facing Customs.

The NZCS has established a New Zealand's Integrated Targeting Operations Centre[56] (ITOC). ITOC manages the intelligence risk assessment on the tactical level by ensuring the strategic customs objectives of customs operations and coordinating the operations. Apart from customs and Border and Immigration agencies, ITOC is staffed with members from the Ministry of Agriculture and Forestry (Figure 17). The ITOC is operational 24/7, managing and directing the activities related to risky goods, passengers, and means of transport (aircraft, vessels, yachts, etc.) and the allocation of the resources. The overall operational communication and coordination with national and international agencies related to the border management is the responsibility of the ITOC. Intelligence drives the CRM and border management.

**Figure 17: Organizational structure of Integrated Targeting Operations Centre - ITOC**




*Source: New Zealand Customs Service*

The NZCS conducts continuous training for the customs officers. In 2015, a new Learning Management System "the Learning Room" was introduced and apart from traditional classroom training, the e-learning platform was launched. It delivers a wide range of online training content, tailored to meet the requirements according to a particular role or working area. The total number of training sessions within the "Learning Room" project is shown in Table 10.

**Table 10: NZCS Learning Room Training statistics**

| Type of training session | 2014/15 | 2015/16 | 2016/17 |
|---|---|---|---|
| Blended | 228 | 1111 | 919 |
| E-Learning | 160 | 1246 | 2288 |
| Classroom | 4323 | 4931 | 5176 |

[56] http://www.ssc.govt.nz/world-leading-border-protection-service-recognised

| | | | |
|---|---|---|---|
| Total | 4711 | 7288 | 8383 |

*Source: NZCS Annual Report 2016/2017*

New training portal "My Road Map" is a self-appraisal system enabling customs officers to plan and control their career path.

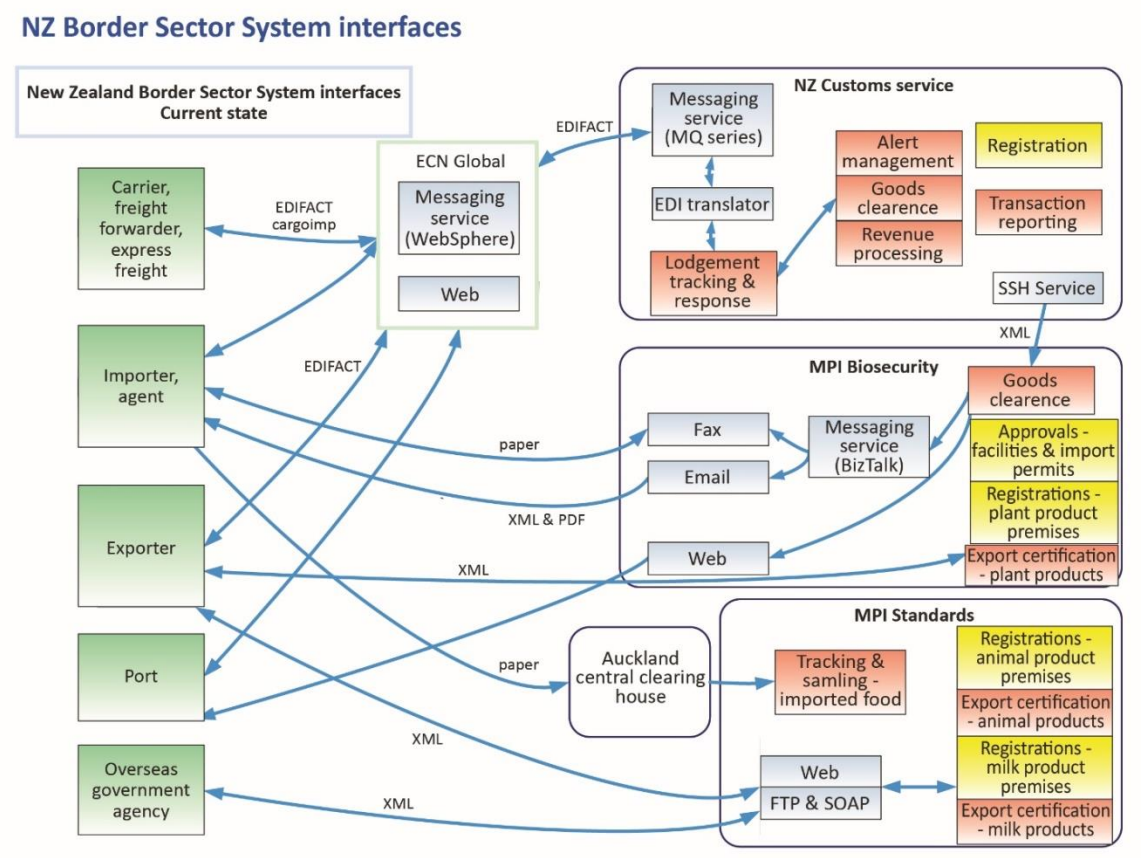
#### *3.2.2.6 Risk management methodology and control policy in NZCS CRM*

The CRM methodology in NZCS relies on AS/NZS ISO 31000:2009 standard. The NZCS Intelligence Department is responsible for analysis, risk evaluation, and prioritization, and covering/treatment of identified risks. The Intelligence has a fundamental principle, to separate the risk assessment and risk management. Separation of these roles enables management to allocate the resources properly and at the same time, removes the potential adjustment of risk according to the available resources.

NZCS is targeting passengers for risk on a pre-arrival basis. The Automated Targeting System – Global assesses passenger's information against established risk profiles. The system is automatically sending the information to the passengers that match a risk profile, and an analyst reviews the information. The analyst is deciding whether an alert should be inserted into CusMod system.

Up until 1981, the risk management was based on random selectivity, "collective memory" and intuition of the customs officers. The CASPER system managed alerts on high-risk concealment based on HS Code. Almost 95% of shipments were physically examined with the non-intrusive inspection; the remaining 5% of shipments that were not examined was for the industrial purpose (machinery, components, etc.). The feedback from the customs control was paper-based, and analysis of the feedback was difficult. The CusMod CDPS is supporting the risk selectivity. The risk identification/analysis is conducted outside of the CusMod system. The CusMod is still operational until the new integrated system JBMS is made fully operational. Figure 18 presents the New Zealand Customs System Interfaces.

**Figure 18: New Zealand Customs System Interfaces**




*Source: New Zealand Customs website*

### *3.2.2.7 NZCS Post Clearance Audit*

The NZCS is one of the most advanced CA worldwide in the application of PCA. The PCA process contains following steps:

- Selection process. The selection process starts with the identification of potential subjects for PCA. In most of the cases, the company is the primary entity used for auditing in the PCA process. In some of the cases, CA uses other entities as transporters, declarants or vehicles and persons. The selection process is based on risk assessment, identified risk areas related to PCA (valuation, tariff, origin, etc.) and periodic analysis of entities based on the possible risk that is identified. The selection process of the entities that will be part of the PCA is based on risk profiles developed on intelligence, trade trends, and high-risk priority areas defined in the previous step. The New Zealand CRM Department to implement the right selection process has close collaboration with other departments dealing with valuation, tariff and non-tariff measures, intelligence, and investigation that have information about specific entities as a potential subject for PCA.
- Planning PCA for the specific entity is the second step conducted in the process. The PCA department starts with the research to define the possible non-compliance activities of the audited entity having in mind risk areas and risk profiles from the previous step.

This step of the process is part of the preparation of customs auditor to focus his control on the most critical aspects of the work of audited subject. The outcome of this step is the clear PCA checklist that will be used as a guide in the next step of the process.

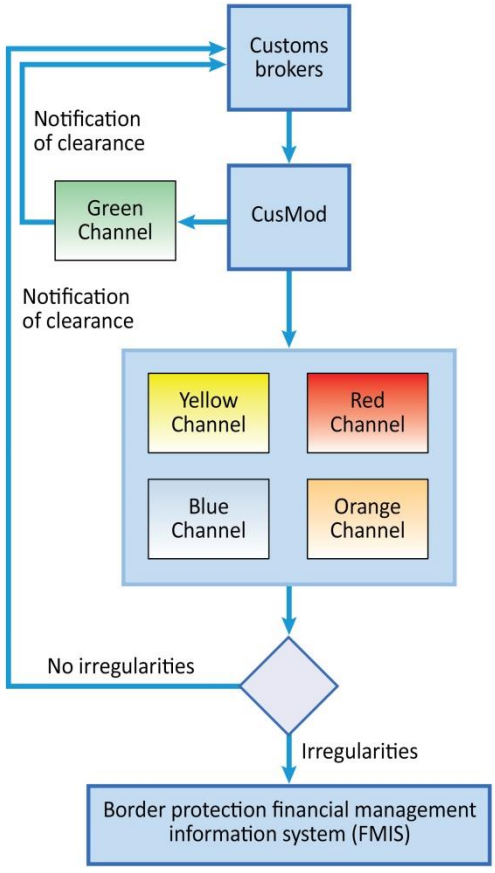
- Conducting PCA is the third step in the process of auditing based on collaborative and cooperative relationship. The process is conducted based on the prepared plan and focusing control on auditee's records and other supporting documentation in addition to interviewing critical persons in the company. The auditor makes verification of all critical documents to determine the accuracy, correctness, and authenticity compared with customs declarations based on accounting books, and all documents being kept by the auditee.
- Conclusions, reporting, and feedback is the last step conducted as a part of the PCA process. The auditing team prepares a final report presenting the results from the PCA. This report is not used only as a recommendation for future steps and repeat audits, but also as a feedback to the CRM to be used for the improvement of risk profiles.

#### *3.2.2.8 NZCS CRM use of IT*

Joint Border Management System (JBMS) is supporting the overall CRM cycle. Integration of the business intelligence and data mining allow further enhancement of the CRM functionalities. The system has two components – the Trade Single Window (TSW) and additional risk and intelligence capability. Customs and MPI have finalized the phased implementation of these components in 2015/16. The progressive rollout of functionality enables the successive phases of JBMS to be tested systematically before the functionalities are integrated, mitigating the risks that are inherent in any major IT modernization programme. The remaining related to CRM functionalities delivered in JBMS's final major release was built and entered a testing phase in 2015/16. Testing progressed slower than was originally planned, resulting in a delay in its implementation. As a result, Customs and MPI decided in late 2015 to decouple the Risk and Intelligence tools from the next release to focus on completing TSW – due to the benefits it provides to industry and the fact that existing risk and intelligence tools meet current business requirements for risk management[57].

[57] https://www.parliament.nz/resource/mi-NZ/51DBHOH_PAP66255_1/295f350b1ecce1d97f89e79259f55e35851327b9

**Figure 19: New Zealand CRM System**




*Source: New Zealand Customs*

In case of irregularities, the customs create a case and enter the details in the Border Protection Financial Management Information System (FMIS). The CusMod channels customs declarations based on the risk profile - indicators and scoring.

*3.2.2.9 Performance Measurement/Key Performance Indicators in NZCS*

To better gauge, in 2015, the NZCS has developed an assessment tool called the "Customs Harm Model." This enables NZCS to measure the impact of Customs' enforcement and risk management performances. The system is an important upgrade to the offline Risk and Intelligence (R&I) analytics toolset and data repository. This technology is based on data mining algorithms and is used by the NZCS, Immigration Agency Police, and the MPI. It also enables utilization of the capabilities and tools of the R&I of the three agencies to gain new perceptions on border risk through the use of analytics and data sharing. The Ministry for Primary Industries (according to the NZ media – mega ministry), will be split into three agencies covering forestry, fisheries, and agriculture. The NZCS refined the performance measures that drive the organization. The performance measures include more analysis of positive and negative reporting on intelligence and risk targeting. Performance information is supporting continuous improvement in service delivery and the allocation of resources.

Table 11 compares the NZCS CRM previous with its current approach:

**Table 11: NZCS CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| Customs clearance - ten days and processing of 60 documents per customs procedure on average, 95% of shipments were physically examined | 14.37 million import and export transaction processed - 99.9% transaction processed within 30 minutes based on risk assessment |
| Customs and Statistics Processing of Entries and Retrieval (CASPER), CDPS based on obsolete technology | Joint Border Management System (JBMS) and Automated Targeting System – Global assesses passenger's system |
| Separate risk management policies and criteria | ITOC -Integrated Targeting Operations Centre/ agencies' common risk management |
| Risk identification/analysis is conducted manually/Feedback from the customs control paper-based | Border Protection Financial Management Information System (FMIS) integrated into the JBMS |
| No coordination between agencies for examination of the shipments | Coordinated examination, delegation of control |
| Low or no input from Intelligence | Intelligence-led, risk-based approach |

*Source: Author's compilation*

Customs seeks to facilitate secure, low-risk trade with minimum disruption (in time and money) to traders. In 2017 customs processed 9.55 million import transactions[58], an increase of 14.5 percent from the 2016 total. There has been significant growth in recent years, mostly due to the increasing number of imports of low-value goods – likely to be largely due to internet shopping. The customs also processed 4.82 million export transactions in total, an increase of 40.5% from 2015/16[59]. NZCS statistical figures in 2017:

**Table 12: NZCS statistical figures in 2017**

| |
|---|
| 14.4 million customs transaction processed; |
| 99.9% of trade transactions processed within 30 minutes |
| 13.3 million arriving and departing passengers risk-assessed and processed |
| 9.55 million import transaction processed |
| 4.82 million export transactions processed |
| 44,520 individual counterfeit goods items intercepted at the border |
| 13.4 million NZD of harm prevented - interceptions at the border of other unlawful activity |
| 13.3 billion NZD revenue collection |
| 329 million NZD street value illicit drugs intercepted |

[58] Import transactions include standard import, simplified import, sight import, periodic import, temporary import, and private import entries, together with import and transhipment ECIs (Electronic Cargo Information)
[59] NZCS Annual Report 2016/2017

*Source: New Zealand Customs Service*

#### *3.2.2.10 New Zealand Secure Exports Scheme (SES) - AEO*

Based on Customs and Excise Act from 1996, Section 53C, in 2004, New Zealand introduces the Secure Exports Scheme (SES), a concept similar to AEO. As part of SES, the exporters are responsible for third-party sites and logistics including transport operators and brokers. As of December 2016, 124 exporters are part of the SES scheme. The SES exporters are operating from production site to the port of loading. The SES scheme member has the following benefits[60]:

- Reduced export transaction fees for lodgment of all export entries;
- Lower potential for intervention by NZ Customs which allows more time to load shipments and complete export documentation, lowering compliance costs;
- Provides access to border clearances with countries that have mutual recognition arrangement (MRA) with NZ Customs;
- NZ Customs can provide advice and assistance for unexpected issues in respect of export goods with overseas border agencies that have an MRA with NZ Customs.

New Zealand signed Mutual Recognition Arrangements (MRAs) with customs services in other countries with similar supply chain security standards; USA Jun 2007, Japan May 2008, South Korea Jun 2011 and Australia July 2016. New Zealand being negotiated the MRAs with Singapore and China.

### 3.2.3 Australian Customs Risk Management System

#### *3.2.3.1 Evolution of the Risk Management Implementation*

After 48 months of design and development, Australian Customs in 1972 implements the first automated import system in the world –Integrated System for Processing Entries for Customs (or INSPECT). Before, all customs entries were processed manually.

The volume of import and export entries in the last three years, presented in Table 13:

**Table 13: Australia Customs volume of import and export entries**

| | 2014-2015 | 2015-2016 | 2016-2017 |
|---|---|---|---|
| Export entries | 3,800,000 | 3,800,000 | 3,900,000 |
| Import entries | 1,430,000 | 1,510,000 | 1,350.00 |
| Total entries | 5,230,000 | 5,310,000 | 5,250,000 |

*Source: Australian Customs*

#### *3.2.3.2 Australian Trusted Trader (ATT) – AEO*

Australian Trusted Trader is an Authorized Economic Operator (AEO) programme. Australian Trusted Trader is a voluntary trade facilitation initiative, recognizes businesses with a secure supply chain and compliant trade practices. Based on the Customs Act 1901/June 2017, the ACS enables accreditation as a Trusted Trader and provides the relevant benefits. As of January 2017, there is an 11 accredited Trusted Traders.

Current benefits for accredited Trusted Traders include[61]:

[60] https://www.customs.govt.nz/globalassets/documents/fact-sheets/fact-sheet-34-secure-exports-scheme.pdf
[61] https://www.homeaffairs.gov.au/busi/cargo-support-trade-and-goods/australian-trusted-trader/benefits

- A dedicated Account Manager;
- Priority Trade Services;
- Use of the Australian Trusted Trader logo;
- Use of Mutual Recognition Arrangements;
- Consolidated Cargo Clearance.

Australian Government established MRAs with the key trading partners; New Zealand Customs Service June 2016, Republic of Korea Customs Service, Canada Border Services Agency, and Hong Kong Customs and Excise Department. MRAs being negotiated with the Thailand Customs Service and Singaporean Customs.

#### *3.2.3.3 Organizational Aspects*

The risk profiles common repository is the tools for managing customs and border protection. The creation and testing of the risk profiles have been significantly strengthened in recent years. This is due to using advanced techniques like *data mining and risk profile simulation* on historical data. In 2008, a centralized National Profile Center was established, and in 2011, the Customs and Border Protection introduced a Profile Management Board and developed a plan for measurement of the CRM performances (Profile Effectiveness Review 2011).

These recent initiatives have been designed to allow customs and border protection to assess whether its risk profiles and alerts identify the risky import of sea and air cargo.

The Australian Customs is the agency that manages the security and integrity of Australia's borders. It exchanges data with OGAs, national and international agencies. On the national level, it cooperates with the Federal Police, Australian Quarantine and Inspection Service, Department of Immigration and the Defense Department. The Australian Customs is a complex organization employing over 4800 people in Australia and overseas, with its HQ in Canberra.

##### *3.2.3.3.1 Governance Structure*

In 2015, the Australian Customs and Protection of Borders Service ware merged with the Department of Immigration and Border Protection to establish the Australian Border Force.

The Australian Customs and Border Protection Service were officially dissolved on this date; however, its functions and services continue to be carried out by the Australian Border Force.

#### *3.2.3.4 Risk management methodology and control policy in Australian Customs CRM*

The Australian Customs CRM Methodology is directed at identifying compliance irregularities and criminal behavior that is associated with:

- Smuggling and illegal import of goods;
- High-risk shipments – drugs, tobacco, and alcohol;
- Improper classification of goods;
- Importation or exportation of contraband and protected species;
- Goods that are hazardous to the environment or that could damage agriculture or natural resources, or are contrary to international trade agreements or foreign policy.

The CRM Framework for risk assessment is defined as the establishment of conditions that will intercept the highest number of irregularities and non-compliances by selecting the minimum number of customs transactions for review and customs control. The most frequently employed risk assessment methods involve:

- Targeting historically known law offenders and offenses;
- Profiling for irrational trade patterns;
- Establishing alerts for reported illicit transactions;
- Use of intelligence, combined with information flows from other intelligence agencies;
- Respond to increased or decreased threats; Use of random sampling techniques;
- Use of Non-Intrusive Inspection (NII) (X-ray, dogs, radiation detection equipment, density detectors, etc.) as a basis for inspections that lead to the detailed examination of goods.

Having a well-established scheme of CRM, for the Australian Customs means it has a system for evaluation of the effectiveness of risk processes. This is the main success factor for risk management. The ICS risk profiling engine is powerful and easy to use and manage. The CRM takes specific actions that increase its effectiveness:

- Definition of outcomes and performance measures for intelligence and profiling that drive development of the CRM;
- Vary profiles to prevent predictability;
- Continuous testing of profiles to ensure that all profiles have a clear purpose and efficacy before deployment;
- Use of advanced algorithms for greater testing, tuning of the existing profiles to reduce the number of hits that require manual review;
- Use of random selectivity in addition to specific targeting. Random selectivity is automated and integrated with risk-based targeting.

Table 14 compares the Australian Customs CRM with its current approach:

**Table 14: Australian Customs CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| Customs declaration processed manually | Integrated Cargo System (ICS) |
| Physical control on border | Advance electronic information - risk assessment in advance of arrival |
| Single Customs risk management repository | Exchanges data with OGAs, National, and International agencies |
| No evaluation of the effectiveness of the risk processes | Cargo Intervention Strategy (CIS) and Differentiated Risk Response Model (DRRM) - systems for evaluation of the effectiveness of risk processes |
| No exchange of pre-arrival information, visual inspection of shipments | Risk assessment on pre-arrival basis, risk assessment and use of NII equipment for the inspection of shipments |

*Source: Author's compilation*

#### *3.2.3.5 Border Clearance Performances*

The Australian Customs and Border Protection are efficiently using the risk management methodology to process cargo import and export. The agency has a risk management framework with developed strategic and operational risk assessment. This is reinforced by a set of profiles and alerts. Customs and Border Protection apply controls based on compliance strategies to alleviate identified risks.

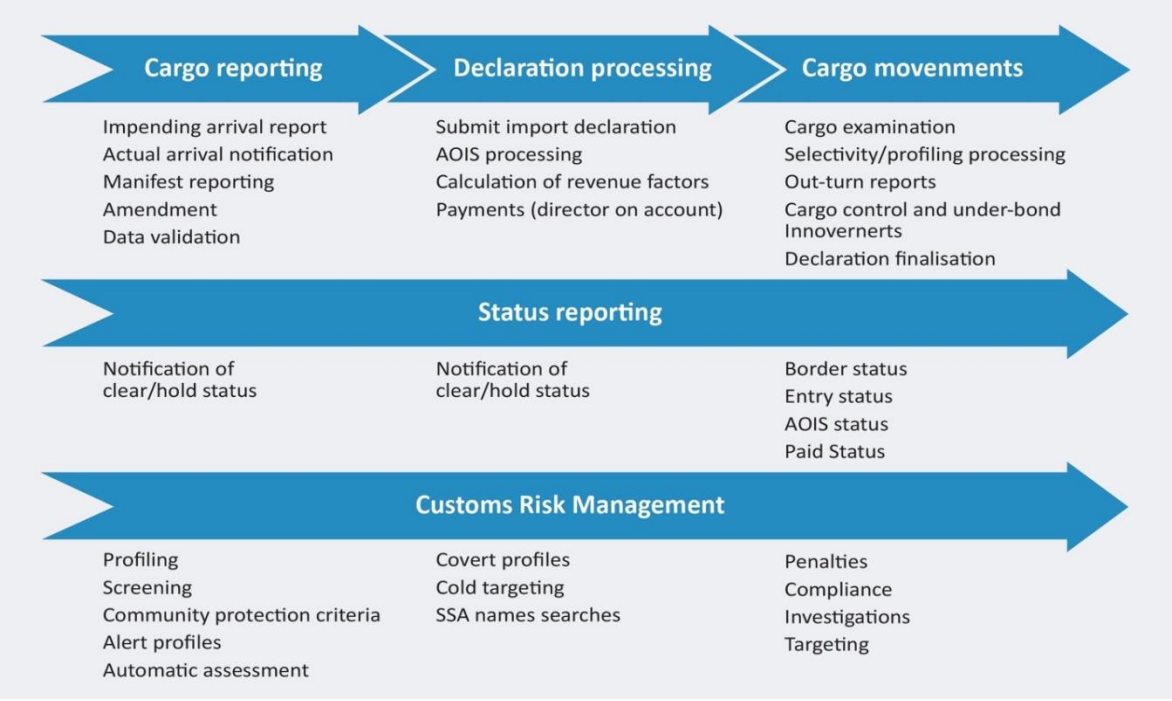
The Australian Customs assess the risk at strategic, operational and tactical level. Strategic risks are articulated in the Annual Plan and Annual Risk Plan. A common risk management platform (for customs and border protection) was defined in 2009 - Government's broader Strategic

Border Management Plan. The strategic risks identified are terrorism, biosecurity threats, import of prohibited and restricted good, unauthorized movement of people and revenue collection (customs duty, taxes, etc.)

The implementation of the defined strategic risks is applied through the Cargo Intervention Strategy (CIS) and Differentiated Risk Response Model (DRRM)[62].

The risk profiles and alerts at tactical level are used for inspection and examination of consignments. The Australian Customs Import Process is presented in Figure 20.

**Figure 20: Australian Customs Import Process**




*Author's compilation*

These compliance strategies look at importer's education, the seizure/detention of goods as well as administrative penalties. Customs and Border Protection have enhanced its risk management arrangements over time and, more recently, has developed a multi-year CRM planning framework to align decisions on resource allocation with the assessment of organizational and border-related risks.

The CRM makes use of pre-arrival and pre-departure information that Australian Customs require in specific timeframes for reporting on cargo that will need to be imported into Australia. For all air cargo the information must be reported two hours before arrival, and for all sea cargo, the information must be reported 48 hours before arrival. The Australian Border Force will not clear any cargo if it lacks pre-arrival information, and additionally, traders, agents, and involved individuals can face substantial fines. All of the above finds support in the Australian Customs Act and Customs Regulations.

[62] https://www.anao.gov.au/work/performance-audit/administration-tariff-concession-system

*3.2.3.5.1 Post Clearance Audit*

The Post Clearance Audit has aims to improve the voluntary compliance. The Australian Customs uses risk assessment (blue channel) and intelligence. Audits are confirming the information provided by the traders and the integrity of the import/export transactions for compliance.

The Australian Customs conducts three types of audit controls:

- Planned, risk-based controls; these controls are targeted at traders where there is a perceived risk to the revenue and non-compliance. These controls are planned by the Planning and Selection Section of the Department for Compliance, using risk analysis techniques and taking into account the resources available;
- Demand-led controls requested by other LE units and national or international authorities; these controls are those requested by other departments or national and international authorities and must be responded to, often within a specific time frame. These controls cannot be planned and must take priority over risk-based controls;
- Reactive controls in conjunction with other LE units; reactive controls are those that require an immediate response following information received by the customs LE. As with demand-led controls, they cannot be planned in advance and also take priority over planned, risk-based controls.

*3.2.3.6 Performance Measurement*

The Risk and Strategy section (Customs HQ) consolidates CRA Risk Assessment Reports and considers risks against Customs and Border Protection objectives.

Customs and Border Protection use predefined risk reporting templates:

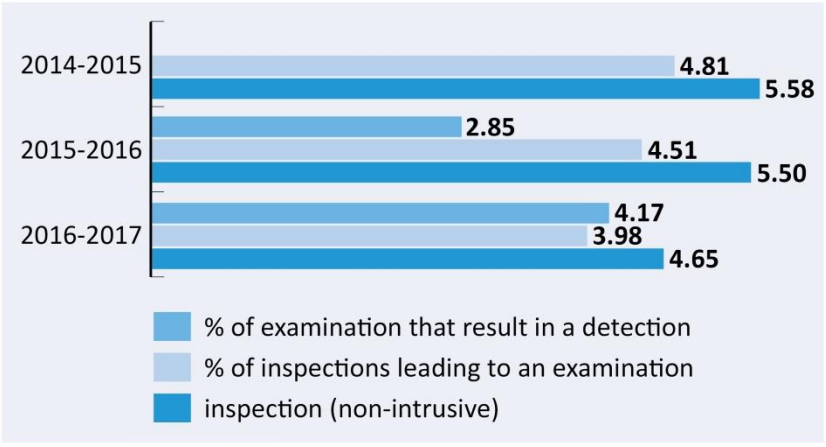
- Specific key risk indicators including metrics;
- Performances of the risk profiles/risk indicators;
- Analysis of Customs and Border Protection's detections, seizures of goods and detentions;
- analysis of the seized illicit drugs and precursors including modus operandi;

The Compliance Assurance Branch is currently introducing a risk management cycle which involves the following steps:

- The Compliance Risk Analyst identifies and assesses risks, develops targets and outcomes against the risk and submits bids for treatment resources via a Risk Assessment Report;
- The section compiles the draft Compliance Action Plan for presentation to the Compliance Executive Group (CEG). The CEG considers the draft, amends it as necessary to align resources with priorities and endorses it;
- Compliance Assurance teams execute the Compliance Action Plan;
- Outcomes are evaluated, and result fed back to CRAs and stakeholders, and Business Effectiveness Report is prepared by Customs and Border Protection Executive.

Because all of the shipments imported and exported to/from Australia pass through airports and seaports, the procedures to implement CRM system in high level are based on pre-arrival information, risk assessment and using of NII equipment for the inspection of cargo. The results of such inspections can produce additional inspections such as detailed examination of the shipments. Figure 21 is providing the percentages of inspected and examined shipments in the last three years and the respective success rates (detection).

**Figure 21: Australian Customs percentages of inspected and examined shipments**



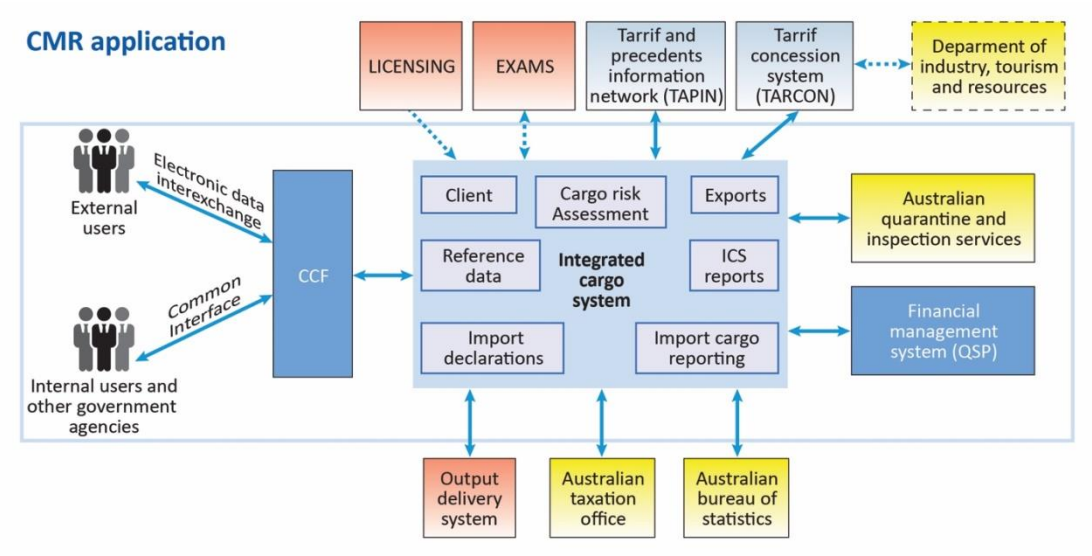

*Source of data: Australia Customs and Border Protection Report 2014-2015, 2015-2016, 2016-2017*

### *3.2.3.7 Use of IT*

In 1996, the Australian Government in collaboration with the private sector developed the Cargo Management Strategy (CMS) to address the international trade trends on the increasing trade volumes (3-4% average yearly rate) and the developments in international supply chains.

The implementation of the Australian Integrated Cargo System (ICS) also motivated a review of the effectiveness and the efficiency of risk management processes within the Customs. In this context, it was suggested that customs should re-engineer the cargo management processes. Re-engineering was expected to facilitate cargo movements with the implementation of an enhanced risk management system. The CMR application includes two main components: the core processing system ICS (Figure 22) and the embed risk management module. The EDIFACT standard is used between the ICS and third-party software for the electronic communications between importers, exporters, customs brokers, stevedores and freight forwarders. Up to 40 modular packages communicate with the ICS over the Internet or via dedicated lines. Besides, ICS could be directly used through Customs Interactive (CI), a web-based user interface. The CRM module became operational in 2003. However, both the exports and imports modules were delayed more than two years. Then the ICS and CRM module displayed slow performances. The principal cause of the slow performance was the unexpected processing load because of mismatching of data and by profiles. Moreover, this had a very poor usability, which in turn created further delays on the user while submitting the data. In 2005, under the Cargo Management Re-engineering project, the Integrated Cargo System (ICS) was introduced (Figure 22). For the first time, import and export processing and risk assessment for cargo were integrated into a single system. Till now, the ICS had three major upgrades.

**Figure 22: Australian Customs Integrated Cargo System Concept**




*Source: Australian Customs*

## 3.3 Summary – Lesson Learned from Kosovo, New Zealand and Australian Customs

The list below summarizes the best practices from the three non-OIC case studies Kosovo, New Zealand and Australia. In particular, it summarizes the implementation level of the CRM based on the CRM benchmark criteria and their current status.

The results of analysis - comparative matrix for the non OIC and OIC MS Case Studies are presented in Table 37.

**Legal, strategic and other mechanism supporting CRM system**

*Kosovo Customs*

- Kosovo Customs Strategy provides valuable input in the LE and CRM Strategies/Policy;
- Customs and Excise Code in force is fully compliant with current EU acquis supported by the following pillars;
  - Inter-agency cooperation (between different ministries or border agencies);
  - International cooperation (with other CAs and international organizations);
  - National Strategy on combating terrorism;
  - Organised crime, trafficking in human beings, and the strategy for combating narcotics.

*Australian Customs Service*

- The Australian Border Force (ABF) adopted Strategy 2020 and the Corporate Plan 2015-19, aligned with the ABF reform programme;
- Main objectives stipulated in the 2020 Strategy is risk-based processes of passengers and goods flow, customs compliance, and revenue collection.

*New Zealand Customs Service*

- NZCS approved new Legislative framework that provides a regulatory framework for CRM, supported by a series of measures to TF and ensures compliance;
- The main objective of the NZCS Strategy related to CRM is Intelligence-led, risk-based streamline, simplification of trade processes, other border-related risks through an integrated risk management approach.

**Organization and management**

*Kosovo Customs*

- Establishment of Risk Management Commission (RMC) monitoring the customs compliance and revenue collection.

*Australian Customs Service*

- Australian Customs and Protection of Borders Service were merged with the Department of Immigration and Border Protection to establish the Australian Border Force (2015);
- Customs and Border Protection introduced a Profile Management Board and developed a plan for measurement of the CRM performances.

*New Zealand Customs Service*

- Establishment of Customs Audit and Risk Committee monitoring the performances in information management, enforcement, revenue collection, coordinated examination and delegation of control.

**Risk Management Cycle**

*Kosovo Customs*

- Full coverage of the CRM Cycle combining the supportive IT systems - AW, LE IT System, DWH/Business Intelligence and data mining;
- LE IT System for managing the feedback/irregularities;
- Exchange of customs data in real time with the neighboring countries (SEED);
- Risk Assessment on pre-arrival information;
- Intelligence based CRM.

*Australian Customs Service*

- Full coverage of the CRM Cycle - AS/NZS ISO 31000:2009 standard;
- Use of intelligence, combined with information flows from other intelligence agencies;
- Common CRM repository/CRM management system with border and OGAs;
- National level - exchange of information with Federal Police, Australian Quarantine and Inspection Service, Department of Immigration and the Defence Department.

*New Zealand Customs Service*

- Full coverage of the CRM Cycle - ITOC Integrated Targeting Operations Centre/ agencies' common risk management (NZCS, Immigration Agency Police, and the MPI) according to the AS/NZS ISO 31000:2009 standard;
- Automated Targeting System – assesses pre-arrival passenger's information;

- Border Protection Financial Management Information System (FMIS) - IT System for management of customs control assessment and feedback.
- Exchanges data with OGAs, National, and International agencies.

**Monitor and Review**

*Kosovo Customs*

- The performances of KC CRM is monitored continuously - comparative analysis of risk indicators/profiles on the historical data using BI and data mining.

*Australian Customs Service*

- Evaluation of the effectiveness of CRM - Cargo Intervention Strategy (CIS) and Differentiated Risk Response Model (DRRM).

*New Zealand Customs Service*

- CRM assessment tool - Customs Harm Model, enables NZCS to measure the impact of Customs' enforcement and risk management performances.

**Technology**

*Kosovo Customs*

- CRM supported by the AW, Integrated LE IT System, DWH/BI and data mining;

*Australian Customs Service*

- Australian Integrated Cargo IT System (ICS) - CDPS with full coverage of CRM Cycle;
- Use of advanced CRM technique - data mining and risk profile simulation.

*New Zealand Customs Service*

- Joint Border Management System (JBMS) - advanced risk management tools supporting Customs and MPI and all border stakeholders.

## 3.4 Requirements for a Successful Outcome during Establishment & Implementation of CRM

It is not simple to establish and implement a successful CRM. Risk management is about predicting the future and preparing to act on the basis of those predictions. From worldwide experience in designing of such systems, and considering the international agreements, standards, and recommendations (Chapter 2.5), the most important requirements for a successful outcome during establishment & implementation of CRM are the following:

- **CA ensures strategic support for the establishment and implementation of the CRM**. The successful establishment and implementation of the CRM will depend on the commitment of the entire administration to take all necessary steps. Therefore, the development, implementation and continuous improvement of the CRM must be incorporated as one of the strategic objectives of the customs administration.
- **The Design of the CRM requires strong management commitment**. The management's commitment to establishing and implementing an efficient CRM system is another essential requirement. Without the top management support and without raising the CRM as a top priority on their agenda, the administration will unlikely establish and implement an effective CRM.

- **CRM as an integral part of the organizational processes**. The CRM should be designed using a systemic approach and integrated into the entire organizational system of the customs administration. Only then the new CRM processes and procedures will be integrated into the existing organizational processes and procedures.
- **An Effective CRM requires strong Customs-to-Other Agencies Partnership program**. To ensure an effective CRM, it is paramount that for information and intelligence are timely exchanged with other agencies on the national and international level. This exchange could feed the CRM with additional information resulting in the development of more effective risk profiles.
- **An Effective CRM requires strong Customs-to-Customs Partnership program**. Expanding beyond the country's borders, the CRM will ensure more effective trade facilitation that rests on cooperation with other customs administrations. The focus here is on timely information on high-risk cargo that will enable more effective targeting for inspection.
- **An Effective CRM requires strong Customs-to-Business Partnership program**. Customs-to-Business partnership programs will promote the use of the AEO status and traders posing least risks will benefit from simplified customs procedures. The limited human resources of customs administrations would thus be allocated to the traders presenting highest risks.
- **An Effective CRM requires the use of IT**. Effective CRM must be based on information technology that supports the smooth exchange of information with other customs administrations and economic operators. The exchange of pre-arrival and pre-departure information is necessary for successful risk analysis.
- **An Effective CRM requires performance measurement and continuous improvement**. Performance measurement is based on monitoring and review of the existing CRM processes. To secure the continuous improvement of the CRM, CAs need to define and establish effective performance measurement processes with strongly defined key performance indicators (KPI) and procedures.

## 3.5 Benchmark Criteria

In order to describe, analyze and compare OIC MS Customs risks management efforts, the benchmark criteria are based on the conducted research of global CRM best practices and analysis of the non-OIC best cases. The reason for providing benchmark criteria by analyzing global best cases and worldwide best practices is to create a framework for an analysis of the OIC MS CRM comparatively.

### 3.5.1 Legal, strategic and other mechanism supporting CRM system

Legal aspects and CRM Strategy/Policy criteria reflect the different stages that the CRMS efforts can be. CRM is a long-term development process, and it can take many years to establish a fully operational IT supported CRMs. The attributes, therefore, describe at what stage of the process the country is.

- Customs Code and Implementing Regulation (Support of CRM);
- Customs Strategy (Support of CRM);
- Law Enforcement and CRM Strategy/Policy;

- Action Plan and KPA;
- Mutual Assistance Agreements;
- MoUs;
- Implementation of International Standards and Agreements;

### 3.5.2 The organization and management

The organization and management benchmark criteria describe how customs authorities have integrated their CRM inside the organizational and managerial level in the CA. This includes attributes such as processes, human resources development, internal communication processes and exchange of information, customs law enforcement support, exchange of information and co-operation with other customs administrations.

- Organizational Structure Support of CRM;
- Change Management and Continuous Improvement;
- Human Resource Development (Knowledge-Based Systems);
- Processes and Standard Operational Procedures.

### 3.5.3 Risk Management Cycle

Risk Management Cycle is concerned with the extent to which the CRM supports risk identification, customs control, and trade facilitation at the same time. Effective risk management requires implementation of documented risk management cycle that enables close cooperation among related entities, including border agencies and other countries customs authorities. The attributes, therefore, capture the stages that customs official undertakes in the implementation of risk management processes.

- Risk Identification;
- Risk Analysis;
- Risk Evaluation and Prioritization;
- Preparation/Profiling (Manual and Automated - Data Mining and Predictive Analysis);
- Targeting (Fully Automated - Not Allow Discretionary Right of Rerouting);
- Covering/Treatment;
- Evaluation of outcomes/Feedback.

### 3.5.4 Monitor and Review

Monitor and Review criteria to capture the extent to which customs authorities use monitoring and reviewing processes to support the effectiveness of their risk control management cycle. The purpose of measuring and reviewing is to define and use key performance indicators and quantitative data analysis to secure continuous improvement process within the risk management system. The attributes, therefore, captured in the analysis process and statistical tools are used to analyze and review key performance indicators for decision making support for each stage of risk management cycle.

### 3.5.5 Technology

Technology is a broad criterion that aims to describe in non-technical language the Risk Management tools (inspection equipment) and IT architecture of the Risk management module in the Customs Declaration Processing Systems, Customs Law Enforcement IT Systems and supportive systems – data warehouse, business intelligence and data mining. The choice of IT CRMSs supportive elements determines to a large extent how effective the Customs is for

simplifying transactions. Attributes attempt to capture at a high level the design of the IT architecture, IT infrastructure, and specific aspects.

- Tools, equipment, and Infrastructure;
- LE IT System;
- CRM Module Embed in CDPS / Integrated CRM System;
- Data Warehouse, Business Intelligence, and Data Mining.

# 4 Analysis of OIC Member States' CRM efforts

This study aims to document and analyze the state of implementation of CRM in OIC MS and COMCEC to support their efforts for improvement of the CRM.

OIC MS vary in terms of economic development, political and administrative organization, and geography and trade policy priorities. Besides, CAs in OIC MS varies in terms of organization, practices, and resources. Risk management is a general concept that can be applied in different contexts and administrations. The inclusion of CRM into the WTO TFA is a testimony of the global recognition of its benefits.

Nevertheless, the implementation of CRM across the world is not uniform and is unequal: the depth of implementation, the effectiveness, and the use of IT support are only three aspects in which the implementation can differ. The study, therefore, describes to what extent CRM is applied by CA in OIC MS and describes specificities of the implementation. The comparative analysis is being used to identify and observe patterns of implementation that indicate challenges or basic requirements.

## 4.1 Description of Assessment method

This study aims to document and analyze specific characteristics of CRM implementation. For this, it is necessary to develop a set of assessment criteria covering various aspects of CRM. These criteria were grouped into five categories, covering the legal and regulatory framework, the organizational and management, risk management cycle, monitor and review and technology (see Chapter 3.5).

Information was collected using three different collection methods of interviews, survey and desk research. However, limited number of survey responses (see ANNEX 7.2.2) made it impossible to use these criteria for comparative cross-country analysis.

Desk research and interviews were used for collection of information for the three case studies. Three missions were undertaken to the Turkey, Senegal and Albania CAs.

### 4.1.1 Assessment Criteria

#### *4.1.1.1 Cross-country comparison: single criteria*

Risk Management Cycle is concerned with the extent to which the CRM supports risk identification, customs control, and trade facilitation at the same time. Effective risk management requires implementation of documented risk management cycle that enables close cooperation among related entities, including border agencies and other countries customs authorities. The attributes, therefore, capture the stages that customs official undertakes in the implementation of risk management processes.

The assessment method, therefore, was amended; the cross-country comparison relies on single criteria - Risk Management Cycle, on which information can be obtained for all OIC MS even in the absence of a survey. Information on the remaining criteria, necessarily obtained through the surveys, are used for the in-depth analysis at the country level.

## 4.2 Stage of Implementation of CRM in the OIC Member States

### 4.2.1 CRM Survey

The CRM survey – in Annex 7.3 was prepared and sent to all OIC Member States. 16 responses were received from the following OIC MS CAs (Banglaesh, Malaysia, Cameroon, Ivory Coast,

Jordan, Morocco, Nigeria, Palestine, Suriname, Indonesia, Turkey, Senegal, Albania, Togo, Oman, and Bahrain).

- The implementation level and CRM Strategy criteria reflect the different stages in a CRMS. CRMs are long-term developments, and it can take many years to establish a fully operational IT supported CRMs. The attributes, therefore, describe at what stage of the process the country is;
- Risk Management Cycle coverage is concerned with the extent to which CRM support risk identification, customs control, and trade facilitation at the same time. Effective risk management requires implementation of documented risk management cycle that enables close cooperation among related entities, including border agencies and other countries' customs authorities. The attributes capture the stages that customs official undertake in implementation of risk management processes;
- Monitor and Review aim to capture to what extent customs authorities use monitoring and reviewing processes to support the effectiveness of their risk control management cycle on a regular basis. The purpose of measuring and reviewing is to use KPIs and quantitative data analysis to secure continuous improvement process within risk management system. The attributes capture the analysis process and statistical tools used to analyse, measure and review key performance indicators decision making support for each stage of risk management cycle;
- The organization and management criteria cover aspects that describe how customs authorities have integrated their CRM inside organizational and managerial level in the organization. This includes attributes such as processes, human resources development, internal communication processes and exchange of information, customs law enforcement support, exchange of information and co-operation with other customs administrations;
- The final criteria, the technology, is a broad criterion that aims to describe in non-technical language the Risk Management tools (inspection equipment) and IT Architecture of the Risk management module in the Customs Declaration Processing Systems, Customs Law Enforcement IT Systems and supportive systems – data warehouse, business intelligence and data mining. The choice of IT CRM supportive elements determines to a large extent effectiveness of the Customs in simplifying transactions. Attributes attempt to capture at a high level the design of the IT architecture, IT infrastructure, and specific aspects.

The research data and responses on the CRM Survey results for OIC MS are presented in Annex 7.2.2.

## 4.3 Comparative Findings of this study

### 4.3.1 Analysis of OIC Member States CRM - Benchmark Indicators and Summarization Strategy

#### *4.3.1.1 Legal, strategic and other mechanism supporting CRM system*

##### *4.3.1.1.1 Customs Code, Implementing Regulation and Strategy*

In the past 20 years, OIC MS have adopted legal framework – Customs Law (Code) that defines the structural rules and provisions regulating the customs matters. The customs law prescribes the customs powers, defines law enforcement competencies and noncompliance (offense, in some countries, referred as irregularities).

In many OIC MS, the Customs Strategy, or the strategic planning, is imposed on the Customs. CAs is not providing sufficient attention to strategic objectives or the development of an appropriate longer-term vision for the administrations, mainly focusing on revenue and not on compliance.

The Action Plan is a process that CAs uses to define actions to ensure achievement of their strategic goals. The plan needs to help CAs to monitor the status of the strategic objectives, allocate proper resources and make decisions based on performance results. Many CAs performances are measured exclusively by their success in achieving revenue targets.

Usually, action plans are developed in broader view without necessary elements to monitor and measure the implementation of actions and achievement of goals. Therefore, the action plan cannot determine the objectives of the strategy. Consequently, the CA cannot develop the KPI's to measure its successes.

The CAs management needs to focus on obtaining results in its priorities - including the core activities and new priorities. OIC MS CAs already acknowledged the need for the management to focus more closely on results, and hence the decision to develop a conceptual framework for the introduction of activity-based management. The weakest points of the management are the performance monitoring and reporting and analysis services.

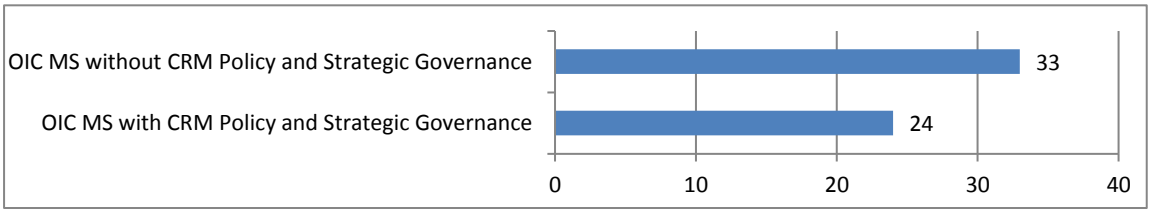
The strategic and organizational context is the environment in which the risk management process is performed. The CAs shall determine the strategic and organizational context where risk management shall be practiced, wherefore the strategic context shall be determined by considering the question: "What is Customs expected to achieve," while the organizational context shall be determined by considering the question: "How can Customs accomplish its goals?" The answer to the question is delimited in the long-term vision of the priorities and the strategic objectives contained in the CAs Strategic Plans. Once the strategic context is defined, the type of organizational structure must be defined to achieve the set goals and tasks. The roles and responsibilities within the organizational structure should be defined, and open communication shall be ensured amongst all the participants in the process.

In OIC MS little or no attention is paid to ongoing review and evaluation of the implementation of the Customs Strategic objectives. Often, management information, operational statistics and performance indicators are not available to measure progress concerning non-revenue related strategic objectives. Many of the OIC MS do not have quantitative goals and performance indicators to measure the effectiveness of the CRM.

#### *4.3.1.1.2 CRM Strategy / Policy*

CRM policy is an output of the CAs strategy, defining the way on how the strategic goals will be accomplished includes specific objectives and specific results for each strategic goal. The CRM policy makes sense only when it includes the monitoring and review stage. This stage is required as a means that will check where the CRM is going in respect to the defined objectives; and will identify corrective measures to ensure objectives are achieved, and risks that may prevent their accomplishment are mitigated. In other words, by Monitoring and reviewing its activities, the CRM will be able to verify the degree of achievement of the defined objectives (Figure 23).

**Figure 23: CRM Policy and Strategic Governance in OIC MS**




*Author's compilation*

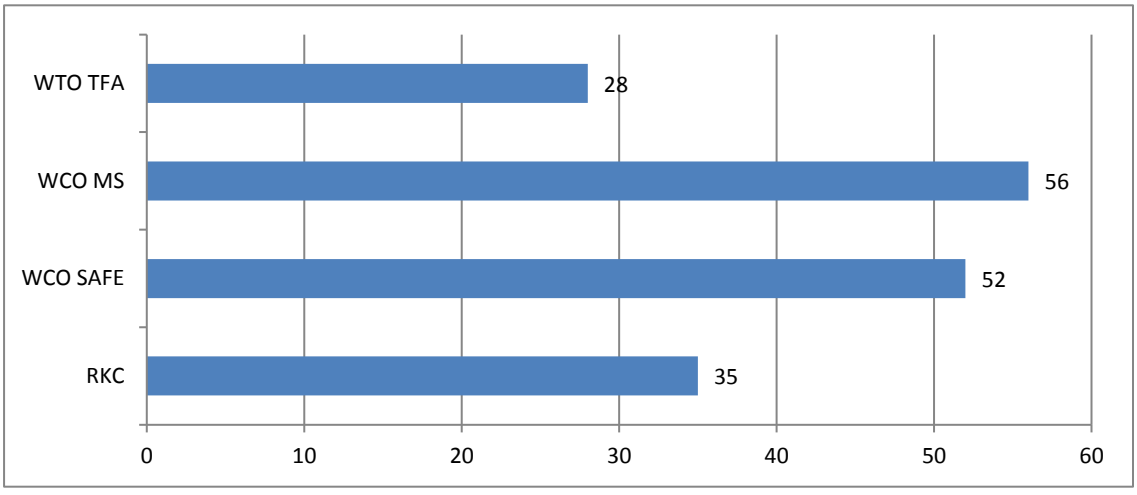
According to the information available, 24 OIC MS have implemented CRM Strategy Policy and Strategic Governance, commonly a copy of the general wording and general formulation of standards recommended by the WCO, WTO and the CRM standards. In most cases, the CRM Policy is adapted to the CDPS embedded RM functionalities – selectivity module for risk analysis.

*4.3.1.1.3 OIC MS International Agreements, Standards and Recommendations related to CRM*

Apart from Surinam, all OIC MS are members of the WCO. 52 OIC MS ratified the international WCO Framework of Standards (SAFE) instrument for a safer world trade regime (apart from Algeria, Brunei Darussalam, Guyana, Palestine, Surinam, and Turkmenistan). 35 OIC MS are party to the WCO International Convention on the Simplification and Harmonization of Customs Procedures - Revised Kyoto Convention (RKC). The following OIC MS have not ratified the RKC - Afghanistan, Brunei Darussalam, Chad, Comoros, Djibouti, Gambia, Guinea, Guinea - Bissau, Guyana, Iraq, Kyrgyzstan, Lebanon, Libya, Maldives, Mauritania, Palestine, Somalia, Surinam, Syria, Tajikistan, Turkmenistan, and Uzbekistan.

28 OIC MS ratified the WTO Trade Facilitation Agreement (Figure 24). Table 15 presents the OIC MS International Agreements membership.

**Figure 24: OIC MS International Agreements and Standards related to CRM**




*Source: Author's compilation*

**Table 15: OIC MS International Agreements membership**

| | RKC | WCO SAFE | WCO MS | WTO TFA | | RKC | WCO SAFE | WCO MS | WTO TFA |
|---|---|---|---|---|---|---|---|---|---|
| Afghanistan | | Jun-05 | Aug-04 | Jul-16 | Malaysia | Jun-08 | Jun-05 | Jul-64 | May-15 |
| Albania | Jun-13 | Jun-05 | Aug-98 | May-16 | Maldives | | Jun-05 | Sep-95 | |
| Algeria | Jun-99 | | Dec-66 | | Mali | May-10 | Jun-09 | Aug-87 | Jan-16 |
| Azerbaijan | Feb-06 | Jun-05 | Jun-92 | | Marocco | Jun-00 | Jun-05 | Jul-68 | |
| Bahrain | 2014 | Jun-05 | Apr-01 | Sep-16 | Mauritania | | Jun-05 | Oct-79 | |
| Bangladesh | Jul-12 | Jul-10 | Jul-78 | Sep-16 | Mozambique | Jul-12 | Jun-05 | Jul-87 | Jan-17 |
| Benin | Jan-17 | Nov-05 | Nov-98 | | Niger | Feb-15 | Jun-05 | Jul-81 | Aug-15 |
| Burkina Faso | Jul-17 | Jun-05 | Sep-66 | | Nigeria | 2016 | Jun-05 | Aug-63 | Jan-17 |
| Burnei Darussalam | | Feb-10 | Jul-96 | Dec-15 | Oman | Jan-15 | May-08 | Sep-00 | Feb-17 |
| Cameroon | Nov-14 | Jun-05 | Apr-65 | | Pakistan | Oct-04 | Jan-06 | Nov-55 | Oct-15 |
| Chad | | Jun-06 | Feb-05 | Feb-17 | Palestine | | | Mar-15 | |
| Comoros | | Jul-05 | Jul-93 | | Qatar | Jul-09 | Jun-05 | May-92 | Jun-17 |
| Cote d'Ivoire | Jun-13 | Jun-05 | Sep-63 | Dec-15 | Saudi Arabia | Apr-11 | Jun-15 | May-73 | Jul-16 |
| Djibouti | | Sep-10 | Mar-08 | | Senegal | Mar-06 | Jun-05 | Mar-76 | Aug-16 |
| Egypt | Jan-08 | Jun-05 | Oct-56 | | Sierra Leone | Jun-15 | Jun-05 | Nov-75 | May-17 |
| Gabon | Nov-12 | Jun-05 | Feb-65 | Dec-16 | Somalia | | Feb-13 | Oct-12 | |
| Gambia | | May-07 | Oct-87 | Jul-17 | Sudan | Aug-09 | Jun-05 | Jun-60 | |
| Guinea | | Jun-05 | Oct-91 | | Surinam | | | | |
| Guinea - Bissau | | Jun-05 | Aug-10 | | Syria | | Mar-08 | Nov-59 | |
| Guyana | | | Jul-76 | Nov-15 | Tajikistan | | Jan-06 | Jul-97 | |
| Indonesia | Aug-14 | Sep-05 | Apr-57 | Dec-17 | Togo | Jun-14 | Jun-05 | Feb-90 | Oct-15 |
| Iran | Feb-16 | Jun-05 | Oct-59 | | Tunisia | Jul-17 | Jun-05 | Jul-66 | |
| Iraq | | Jan-09 | Jun-90 | | Turkey | May-06 | Jun-05 | Jun-51 | Mar-16 |
| Jordan | Dec-06 | Jun-05 | Jan-64 | Feb-17 | Turkmenistan | | | May-93 | |
| Kazakhstan | Jun-09 | Jun-05 | Jun-92 | May-16 | Uganda | Jun-02 | Jun-05 | Nov-64 | |
| Kuwait | Apr-17 | Jun-08 | Oct-93 | | United Arab Emirates | Jun-10 | Jun-05 | Feb-79 | Apr-16 |
| Kyrgyzstan | | Jun-05 | Feb-00 | Dec-16 | Uzbekistan | | Mar-06 | Jul-92 | |
| Lebanon | | Dec-05 | May-60 | | Yemen | Jul-13 | Jun-05 | Jul-93 | |
| Libya | | Jun-07 | Jan-83 | | | | | | |

*Author's compilation (based on information available on 15th of December 2017)*

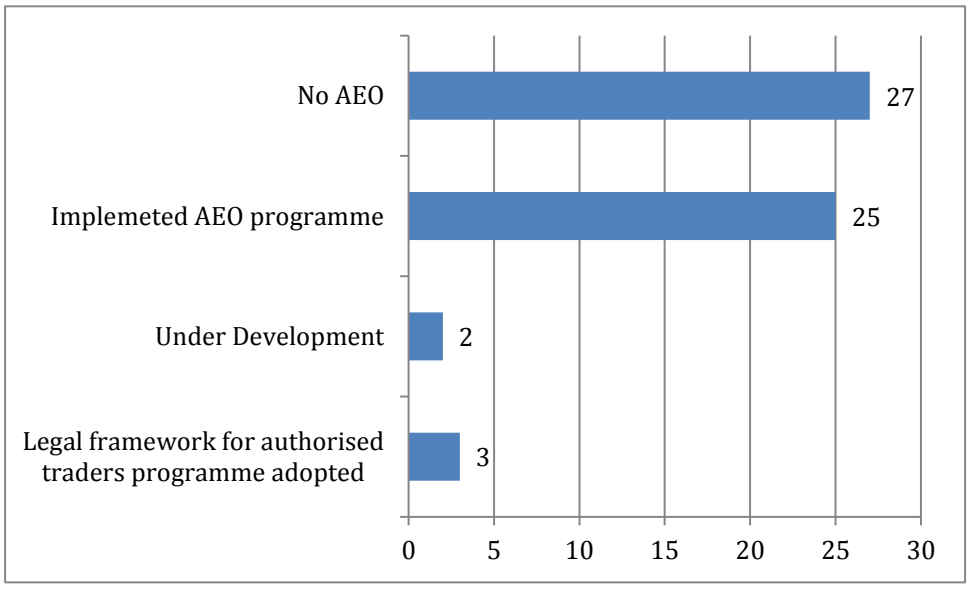
#### *4.3.1.1.4 Authorized Economic Operator*

**The WCO Authorized Economic Operator (AEO) programme promotes customs to a business partnership. The AEO concept in OIC MS is based on the WCO AEO programme. 27 out of 57 OIC MS have not implemented, 4 MS has the legal framework for authorized traders programme adopted, 2 MS are under development, and 25 MS has implemented the AEO or similar simplification measures concepts[63]. Table 16Figure 25: OIC MS AEO implementation status and simplification measures**

presents the OIC MS AEO and simplification measures implementation status:

[63] http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium-2017.pdf?db=web and OIC MS CAs websites

**Figure 25: OIC MS AEO implementation status and simplification measures**




*Source: Author's compilation*

Kyrgyzstan and Kazakhstan have adopted the legal framework of the Eurasian Economic Union (EEU) trusted trader programme.

According to the WCO Compendium of Authorized Economic Operator Programme and information available on the OIC MS web sites, 1097 is the total number of the AEO operators in OIC MS, or in average, near 45 operators per MS that has implemented the AEO concept. Algeria is a leader in the OIC MS with 335 AEO operators, followed by Turkey with 263 AEO operators, and Morocco with 180 AEO operators (category A). Table 16 presents the OIC MS AEO and simplification measures status.

**Table 16: OIC MS AEO status and simplification measures**

| OIC MS | Year of adoption of AEO Concept | No. of operators |
|---|---|---|
| Albania | Adopted legislation | |
| Algeria | 2012 | 335 |
| Azerbaijan | 2013 | 1 |
| Bahrain | 2018 | |
| Bangladesh | Under Development | Exporter at the pilot stage |
| Brunei Darussalam | Sutera Lane Merchant Scheme 2017 | |
| Cameroon | Performance Operators' Contracts 2011 | 27 Importers |
| Ivory Coast | 2017 | Experimental phase 2nd quarter 2017 with 10 pilot companies |
| Egypt | 2005 | 115 |
| Indonesia | 2013 | 9 |
| Iran | 2014 | 11 |

| OIC MS | Year of adoption of AEO Concept | No. of operators |
|---|---|---|
| Jordan | Golden List 2005 | 60 |
| Kazakhstan | 2013 | 5 legal entities |
| Kyrgyzstan | EAEU legislation adopted | |
| Lebanon | 2010 | |
| Malaysia | 2010 | 59 |
| Morocco | 2006 | 342 (180 category A) |
| Mozambique | 2012 | 6 |
| Nigeria | 2017 | |
| Oman | 2017 | |
| Pakistan | Under Development | |
| Saudi Arabia | 2017 | |
| Senegal | Privileged Partnership Programme 2011 | 22 |
| Sudan | Golden List 2016 | 5 |
| Tajikistan | EAEU legislation adopted | |
| Togo | Privileged Partnership Framework 2016 | 10 pilot operators |
| Tunisia | 2010 | 25 |
| Turkey | 2013 | 263 |
| Uganda | 2013 | 17 Importers/Exporters<br>19 Customs clearing agents |
| United Arab Emirates | Golden List programme 2007 | 26 |

*Source: Author's compilation*

#### *4.3.1.2 The Organization and Management*

##### *4.3.1.2.1 Organizational structure support of CRM*

In recent years many OIC MS have established autonomous revenue agencies in an attempt to improve the level of professionalism and to enhance cooperation and coordination between various revenue-related agencies. However, the level of integration between the various functional groupings in such agencies is not well developed, especially in the non-revenue objectives, e.g., trade facilitation, CRM, etc.

Implementation of effective CRM demands a more holistic approach when it comes to organizational and managerial aspects. The CRM will not bring the desired results without the support from the top level management through the middle and first line management to the front line customs officers. There is a strong need for a bottom-up flow of information related to risk management; it is no longer sufficient to manage risks only at the individual activity level. Today's CRM challenges require implementation of risk management process at every level in CAs. Only in such a way, the CAs can use CRM at all organizational levels to facilitate priority setting and improve decision making on each level. As elaborated in the Chapter 2.5.5, the risk management standard AS/NZS ISO 31000: 2009 requires implementation of 7 steps to establish organizational risk management framework. Such a framework contains five key elements: mandate and commitment, organizational risk governance arrangements (designing the

framework), implementing and practicing risk management, monitoring and review, and continuous development. It's a common practice in the OIC MS CAs to organize the CRM as a part of other organizational departments. The practice shows that the higher the structure in which the CRM is placed, the more mandate and power it will have, and more commitment will be ensured on all organizational levels.

OIC MS CAs are typically structured along functional and geographical lines, and staff classification is based on historical contingencies rather than responsibilities, competence and work value. Such functional groupings may no longer be appropriate and may work against the adoption of modern Customs practices and techniques. It is difficult to rapidly modify organizational structures, reporting mechanisms, and remuneration grades.

Many of the OIC MS CAs are in the process of implementation or planning modernization projects. The start of any modernization project is accompanied by a reflection of the institutional organization reforms and project risk management. Organizational reforms are particularly important; the CRM has always been identified as a priority and introduced as part of overall strategies to modernize the CA. The modernization projects of CAs are an occasion to rationalize the management by optimizing the overall organization.

The CRM Department is a unit responsible for the process of risk management. It collects and processes information necessary for planning and organizing risk management activities. Based on performed analyses it profiles risks and establishes criteria for selective examination. It supervises the process and analyses undertaken actions. It drafts ad-hock, periodical and permanent reports on the successfulness of existing criteria, and depending on the achieved results; it can recommend modification or termination of existing criteria. It co-ordinates risk management activities with the other organizational units within the CA. It organizes periodic meetings, analyses statistical information and data in the CA to develop an assessment of possible problems, trends, and targeting strategies and it undertakes draft measures to improve the service's efficiency in:

- Identification and risk profiling: Coordinated risk analysis based on various sources of information. Based on this analysis, a risk profile should be defined and then used for different activities involving a certain level of risk, for example when processing declarations, approvals, etc.;
- Reduction of risk: Implementation of measures to minimize future risks and propose measures to handle risks certain customs operations. Strategic risk profiling will target certain high-risk areas for additional control and will thus reduce the number of violations over time.

**Intelligence Risk Management -** is the corner-stone of CRM cycle -selectivity: the use of information & intelligence, and subsequent risk analysis, increases the possibility of discovering irregularities in entities/commodities that are selected for examination while facilitating the free flow of the persons. The intelligence combined with CRM has a significant impact on trade facilitation.

The role of customs operational staff in Intelligence and CRM:

- Develop mechanisms for customs operational staff to carry out criminal intelligence and investigation activities;
- Integrate criminal intelligence and investigation capacities into customs operational concepts;
- Develop further the tactical, operational and strategic risk analysis methods.

In spite of the fact that these elements must be seen as an integral part of the daily work of customs operational staff, much work needs are done to develop operational staff's capabilities to carry out Risk Analysis, Intelligence, and Investigation.

The main problems that Intelligence is facing in OIC MS CA:

- No or limited intelligence function within the administration;
- Managers do not see the link between strategies and the different levels of intelligence;
- No policy and/or support for information management;
- No independent collection and collation of information;
- Operational staff unaware of what intelligence is and/or how to use it;
- Enforcement officials do not trust Intelligence and rely more on physical checks;
- Work as a process unknown;
- No enforcement/investigations database;
- Lack of cooperation and provision of information for enforcement activities;
- Lack of sufficient feedback;
- No legislative authority for the use of informants;
- There may be possible data protection issues;
- Definitions or types of product unknown;
- Lack of interest or resource for data input;
- Lack of information security or integrity;
- Lack of relevant internal guidelines;
- Lack of information dissemination processes.

*4.3.1.2.2 Change management and continuous improvement*

In most of the OIC MS CA, insufficient attention is paid to developing a sound change management strategy to underpin reform and modernization efforts occurring within the administration. Major changes are typically imposed on staff and stakeholders without sufficient attention to developing a clear vision for the future, a sound communication strategy, and without a strategy for obtaining the participation and commitment of key stakeholders including staff.

Moreover, little attention is paid to identifying potential barriers to implementation. As a result, many reforms and modernization programmes do not achieve their stated objectives or prove unsustainable in the longer term. In many CA, reform and modernization of systems and procedures occur only as a result of external pressure for change brought about by changes in government policies or as a result of reports and recommendations prepared by external parties such as consultants.

*4.3.1.2.3 Human resource development*

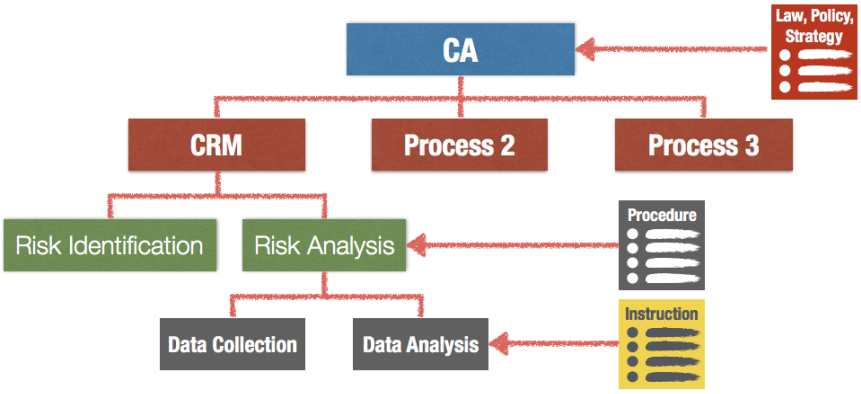
In most of the cases, distribution of staffing resources between CA business functions may be based on historical contingency rather than focus on the current and short-term priorities.

There is no information related to the selection and hiring of customs personnel that need to be based on transparent and competitive processes. The CRM staff must have experience in customs procedures, and knowledgeable in risk analysis tools and techniques, like predictive analytics and data mining. CRM staff should be recruited based on the well-defined job descriptions.

#### *4.3.1.3 Development of CRM standard operational procedures*

An efficient CRM requires a clear definition of all necessary processes in order to cover all stages of the CRM cycle. Development of processes needs to start at the top-level, following the legal environment, policy and, strategy. The processes should be broken down into sub-processes and procedures following the specifics of the CRM (Figure 26).

**Figure 26: Links between policies, processes and SOP**




*Author's compilation*

According to the responses received from the Survey, 11 of the 16 OIC MS are using the SOP. There is a no consistency in the responses received, due to the fact that there is a 9 MS with adopted CRM Policy and 8 with Implementing Regulations. The CRM Policy and Implementing Regulations are the basis for defining the processes and development of the SOP. Due to the absence of enhanced SOP and detailed administrative instructions related to CRM, most of the OIC MS are not able to implement an appropriate risk-based control and feedback/monitoring accordingly.

The CRM requires changing current processes, redesigning and improving flows to cover the CRM cycle. To implement these changes effectively, it is very important to perform a business process analysis on the current processes in detail to recommend improvements. In this way, a better understanding of the current situation (AS-IS) will be gained, and the recommendations and simplifications can be proposed for the target situation (TO-BE). Furthermore, business process analysis allows all parties involved in CRM and LE to gain a better understanding of the procedural and operational aspects of the CRM. In particular, it informs how business processes are carried out, how business processes relate to one another, who is responsible for them, what documents, rules, and regulations are involved, and how this information flows.

#### *4.3.1.4 Risk Management Cycle*

The methodology to determine the level of implementation of CRM in OIC MS rests on the seven stages of the CRM cycle. This allows creating a visual representation of the CRM cycle in OIC MS CA assessment. The CRM performances for every stage of the CRM cycle is presented on a scale from 0 to 7, where a value of zero means that a CRM does not apply any of the criteria (CRM cycle) and a score of 7 means that the CA fully applies the full CRM cycle. The seven stages of the CRM cycle are recommended by the WCO standards and the reviewed literature. Since the benchmarks criteria for these stages are uniformly applied between CAs, it is possible to perform a comparative analysis. The following elements and criteria were used:

- Risk Identification;

- Risk Analysis;
- Risk Evaluation and Prioritization;
- Preparation/Profiling;
- Targeting (Fully Automated - Not Allow Discretionary Right of Rerouting);
- Covering/Treatment;
- Evaluation of outcomes / Feedback

Table 17 presents the level of coverage of the CRM cycle stages in OIC MS CA;

**Table 17: Level of Implementation of CRM and the Coverage of the CRM processes**

| Level of Implementation of CRM | Coverage of the CRM processes |
|---|---|
| No CRM | No coverage |
| Basic CRM | 2 processes of the CRM |
| Medium CRM performances | 4 processes of the CRM |
| Advance CRM performances | 5 processes of the CRM |
| Full CRM performances | All CRM processes covered |

*Author's compilation*

To collect information on the risk management cycle desk research were used and survey results. A useful indicator for the risk cycle coverage is the CDPS and its functionalities. CDPS that are commonly deployed have known functionalities with regards to CRM coverage.

If no further information on the use of additional IT systems or resources for CRM was found or provided in the survey, we used the functionalities of the CDPS as an indicator on risk cycle coverage. This means that for 33 OIC MS CA that use the ASYCUDA (ASY++ and AW); estimation the coverage of the CRM Cycle according to the CRM functionalities embedded in the selectivity module of ASYCUDA. For the remaining 20 OIC MS, other information available on the Internet and our previous experience in the OIC MS was used. Four countries (Iraq, Libya, Somalia, and Yemen) are currently manually processing the CD, while two MS - Egypt and Kazakhstan are in early stage of implementation of the CDPS[64].

The research shows, 17 of the 57 OIC MS have implemented full CRM performances. 4 OIC MS have advances coverage of the CRM cycle and 25 of the OIC MS have medium CRM cycle coverage. Most of the OIC MS with medium CRM cycle coverage are using AW or ASY++. Table 18 present the coverage of the CRM Cycle in OIC MS;

**Table 18: Coverage of the CRM Cycle in OIC MS**

| Country | Risk Identification | Risk Analysis | Risk Evaluation and Prioritization | Preparation /profiling | Targeting | Covering /treatment | Evaluation of outcomes /feedback | CRM Cycle stage coverage |
|---|---|---|---|---|---|---|---|---|
| Afghanistan | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Albania | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Algeria | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | 6 |
| Azerbaijan | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |

[64] No information is available for the CA of Egypt, Kazakhstan, Lebanon, Mauritania, Iraq, Libya, Somalia, Syria, and Yemen

| Country | Risk Identification | Risk Analysis | Risk Evaluation and Prioritization | Preparation /profiling | Targeting | Covering /treatment | Evaluation of outcomes /feedback | CRM Cycle stage coverage |
|---|---|---|---|---|---|---|---|---|
| Bahrain | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Bangladesh | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Benin | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Burkina Faso | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Brunei Darussalam | ✔ | | ✔ | ✔ | ✔ | ✔ | | 5 |
| Cameroon | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Chad | | | | ✔ | ✔ | ✔ | | 3 |
| Comoros | | | | ✔ | ✔ | ✔ | | 3 |
| Cote d'Ivoire | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Djibouti | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Egypt | | | | | | | | 0 |
| Gabon | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Gambia | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Guinea | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Guinea - Bissau | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Guyana | | | | ✔ | ✔ | ✔ | | 3 |
| Indonesia | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Iran | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Iraq | | | | | | | | 0 |
| Jordan | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Kazakhstan | | | | | | | | 0 |
| Kuwait | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | 6 |
| Kyrgyzstan | | | | | ✔ | ✔ | | 2 |
| Lebanon | | | | | | | | 0 |
| Malaysia | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Maldives | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Mali | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Morocco | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Mauritania | | | | | | | | 0 |
| Libya | | | | | | | | 0 |
| Mozambique | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 6 |
| Niger | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Nigeria | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | 6 |
| Oman | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |

| Country | Risk Identification | Risk Analysis | Risk Evaluation and Prioritization | Preparation /profiling | Targeting | Covering /treatment | Evaluation of outcomes /feedback | CRM Cycle stage coverage |
|---|---|---|---|---|---|---|---|---|
| Pakistan | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | | 6 |
| Palestine | | ✔ | ✔ | ✔ | ✔ | ✔ | | 5 |
| Qatar | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Saudi Arabia | ✔ | | | ✔ | ✔ | ✔ | | 4 |
| Senegal | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Sierra Leone | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Somalia | | | | | | | | 0 |
| Sudan | | | | ✔ | ✔ | ✔ | | 3 |
| Surinam | | | | ✔ | ✔ | ✔ | | 3 |
| Syria | | | | | | | | 0 |
| Tajikistan | | | | | ✔ | ✔ | | 2 |
| Togo | | | ✔ | ✔ | ✔ | ✔ | ✔ | 5 |
| Tunisia | ✔ | ✔ | | ✔ | ✔ | ✔ | | 5 |
| Turkey | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Turkmenistan | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| Uganda | | | ✔ | ✔ | ✔ | ✔ | | 4 |
| United Arab Emirates | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 7 |
| Uzbekistan | | | | ✔ | ✔ | ✔ | | 3 |
| Yemen | | | | | | | | 0 |

*Author's compilation*

#### *4.3.1.5 CDPS Performance links with IT support capabilities for CRM Cycle Coverage*

IT systems and applications can support the different stages and activities of CRM and are necessary for the use of advanced data analytics.

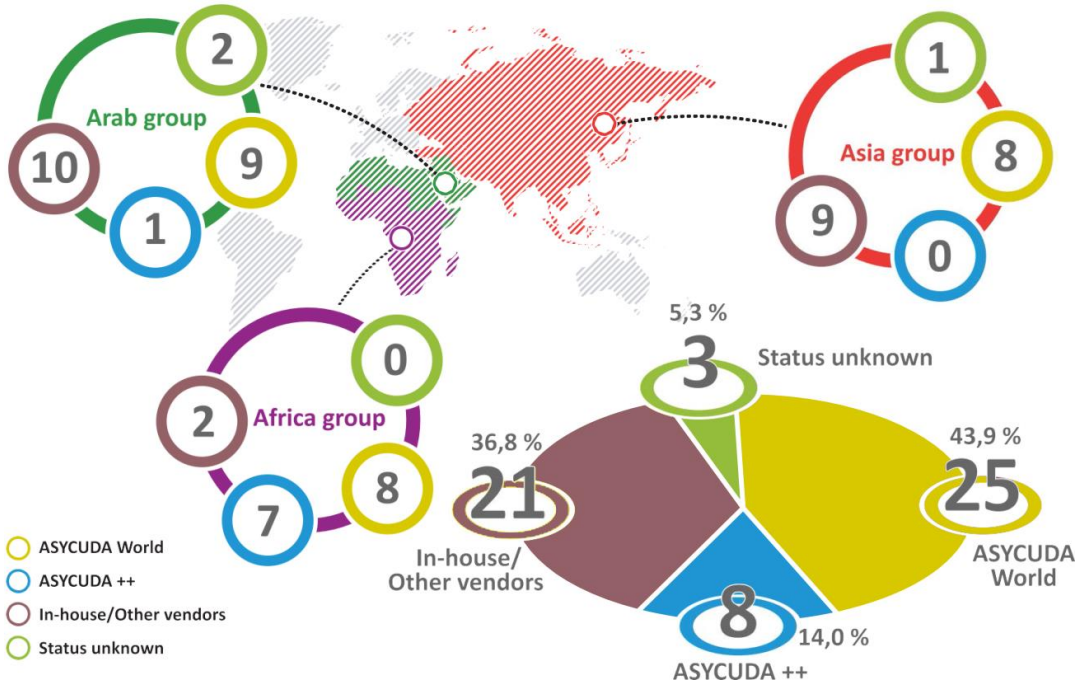
This study reveals two distinct approaches to using IT support and a close link between the abilities offered by the IT systems and the depth of implementation. IT CRM support functionalities can be integrated into the automated declaration processing system, commonly referred to as CDPS, commonly in form or a RM module or selectivity, or can be provided by a external transactional tool system used by CA in addition to the CDPS, or a ICRM that can either be fully integrated in the CDPS or an external system.

**Box 6: Benin, Mali, Burkina Faso, Cameroon and Ivory Coast CDPS development**

Benin, Mali and Burkina Faso use ASY++ while Ivory Coast uses the latest version SYDONIA World -AW under the name of SYDAM World. The ASY++ version is "closed" - does not allow the customs authorities to have access to source code. The CRM is limited only to the applying of selectivity risk profiles and random targeting. AW is a "more" open system and enables the CAs to develop new functionalities related to CRM.

Senegal has developed its CDPS, GAINDÉ (Automated Management of Customs Information and Exchanges) and can, therefore, more easily implement an integrated risk analysis and management system. Cameroon has integrated the "front office" functionalities into GUCE SW portal; the customs procedures managed in ASY++.

**Figure 27: CDPS in the OIC Member States**




*Author's compilation*

As one of the factors analyzed is the geographical patterns by using the OIC MS groupings. The level of coverage of the CRM cycle differs between the three OIC regional groupings. The Arab Group has the most and the African Group the least CAs with CRM coverage (see Figure 28).

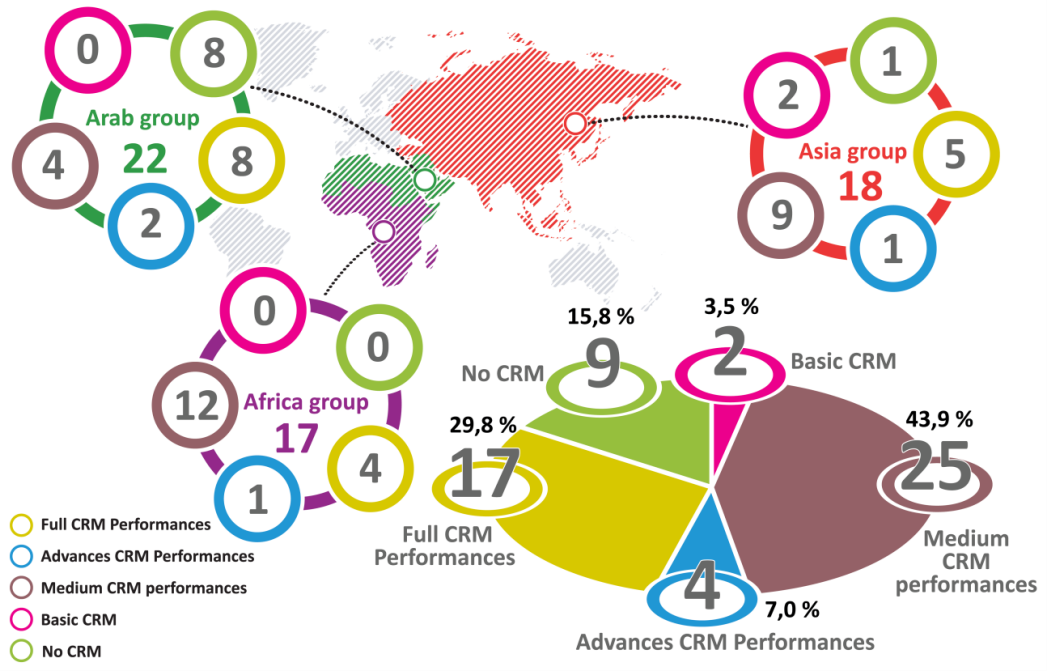
For the 34 OIC MS CAs that uses the ASYCUDA (ASY++ and AW), estimation of the coverage of the CRM Cycle according to the CRM functionalities embedded in the selectivity module of ASYCUDA. For the remaining 23 OIC MS besides the information from the Survey, we used the information available on the Internet and our previous experience in the OIC MS (Figure 27 ).

26 OIC MS are using AW and 8 ASY++ for automation of the customs procedures. ASY++ relies on a decentralized architecture, operational on the local level. Many countries are using different tools to migrate the data from the local level to a "central server" that is used for reporting and analysis services. The risk profiles must be inserted on each of ASY++ local servers manually.

The selectivity criteria on Asycuda ++, are inserted through IFTTT commands (ASY Structure Query Language-SQL). One risk profile can have more risk indicators, such as country of origin, tariff code, company, registration plate number, etc. To ensure adequate risk analysis efficiency, the criteria set in ASY ++ must provide one selectivity criterion for each risk indicator and mathematical and logical operators cannot be used to combine two or more risk indicators in one selectivity criteria.

AW is web-based CDPS, relying on a centralized IT architecture. The inserting of risk profile selectivity criteria and indicators is centralized and complex mathematical and logical operators (AND, OR, XOR, NOT, LIKE, etc.) can be used.

**Figure 28: Level of coverage of the CRM cycle between the three OIC regional groupings**




*Author's compilation*

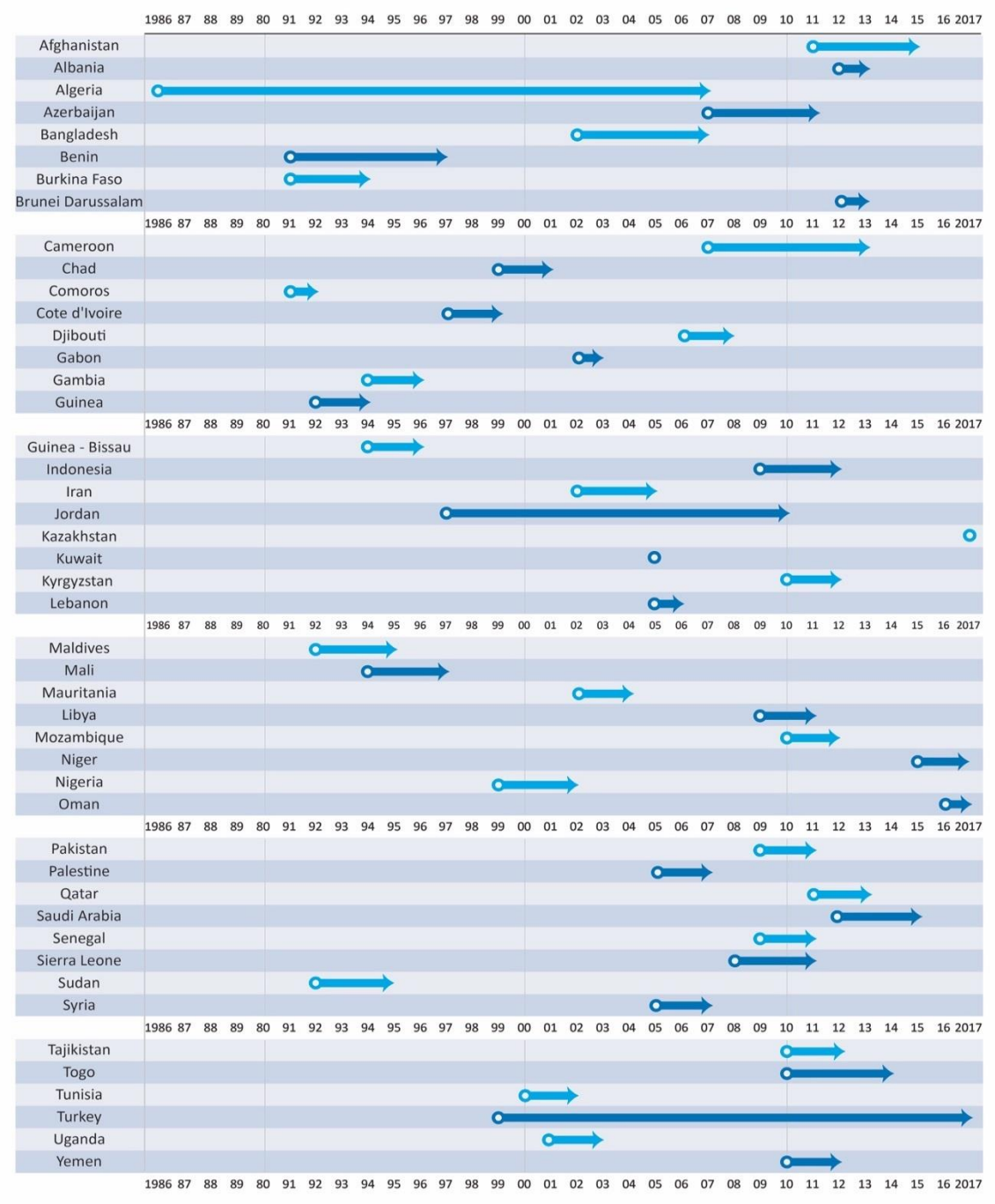
In the case when the customs declaration matches three risk profiles, the AW is channeling the CD to the strongest profile. AW is not providing the results from the selectivity criteria (neither risk profile nor risk indicators). The selectivity (in IT terminology transactional) risk module is embedded, or "plugged into" the processing flow of the corresponding module of the CDPS (e.g., import, export, etc.). As such, event triggers (or called) the risk module to perform the targeting. The risk module sends its output available back to the calling event in a suitable form.

Systemic limitations cause 34 OIC MS to use only the selectivity as a risk management method. In its latest version, AW allows enter results from the control based on selectivity, limited to one dropdown list (with five irregularities) and free text as a "control act."

Customs Administrations should urgently modernize their information technology (IT) infrastructures, as the CRM is a critical component of modernization initiatives, and it is an area where customs agencies can quickly implement and begin using new technology to help improve overall operational effectiveness.

Many national CDPS are developed quite a while ago when the challenges facing Customs were ultimately different, focused on revenue. From the information available (38 OIC MS), nearly 58% of the CDPS of the OIC MS have been implemented/integrated between 1992 and 2010 (11 OIC MS between 1990 - 1999, 11 between 2000 - 2010, and 16 between 2010 - 2017). The CDPS implemented before 2010 are with limited CRM supportive functionalities (see Figure 29).

**Figure 29: Timeline - CDPS Implementation in OIC MS**




*Author's compilation*

CA often have fewer CRM and enforcement personnel than they need, and they must deploy them in the most effective ways possible to accurately select and inspect high-risk consignments

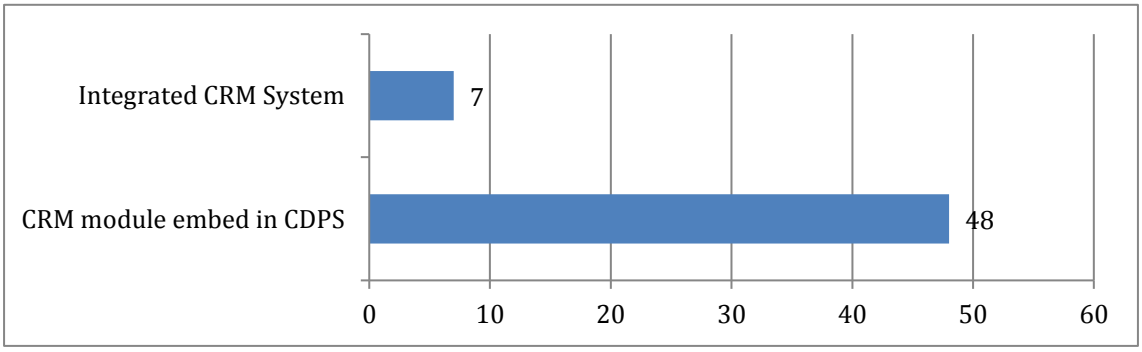
and people. Most of the OIC MS CAs also lack advanced analytical capabilities needed to identify and target suspect transactions and patterns of noncompliance.

Some of the OIC MS with analytical tools already in place, technology, and design parameters often limit the accuracy and usability of data for effective CRM. The CRM system should be designed to support the continuity between the different phases of the CRM process.

Due to the low rate of responses on the Survey received from the MS CA, we conducted the analysis based on previous assessments, the coverage of the CRM in the CDPS and information available on the Internet. The coverage of the CRM cycle stages varies across the OIC MS. The average coverage of CRM cycle stages is 4.10.

According to the findings, most OIC MS, rely mainly on their CDPS to support CRM with a focus of the selectivity functionality. In total, 48 OIC MS CAs have embedded RM module in the CDPS and seven OIC MS (Azerbaijan, Bahrain, Cameroon, Indonesia, Malaysia, Turkey and the United Arab Emirates) have an Integrated CRM (ICRM) systems that cover the entire CRM cycle (Figure 30) and cross-agency collaboration. It was not possible to obtain the information for the current status on CDPS for Somalia and Iraq. Of the 48 OIC MS using an embedded RM module, 34 OIC MS use ASYCUDA (ASY++ and AW) as CDPS.

**Figure 30: OIC MS Integrated and embedded CRM**




*Source: Author's compilation*

Apart of the 7 OIC MS (Figure 30), that is using integrated CRM system (ICRM) and LE IT Systems; the other CAs still handle all customs offenses, irregularities, and contentious cases manually (paper-based). Some of the CAs developed in-house or implemented a COTS system in IT systems, which are external to the CDPS. AW "offers a contentious" module that is a simple form with one dropdown list (7 types of irregularities) from which the customs officer can select only one type of irregularities, and one text box (free text) to enter the modus operandi.

Thus, there is a missing link in CA data architecture to build a comprehensive, structured database layer on the information mentioned before. This is initially a significant barrier to build a CRM supportive IT system, and advanced analysis systems (DW, BI and data mining).

Most of the information related to the modernization of CA of the OIC MS is focusing on modernization/replacement of the CDPS or the development of Integrated CRM IT systems. The ultimate objective of the OIC CAs is to establish a dynamic integrated risk analysis and management system. The appropriation of the methods required to develop such a system can only be done progressively in an environment that has customs has the culture or the information collection or data mining.

Most of the OIC MS understand the importance of modern data analysis tools (BI and data mining). They are unable to implement data analysis tools due to the lack of funding and IT capacity.

The CDPS should support the customs procedures, process automation and service oriented. Moreover, as one of the key elements of the trade facilitation concept, the CDPS should provide the traders with services for easier and effective day-to-day work performance through an integrated and modernized customs environment and transparent communication with other governmental agencies (OGA's) and law enforcement agencies.

The different IT solutions offer different support functionalities and coverage of the CRM cycle. The main difference between embedded RM in the CDPS and ICRM is that embedded RM only supports the selectivity stage of the CRM cycle, while ICRM is supporting the entire risk cycle. The ICRM allows a common risk repository that can be shared and used across several agencies.

ICT systems to support customs clearance and trade statistics have been developed and deployed effectively worldwide since the 80s, and public administrations have used IT since the 60s for internal processing and storage of data.

With production networks extending globally and more countries engaging in global trade flows, the supply chains have become fragmented and complex and therefore more sensitive to time, costs and predictability.

The IT support functionalities and depth of implementation and effectiveness of CRM are closely related, which are also reflected in the findings of the OIC MS cross-country comparison. OIC MS with embedded RM modules in the CDPS reach a lower level of CRM cycle coverage limited to selectivity. Limitations of the CRM support systems inhibit CA to deepen the implementation, in particular with regards to feedback, reporting and evaluating. Therefore, The effectiveness of the CRM is very likely to be impacted. Efficiency depends on adequate risk profiles, which need to be continuously updated to respond to the risk assessment, feedback, and evaluation. Since they are updated frequently, This approach causes challenges for the operators while adapting their behavior accordingly.

The CDPS with the proprietary SQL language allows only static risk profiles to be applied in the CRM. Furthermore, CDPS limit the information on the scoring on the risk profiles and the risk indicators and provide instruction for customs control only on the highest risk profile. This is the case when customs declaration hits two or more risk profiles (e.g., a CD is channeled to two yellow and one red channel), but the customs officer is instructed to carry the customs control according to the highest risk profile.

The cross-country comparison shows that to deepen and improve CRM, the limitation of the IT systems have to be overcome. In case of risk management modules embedded in CDPS, the functionalities can be enhanced by adding a CDPS external transactional system that provides additional selectivity functionalities or by implementing an ICRM (see Box 7).

**Box 7: Development of additional CRM system in OIC MS**

Indonesia recently implemented an ICRM platform, allowing Customs and other OGAs as well as the Indonesian SW to actively participate in the RM process by providing risk indicators and risk profiles. This ICRM is external to the CDPS managed by Customs.

Ivory Coast and Mali Customs Administrations have undertaken activities to develop their risk management applications as external systems, notably with the technical assistance of the International Monetary Fund's (IMF) West Africa Regional Technical Assistance Centre (West AFRITAC).

The Cameron GUCE SW only contains an ICRM supporting all participating agencies, including Customs. There with the external ICRM completes the ASY++ CDPS which only has limited CRM support.

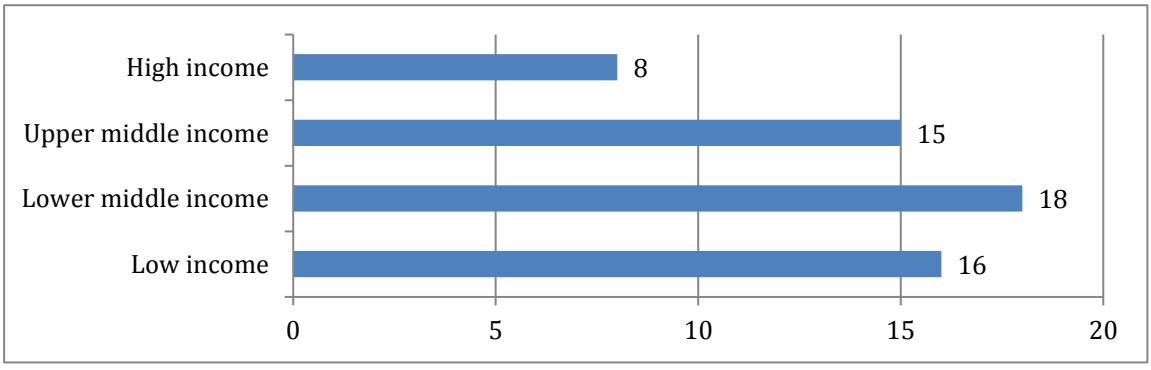
Senegalese Customs is developing an external transactional system, TAME, which not only supports the Customs Risk but should also integrate with the tax administration in future.

The findings also show that only few OIC MS have adopted analytical tools. Amongst OIC MS Indonesia, Oman, United Arab Emirates, Turkey implement BI and data mining to improve the risk analysis. In the absence of such advanced tools, CAs manually assess, evaluate and identify the risks based on observed patterns of noncompliance and feedback from irregularity and offenses, and face challenges regarding the accuracy and usability of data for CRM purposes.

#### *4.3.1.6 Consideration of External Factors*

As the 57 OIC Member States are from three different regional groups and are at different stages of economic development (see Figure 31), it was interesting to see if CRM implementation level reflects this income gaps.

**Figure 31: Different stages of economic development of OIC MS**



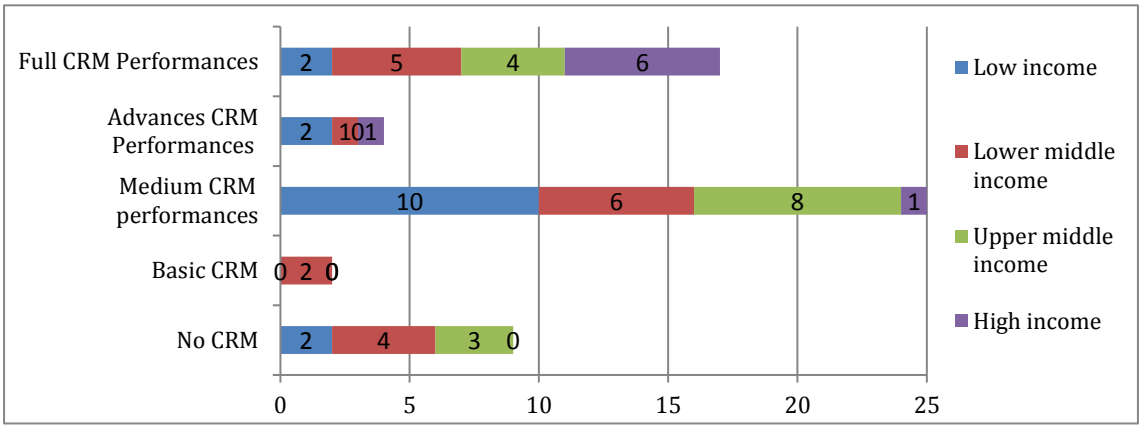

*Author's compilation*

High-income OIC MS have a full CRM cycle coverage (7 CAs) and one has advanced performance. But this does not mean that low-income countries do not implement CRM at all. In fact, many low-income countries are in the medium level of implementation, and two are top performers.

Hence CRM is a general approach applied by nearly all CA, with the exception of 9 OIC MS not implementing it yet, independent of their state of economic development. But obviously, high-income countries have pushed the implementation further or implement faster. Availability of financial and human resources may be easier for these countries. Pressure to improve Customs efficiency and effectiveness may also grow due to deeper trade integration with more trade and more diversified trade, which requires more sophisticated CRM tools.

As Figure 32 shows, CRM implementation does not vary between groups of high and low-income countries, but within these groups.

**Figure 32: CRM Performances according to the economic development of the OIC MS**




*Author's compilation*

#### *4.3.1.7 Performance linkage between CRM and Doing Business Ranking*

After assessing patterns with regards to economic performance, geography, we looked at the Doing Business Ranking data. As mentioned in Chapter 2, the use of CRM is expected to deliver benefits to traders regarding reducing costs and times for import and export. The analysis was performed at the 2017 data to identify the level of Trading Across Border performance of OIC MS and relate it to the level of CRM performance. The Trading Across Border measures time and costs required for import and export of goods. It has to be noted that as multiple factors influence the Trading Across Border indicator, a statistical analysis would therefore not yield any significant results or the results can not at all be interpreted as meaning causality.

OIC MS performance varies from Albania (ranked 24th) to Yemen ranked 189th. In general, OIC MS occupy a low WB Trading Across Border rank. By diving the OIC MS according to their placement in the ranking, 16 are good or top performers, 19 are medium performers and 22 are low performers. The six top performers are Albania Jordan, Malaysia, Morocco, Oman, and Turkey. In fact, when looking at the time and costs indicators of the Trade Across Border ranking, it appears that OIC MS suffer in particular from high costs and high time at import. OIC MS average costs to import are 26 times higher than average costs of EU MS, approximately 2 times higher than ASEAN MS. The time to import, an average of 211 hours is higher than for ASEAN MS 148.5, but it is the gap to top performers such as the EU MS - 2,8 hours that is striking.

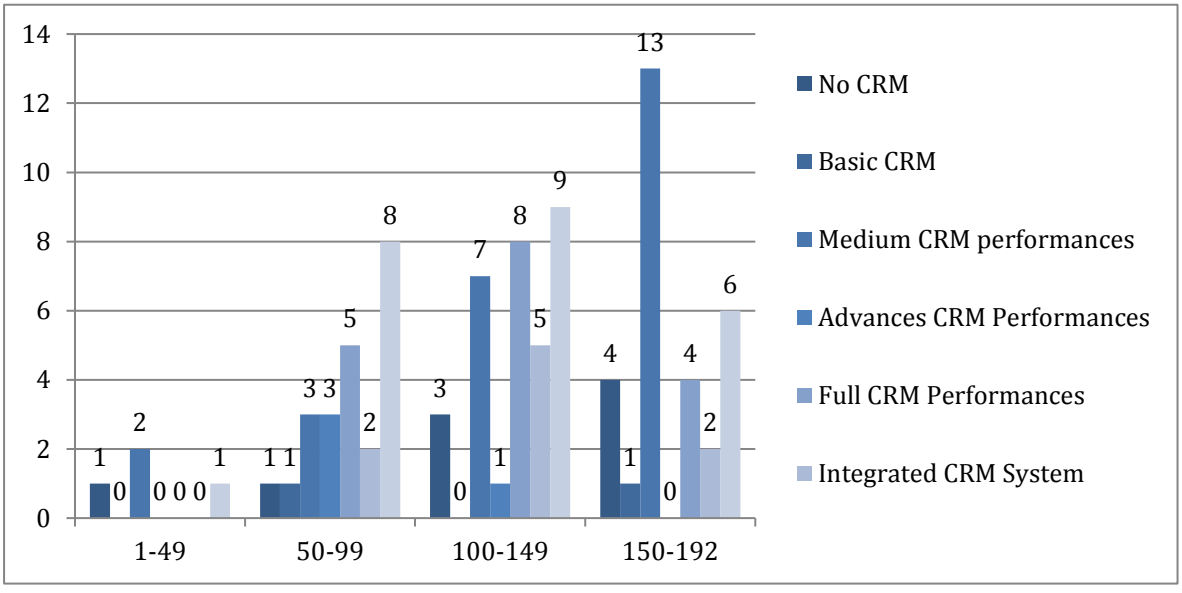
The following analysis combines the CRM performances data with the Doing Business Ranking 2017 data – see Figure 33.

- 3 or 5 % of the OIC MS are in the highest rank 1-49; one CA does not have a CRM and 2 CAs are with Medium CRM performances;
- 13 or 23% of the OIC MS are in the high-rank 50-99; one CA does not have implemented a CRM, one has with Basic CRM performances, 3 CAs are with Medium CRM performances, 3 have an Advances CRM performances, and five are with Full CRM performances ;
- 19 or 33% of the OIC MS are in the low-rank 100-149; 3 CAs do not have implemented CRM, 7 CAs are with Medium CRM performances, one has an Advances CRM performance, and eight are with Full CRM performances;
- And the biggest group, 22 or 39% of the OIC MS are in the lowest rank 150-190; 4 CAs do not have implemented CRM, one with Basic CRM performances, 7 CAs are with

Medium CRM performances, 1 has an Advances CRM performances, and four are with Full CRM performances ;

In many OIC MS Customs officials only collect performance information and operational statistics about revenue collection. Many of the reports available on the CAs websites are related to revenue, little or no statistics on non-compliance related to safety and security. As well, information on other key roles such as trade facilitation, non-compliance, offenses and criminal reports is poor or non-existent.

**Figure 33: Doing Business Ranking and OIC CRM Performances**




*Author's compilation*

Documentary compliance and inspection times can be reduced by using CRM and with the delegation of the control of the goods by the OGAs to the customs officers.

In fact, amongst the good or top performers of the Trading Across Border rank, CRM implementation varies:

- 2 CA does not have a CRM;
- 1 basic performance;
- 5 CAs are with medium CRM performances;
- 3 advanced CRM performances
- 5 Full performance.

Out of the medium performers (19 of the OIC MS);

- 3 CAs do not have implemented CRM;
- 7 CAs are with Medium CRM performances;
- One has an advances CRM performance;
- 8 are with full CRM performances;

And similarly implementation varies amongst the low performers;

- 4 CAs do not have implemented CRM;
- one with Basic CRM performances;
- 7 CAs are with Medium CRM performances;
- 1 has an Advances CRM performances;
- four are with Full CRM performances.

This mixed result leads to two important conclusions: CRM alone does not impact delays and overall time required for import, in particular not as measured by Trading Across Border; and secondly, it is the effectiveness of CRM that matters. There may be room for improving the implementation and achieving the higher effectiveness of CRM in OIC MS.

### 4.3.2 In-depth survey findings

16 OIC MS responded to the survey (this includes the 3 OIC MS country cases). The survey responses provide details on the characteristics of CRM implementation.

#### *4.3.2.1 Organizational aspects*

In all 16 surveyed OIC MS, CRM is now an integral part of the Customs strategy, as a means to reinforce trade facilitation (12 OIC MS), detection and prevention of non-compliance, and revenue collection (11 OIC MS) – see Table 19.

The CA have chosen different instruments to implement CRM, predominantly internal instruments of binding nature such as administrative instructions (10) and non-binding SOPs or manuals (9). Only 7 CA have implementing regulations and or policy. Jordan and Indonesia adopted all four of these instruments.

**Table 19: Organizational Structure for CRM**

| 17. Which organizational structure for CRM have you adopted at your administration? | | | |
|---|---|---|---|
| | Frequency | Percent | Cumulative Percent |
| Centralized organization, and risk management tasks are carried out in a centralized manner | 10 | 62.5 | 62.5 |
| Centralized organization, and risk management tasks are carried out in a decentralized manner | 5 | 31.2 | 93.7 |
| De-centralized organization, and risk management tasks are carried out in a decentralized manner | 1 | 6.3 | 100.0 |
| No formal organization yet | 0 | 0.0 | 100.0 |
| No structure at all | 0 | 0.0 | 100.0 |
| Total | 16 | 100.0 | |

*Author's compilation based on survey responses*

#### *4.3.2.2 Human resources assigned to CRM function*

Staffing numbers vary from below 10 to more than 50 (5 countries reported below 10, while Turkey reported 15 in TCA HQ, 63 staff in regions and Jordan reported 26 staff).

Although the staffing numbers need to be put in the context of the overall size of CA and trade volume of the country, running an efficient CRM including all stages of the cycle with less than 10 staff is very challenging. In fact in these OIC MS the strategic commitment to CRM did not translate into adequate resources, putting the achievement of the strategic goal at risk. Four of the 16 surveyed OIC MS reporting training gaps of their Staff working on CRM. Table 20 presents the results of the survey;

**Table 20: Staff members assigned to the CRM function**

| 20. How many staff members are assigned to the risk management function | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| Less or equal to 10 | 5 | 31.2 | 41.7 | 41.7 |
| from 11 to 50 | 6 | 37.5 | 50.0 | 91.7 |
| More than 50 | 1 | 6.3 | 8.3 | 100.0 |
| Total | 10 | 75.0 | 100.0 | |
| Missing | 4 | 25.0 | | |
| | 16 | 100.0 | | |

*Author's compilation based on survey responses*

#### *4.3.2.3 Selectivity*

After the risk profiles and indicators are developed, analyzed and evaluated, targeting and selectivity are performed by the selectivity module of CDPS (or ICRM) system. As result of the selectivity process, the customs declarations are routed to a particular channel. The specific measures of control or combination of different measures for each identified risk are associated with each risk profile leading the customs control.

In total, 8 OIC MS CAs (Ivory Coast, Jordan, Nigeria, Palestine, Indonesia, Togo, Morocco, and Albania) provided data on targeting and selectivity. The Table 21 present the 2014-2016 average of the targeting and selectivity on green, yellow, red, orange and blue channel.

**Table 21: OIC MS Targeting and Selectivity by channel**

| | Ivory Coast | Jordan | Nigeria | Palestine | Indonesia | Togo | Morocco | Albania |
|---|---|---|---|---|---|---|---|---|
| Green Channel | 34.86% | 28.78% | 5.83% | 81.21% | 54.20% | 13.32% | 0.00% | 1.23% |
| Yellow Channel | 5.52% | 33.93% | 10.65% | 9.39% | 21.03% | 28.15% | 84.86% | 82.09% |
| Red Channel | 55.02% | 37.28% | 81.52% | 9.39% | 9.55% | 52.36% | 15.14% | 10.13% |
| Orange Channel | 4.06% | 0.00% | 1.99% | 0.00% | 0.30% | 0.00% | 0.00% | 6.11% |
| Blue Channel | 0.00% | 0.00% | 0.00% | 0.00% | 14.92% | 6.18% | 0.00% | 0.00% |

*Author's compilation based on the CRM Survey results*

The highest average rate of selectivity on the green channel belongs to Palestine with 81.21% and Indonesia with 54.20% respectively. Morocco with 0% has the lowest average selectivity rate on the green channel, Albania 82.09%, and Jordan with 33.93% respectively.

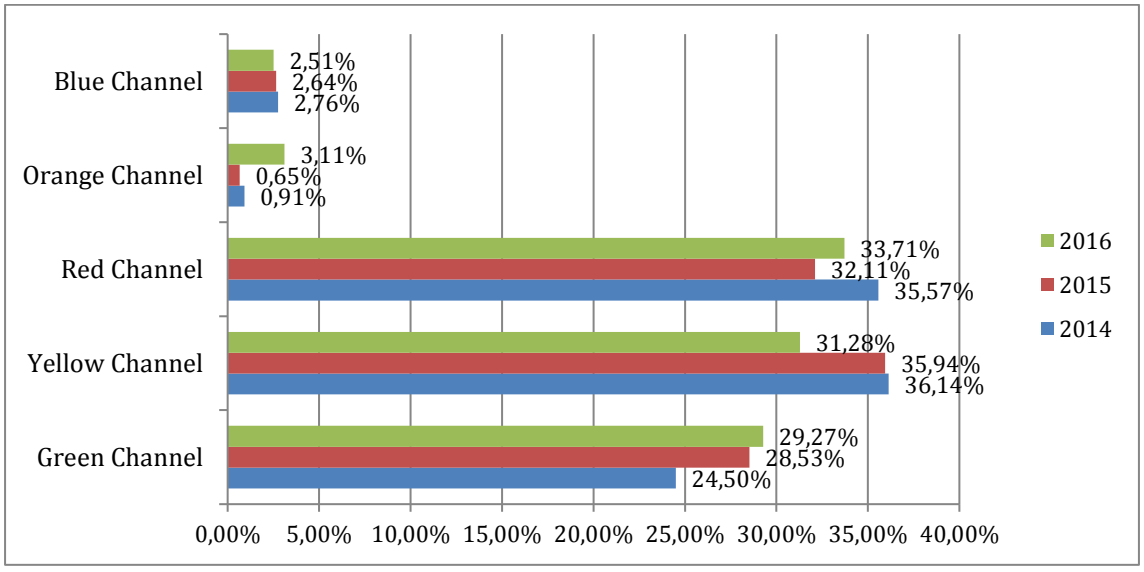
The lowest average selectivity rate on the yellow channel is in Ivory Coast with 5.52% and in Palestine with 9.39%.

Among 8 OIC MS, Nigeria with 81.52% have the highest average selectivity rate on the red channel (physical check of goods and documentary control), Ivory Coast with 55.02% and Togo with 52.36%. Palestine, Indonesia, and Albania have the lower selectivity rates on the red channel with 9.39%, 9.55%, and 10.13% respectively.

4 out of 8 OIC MS CAs reported data on the orange channel, indicating that the shipment/means of transport selected for scanning gamma ray or x-ray. The highest average selectivity rate on the orange channel belongs to Albania with 6.11%, Ivory Coast with 4.06%, Nigeria 1.99%, and Indonesia with the lowest rate of 0.30%. Many of the CAs worldwide, includes the orange channel in the yellow or red channel with the instruction to scan the shipments or means of transport. In particular, this is the case of the CAs that are using ASY++ or AW CDPS. Therefore, the additional research should be performed on CRM selectivity practice.

The selectivity on the blue channel, indicating that the trader selected for post-clearance audit is in use in 3 out of 8 OIC MS. Indonesia has the highest average rate of selectivity on the blue channel with 14.92% and Togo with the lowest rate of 6.18%. The Figure 34 presents the average selectivity rate of the 8 OIC MS CAs for the period of 2014 – 2016 by channel:

**Figure 34: Average selectivity rate by channel 2014-2016**




*Author's compilation based on the CRM Survey results*

The highest selectivity rate is on the red channel with 33.80% in average, yellow with 34.45%, green channel with 27.43% in average. The average rate on the blue channel is 2.64%, the lowest selectivity rate is on the orange channel with 1.56%. Table 22 present the details on OIC MS average selectivity rate for 2014-2016.

**Table 22: OIC MS CAs average selectivity rate for 2014-2016**

| | 2014 | 2015 | 2016 | Average |
|---|---|---|---|---|
| Green Channel | 24.50% | 28.53% | 29.27% | 27.43% |
| Yellow Channel | 36.14% | 35.94% | 31.28% | 34.45% |
| Red Channel | 35.57% | 32.11% | 33.71% | 33.80% |
| Orange Channel | 0.91% | 0.65% | 3.11% | 1.56% |
| Blue Channel | 2.76% | 2.64% | 2.51% | 2.64% |

*Author's compilation based on the CRM Survey results*

The responses on the CRM survey confirm the analysis on the selectivity rate (see Table 23).

**Table 23: Reduction of the physically inspect consignments**

| 53. Has the CRM reduced the physically the volume of physically inspect consignments? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 87.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

*Author's compilation based on the CRM Survey results*

Details on OIC MS CAs selectivity are presented in the ANNEX 7.5.2.

The OIC MS CAs didn't provide the data on offenses per channel. Therefore, it is impossible to perform analysis on efficiency rate (offenses per channel) for the selectivity.

#### *4.3.2.4 Post-clearance control unit*

14 out of the 16 surveyed OIC MS have a PCA (see Table 24). This does offer CA an additional means of inspection reflecting in an additional channel, commonly referred to as the blue one. Channeling is also impacted by so-called AEO or AT programs.

**Table 24: Post-clearance control unit**

| 54. Do your administration have specific post-clearance control unit to monitor and report on both customs partners (e.g., trusted traders as green and blue channel selection) and customs administration itself? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total Valid | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

*Author's compilation based on the CRM Survey results*

AEO programme commonly provides the benefits of fewer inspections at the arrival of the goods for the companies that are certified under these programs. From a CRM perspective, this would mean a higher number of companies in the green or blue channel. 25 countries in the OIC MS

have adopted an AEO, but in most of them, the number of certified companies is too low to impact the channeling. PCA and AEO are approaches that support CRM and now increasingly seen as a logical component of it (see Chapter 4.3.1.1.4).

#### *4.3.2.5 Monitor and Review*

The KPI defined by the OIC MS are general, most of them are related to the revenue aspects, not on the TF and CRM performances.

CAs reported benefits from CRM in terms of processing time reductions, cost reductions, and increase in quality of control, but no data was made available to show the impact of CRM on the effectiveness of controls and processing times. 14 out of 16 CA, however, stated that CRM has reduced number of physical inspections (see Table 25).

**Table 25: Monitoring and review of risk profiles**

| 37. Do you review and update your risk profiles in order to keep up with the changing environment? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

*Author's compilation based on the CRM Survey results*

Therefore, the MS CAs should define the performance attributes, captured in the analysis process and used them for analysis of the key performance indicators for decision making support for each stage of CRM. More details on CRM performance measurement is in ANNEX 7.4.

#### *4.3.2.6 Cross-border cooperation*

Sharing of intelligence with neighboring and overseas CAs reported 14 out of 16 CAs in the surveyed OIC MS.

This reflects the growing attention given to cross-country cooperation in CRM. Cooperation with WCO and use of their tools, such as CEN, is also frequent. 14 out of 16 accesses the WCO CEN application, and have a RILO national contact point, and 13 uses the WCO nCEN application to collect and store LE information at the national level (see Table 26 and Table 27).

**Table 26: OIC MS access to the WCOs Central Enforcement Network (CEN)**

| 27. Does your administration have access to the WCOs Central Enforcement Network (CEN) application? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 1 | 6.3 | 6.3 | 6.3 |
| Not yet, but planned | 1 | 6.3 | 6.3 | 12.6 |
| Yes | 14 | 87.4 | 87.4 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

*Author's compilation based on the CRM Survey results*

**Table 27: Use of nCEN application to collect and store law-enforcement data**

| 29. Does your administration use the WCOs nCEN application to collect and store law-enforcement information (including seizures and offenses and suspected persons or business entities) at the national level? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 2 | 12.5 | 12.5 | 12.5 |
| Not yet, but planned | 1 | 6.3 | 6.3 | 18.8 |
| Yes | 13 | 81.2 | 81.2 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

*Author's compilation based on the CRM Survey results*

#### *4.3.2.7 Pre-arrival information*

The survey findings support the linkage between pre-arrival/pre-departure information and CRM. 9 out of the 16 surveyed OIC MS request advance cargo information, such as manifest or summary entry declarations, and 9 out of them process this data for CRM purpose – prior to arrival of the goods (see Table 28).

**Table 28: Use of pre-arrival/pre-departure information for risk assessment**

| 49. Do you use pre-arrival/pre-departure information for risk assessment? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 3 | 18.7 | 18.7 | 18.7 |
| Planned | 4 | 25.0 | 25.0 | 37.4 |
| Yes | 9 | 56.3 | 56.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

*Author's compilation based on the CRM Survey results*

#### *4.3.2.8 Technology*

##### *4.3.2.8.1 Tools, equipment, and Infrastructure*

All OIC MS CAs have an infrastructure, such as vehicle lifts, forklifts, portal monitor, adequate tools and equipment for the inspection and examination of goods/means of transport at all BCPs but NII equipment only on the main BCPs – 15 countries out of 16 use NII but only 9 have it at all BCPs (see Table 29 and Table 30)

**Table 29: Adequate tools and equipment for the inspection and examination**

| 38. Are there adequate tools and equipment for the inspection and examination of goods/means of transport available in most or all border posts and/or customs offices? | | | |
|---|---|---|---|
| | Responses | | Percent of Cases |
| | N | Percent | |
| Vehicle lifts | 9 | 21.9% | 56.2% |
| Forklifts | 10 | 24.4% | 62.5% |
| Portal monitor | 8 | 19.5% | 50.0% |
| Radiation pagers | 8 | 19.5% | 50.0% |

| | | | |
|---|---|---|---|
| No | 6 | 14.7% | 37.5% |
| Total | 41 | 100.0% | |

*Author's compilation based on the CRM Survey results*

**Table 30: Availability of non-intrusive inspection (NII) equipment**

| 40. Is the non-intrusive inspection (NII) equipment available on most of the BCP's? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 7 | 43.7 | 43.7 | 43.7 |
| Yes | 9 | 56.3 | 56.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

*Author's compilation based on the CRM Survey results*

#### *4.3.2.8.2 LE IT system supporting CRM*

Nine out of the 57 OIC MS have IT system that supports Customs LE operations.

Currently, the LE Departments of the OIC MS Customs use unsecured, different and technologically obsolete text and data processing system for management of information and business processes. Data is entered and retained in different (unrelated) data/text processing systems without the option to link the information and provide proper analysis. Current management of LE data is unstructured, unsecured, mainly paper-based or stored on the local PC. Exchange of information/intelligence between the departments within and out of the LE is paper or e-mail based. There is a barrier to share the data; operational information on entities/subjects (persons, means of transport and companies), and data regarding seizures are paper-based or based on to the collective memory within departments in the LE and Customs. Identical or similar bits of information are entered in different, unrelated data layers - systems without the option to link the information and provide proper analysis. Therefore, search and analysis of data with the current setup is limited. Different data layers searching and analysis requires recourses, both human and technological.

The analytical landscape must be changed; traditional approach in OIC MS Customs is focused on processing standardized reports and fixed types of output. However, the amount and the structure of data generated by LE and customs, in general, will exceed their capacity to analyze it without a good DW / BI solution.

### 4.4 Summary of the main findings of the OIC MS CRM Efforts

Based on the conducted analysis, the main findings on the CRM efforts in the OIC MS are as follow:

- CRM Policy is adapted to the CDPS functionalities and there is a lack of defined quantitative goals and performance indicators to fully measure the effectiveness of the CRM;
- The AEO concept is not fully implemented. It is notable that the average number of AEO operators is very low (45 per MS). There is a need to intensify and effective use of the AEO for the benefit of both, customs and traders;
- Many OIC MS are adopting the laws, implementing regulations and SOPs according to the capabilities of CDPS RM module, but not vice versa;

- Risk management capabilities of the CRM systems are not very advanced; CRM has been designated to play a crucial role in the specifications and methods suggested by the WCO. Most of the CAs CDPS support selectivity only, the remaining segments of the CRM cycle are paper-based or not managed at all;
- Intelligence is playing a major role and can provide valuable input in the CRM. To support the CRM, the intelligence department needs a structured, secured IT system that should support advanced analytic techniques and closely cooperate with CRM;
- Systems are not integrated which means that they neither address the customs business holistically nor have the capability/capacity to work in conjunction with other government or 3rd party information systems. This is of particular importance for the CDPS's ability to exchange information with other customs systems on a peer-peer basis or exchange of customs data concept (SEED, ASEAN SW, etc.);
- Older systems are often built on outdated/obsolete hardware and software architecture which is inflexible and does not allow the authority either to manage/implement new requirements as they arise or to implement new technologies and innovations.

# 5 OIC Country Case Studies

## 5.1 CRM in Turkey Customs Administration (TCA)

The Republic of Turkey, a trade and transit gateway between Asia and Europe is facing heavy trade and transport loads and has to take all measures to prevent hindering of international trade and transportation. In total, Turkey has 76 BCPs, 14 seaports, 35 airports and 27 road BCPs.

Turkish Customs Administration is continuously improving its legal, technical and administrative infrastructure aiming for better service to the trade community, uniform implementation of customs legislation, more effective tax collection and selective but more effective customs control based on CRM.

The TCA's Mission and vision reads: "To generate, enforce and supervise the policies and practices promoting competition, entrepreneurship and economic growth in the realms of customs and trade; reinforcing the corporate structures of market actors; safeguarding producers and consumers; and rendering effective, rapid and human-oriented services." - "with the innovative approaches and implications to make our country the place where the easiest and safest trade is performed" notes important aspects of the continuous development of the CRMS systems based on innovative approaches and ensuring preformation of the trade facilitation as easiest and safe trade."[65]

Automated computerized customs procedures first began in 1998 at Atatürk Airport Customs Directorate, which was chosen as the pilot site for automation. At the beginning of 2000, the contract for deployment of the computerized system was signed. The modernization studies have continued since then, and as of 2007, 18 Regional Directorates and 109 Customs Directorates have been automated. Currently, more than 99 % of all customs declarations are carried out in an electronic environment[66].

The Customs Declaration Processing System (CDPS) is called BILGE, which is the abbreviated form of Computerized Customs Activities in Turkish. BILGE is an easy-to-use modular CDPS that enables the control of goods based on risk analysis from the time they enter the customs area until they are released.

### 5.1.1 Various Aspects of Risk Management Implementation in TCA

#### *5.1.1.1 Evolution of CRM in TCA*

Until 2011 the TCA was organized as a Undersecretariat of Turkey Customs Administration. In 2011 the Undersecretariat merged with some domestic trade units and formed the new Ministry of Customs and Trade. This Ministry became responsible for preparation and implementation of customs related policies, effective implementation of customs procedures while observing determined standards, identification of fundamental commercial aims and preparation of the Commerce Policy.

### 5.1.2 Organization of CRM in TCA

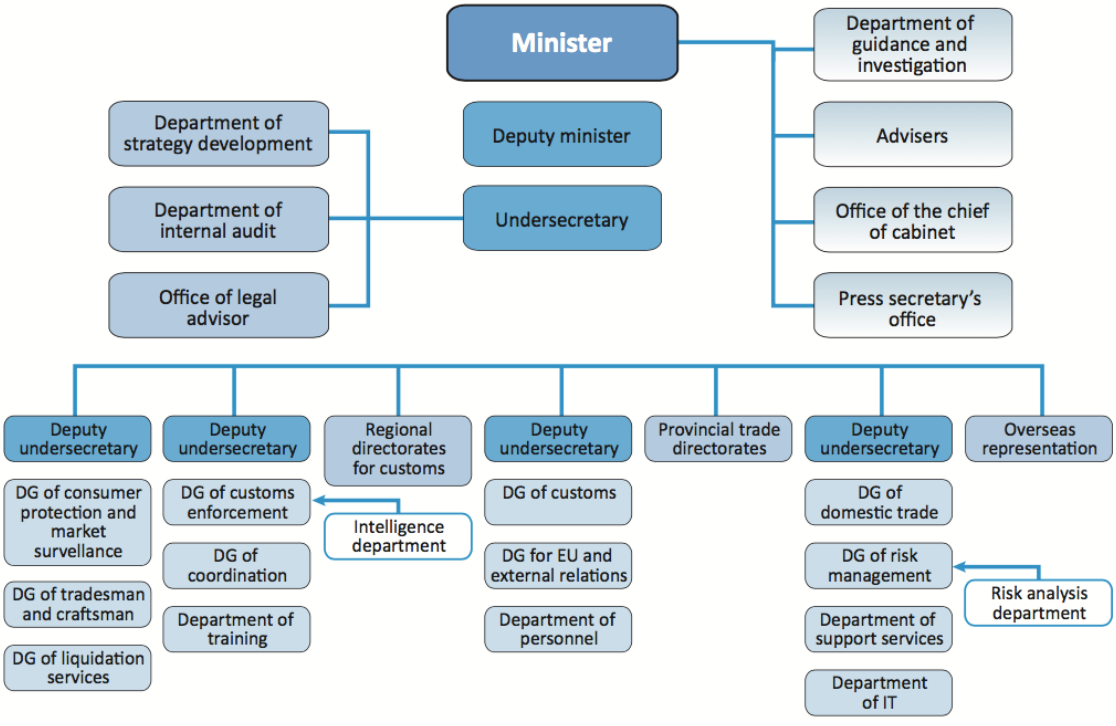
The organizational chart of the Turkish Ministry of Customs and Trade is presented in Figure 35. The Directorate General of Risk Management and Control is positioned under the Deputy Undersecretary. This Directorate General is responsible for facilitation of customs procedures

[65] http://english.gtb.gov.tr/corporate/about-us/mission
[66] Matra Pre-accession Projects Programme (MPAP)

and trade flows using risk analysis, post-clearance examinations, and research by producing statistical data. The Directorate consists of Risk Analysis Department, Control Department, Statistics Department, Economic Analysis and Research Department, Trade Simplification Department in charge of AEOs, Electronic Customs Transactions Department, and Administrative Department.

Risk Analysis Department as a part of the Directorate General of Risk Management and Control is responsible for risk analysis activities on a central level. The TCA has, since 2012, introduced risk analysis tasks on a regional level, through the Regional Risk Analysis Units under each Regional Directorate. In such an organization, the local risk analysis procedures are performed by the staff responsible for risk analysis in the Customs Offices. This is an important aspect of the development of CRM in TCA – *the decentralization* of the risk analysis activities means that the TCA has recognized that each region has different particulars related to specific risk areas. In such a way, the TCA has a strong mechanism to run the risk assessment process at the local and regional level. There are 18 regional Risk Analysis Units, and currently, the CRM is applied on the strategic, tactical and operational level. The Risk Analysis Department in the TCA was established in 1997 as a small department that conducted the manual analysis. It aimed to change the mindset and build a strong awareness of risks among customs officers. The department made efforts to replace the practice of 100% physical inspection with a check of 50% of shipments based on some principles of risk management. Today, this department has 15 employees in headquarters and 63 in local administrations, equipped with the necessary modern equipment to analyze different data sets related to risk assessment and create risk profiles.

**Figure 35: TCA Organizational chart of the Ministry of Customs and Trade**




*Source: Turkey Customs Administration*

The Intelligence Department is part of the Directorate General of Customs Enforcement. Besides the Intelligence Department, this Directorate consists of the following departments: Anti-smuggling Department; Law Enforcement Department; Operations Department (mobile teams) and Command Control Center (surveillance); Technical Devices Department (devices for non-intrusive inspection); Enforcement Services Department, and Administration Department.

Intelligence Department was established in July 2014, divided into three units:

- *Intelligence Unit is* responsible for strategic intelligence, collection, and evaluation of information from national and international sources and dissemination of the intelligence. The Intelligence Unit disseminates the information from the central and local units, handles informants, and is responsible for the exchange of information with national and international institutions and agencies. As well, the Intelligence Unit coordinates national and international intelligence operations; it manages the National Contact Points of Turkey to regional and international institutions and procedures related to Board of Witness Protection, etc.
- *Evaluation Unit* responsible for the assessment of denouncements and alerts from national and international sources; procedures related to denouncements received from the open line "Alo 136", processing and dissemination to relevant central and local directorates, etc.
- *Data Analysis Unit* responsible for analysis of all public databases and dissemination of the information to relevant units; runs periodical analysis reports based on the results achieved from databases; dissemination of these reports on the central and local level; analysis of received reports and coordination with other relevant institutions.

### 5.1.3 Legal aspects of CRMS

The TCA has adopted statutory instruments that cover the CRM: Customs Code and Risk Management Policy, Implementing Regulations, Administrative Instructions and Standard Operational Procedures. The TCA has modern legislation in line with the EU acquis related to customs matters and covers all the necessary aspects of the CRM concept. The Customs Code and Customs Regulation, provide the definitions of "Risk" and "Risk Management," allowing customs control to be based on risk analysis on the central and local level.

It is mandatory for traders to submit to TCA the advance cargo information related to import and transit consignments. This allows the TCA to conduct risk analysis for safety and security on summary declarations before the arrival of goods.

Also, to facilitate legal trade, the TCA has introduced the AEO concept. The post-clearance controls are based on risk analysis, determining the high-risk entities (companies, means of transport and persons).

The National legislation confers power to the TCA to detain/seize the goods, means of transport and persons. It seems that currently, the legal environment does not set any barriers to the use of modern CRM.

As a part of the overall TCA customs strategy, the CRM strategy is oriented towards trade facilitation, risk detection, prevention of non-compliance, revenue collection and safety, security and environmental protection based on risk management.

The RA Department uses specific Standard Operational Procedures detailed with the steps that the employee at a specific position needs to take to analyze, identify risk and create risk profiles.

#### *5.1.3.1 Authorized Economic Operator*

Turkey has introduced the AEO concept in January 2013. Currently, there are 225 AEO certificates issued to companies for import and export procedures[67]. The AOE certificate holders have the following benefits:

- Lower risk score for risk profiling within the risk management system;
- Priority treatment if physical or paper-based controls are to be conducted;
- Priority for border crossings;
- Reduced datasets for entry and exit summary declarations;
- Submit declaration with incomplete documentation;
- Paperless declarations for imports and exports;
- Guarantee facilitations (lump-sum or partial guarantee);
- Green line facilitation (no physical or paper-based controls);
- Approved exporter status, with Authorization on A.TR Movement Certificate and Invoice Declaration of EUR.1 and EUR. MED Certificates;
- Right of local clearance (for imports and exports);
- Right of authorized consignor and authorized consignee;
- Other facilitations currently recognized as authorized traders in Turkey;
- Use of the AEO logo.

The Government of Turkey being negotiated the MRAs with Kazakhstan.

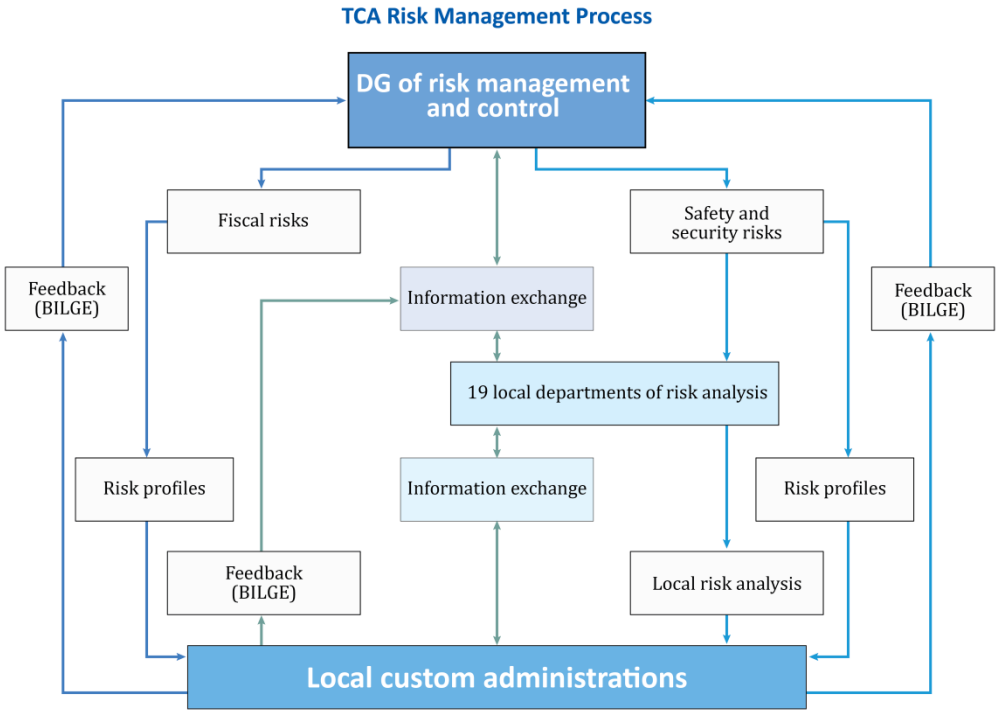
### 5.1.4 Risk Management Process in TCA

The TCA employs a complex risk management process that allows the administration to act efficiently. The most important part of the risk management process related to trade rests with the Risk Analysis Department which creates risk profiles targeting consignments or customs declarations posing a higher risk.

On the other hand, when it comes to risky passengers, the Intelligence Department as a part of the DG of the Customs Enforcement and its Analysis Division is responsible. The risk management process of the TCA related to risk analysis and targeting consignments and declarations of higher risk is presented in Figure 36.

[67] http://risk.gtb.gov.tr/aeo-listeleri/aeo-firma-listesi

**Figure 36: TCA Risk Management Process**




*Source: Turkey Customs Administration*

The TCA has implemented the entire risk analysis cycle.

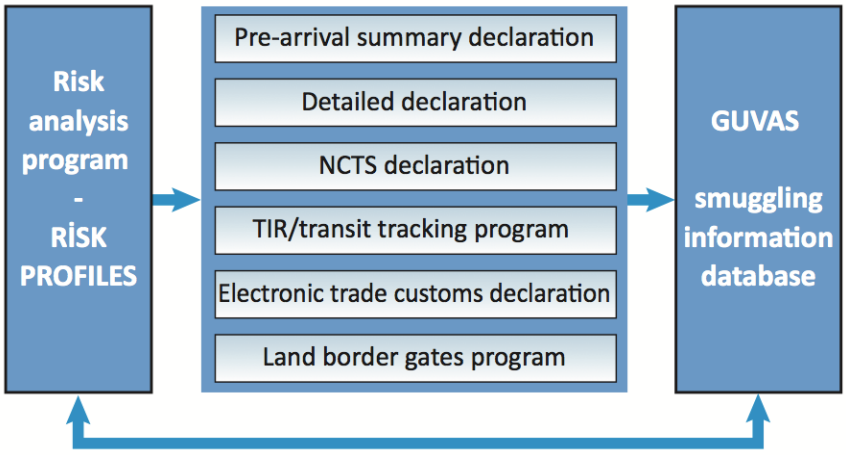
*5.1.4.1 Risk assessment process (identification, analysis, and prioritization)*

The risk identification process mainly looks at two types of risks based on the organizational structure described previously; revenue risk and safety and security risk. The information is exchanged on three levels: between central and local RA Department; between central RA department and Intelligence Department; and between local RA departments and central RA department. To identify risks, the RA department uses the data gathered from;

- Software and databases used by TCA: BILGE (Customs Declaration Processing System), GUVAS (Customs Data Warehouse) and Smuggling Information Database;
- Risk Information Forms (paper forms sent by local customs offices and other relevant units of the Ministry);
- Other Governmental Institutions and Agencies (such as Ministry of Economy, Ministry of Food, Agriculture, and Livestock, Ministry of Finance, etc.);
- International Institutions (Such as UN Security Council, UN Office on Drugs and Crime, SELEC, etc.).

To identify possible risks, the TCA uses customs data warehouse (GUVAS) that integrates pre-arrival summary declarations, detailed declarations, NCTS declarations, TIR/transit tracking program, electronic trade customs declarations, land border gates program, and a smuggling database that collects all data related to seizures (Figure 37).

**Figure 37: Feedback mechanism and GUVAS (Customs Data Warehouse)**



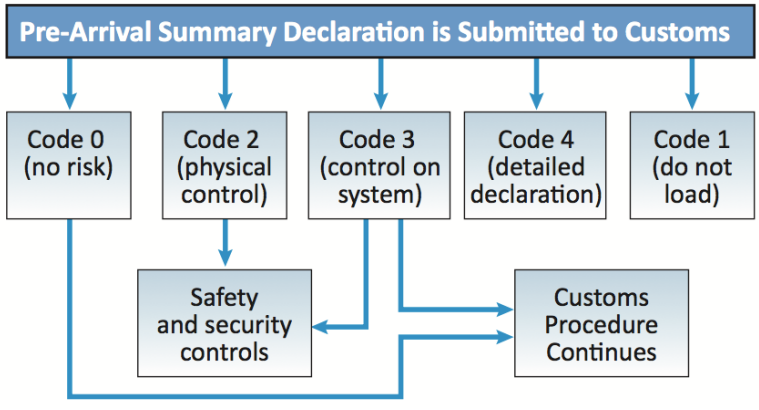

*Source: Turkey Customs Administration*

Currently, the RA Department is using data warehouse (based on Oracle Business Intelligence Discoverer[68]) to analyze data from different data sources. The data mining concept for CRM is currently in the procurement procedure, and the TCA is expecting it to become operational at the beginning of 2018. With the integration of data mining, combined with data warehouse, the risk analysis process will become more efficient. Based on risk identification and analysis, and based on the traders' compliance history, the TCA quantifies risk evaluation and prioritization as high, medium and low risk. The same process is applied for approval of AEO status for traders.

### *5.1.4.2 Customs Declaration Risk Assessment on pre-arrival*

It is important to mention that there is a complete integrated solution for risk assessment on pre-arrival declarations. When the pre-arrival summary declaration is submitted to customs, the Risk Assessment system generates five different types of codes (Figure 38) which then determine the next decisions on the following customs procedures and/or inspections.

**Figure 38: Risk assessment on pre-arrival summary declaration**



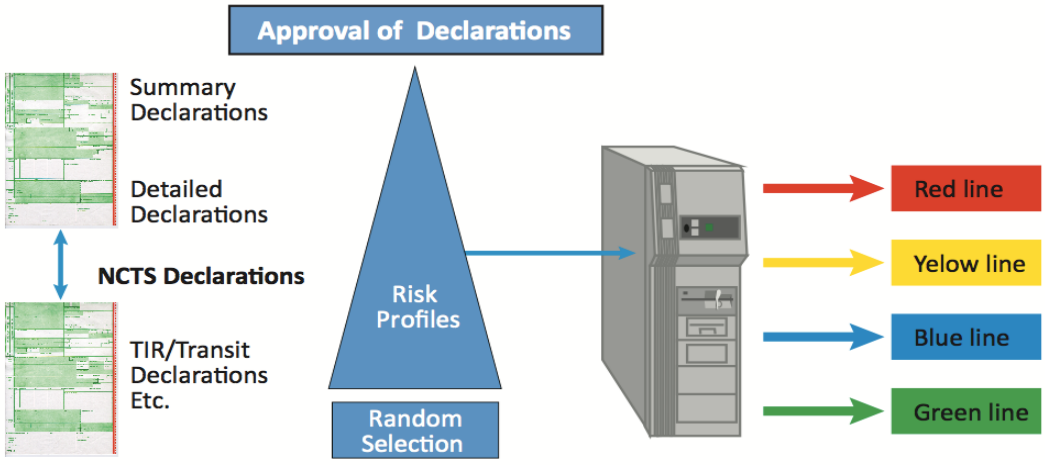

*Source: Turkey Customs Administration*

[68] http://www.oracle.com/technetwork/developer-tools/discoverer/overview/index.html

### *5.1.4.3 Profiling and targeting*

The Risk Analysis profiling and targeting processes are performed on all customs procedures that are supported by the BILGE System. This allows the central and local RA departments to analyze and create risk profiles that will target high-risk summary and detailed declarations in addition to NCTS and TIR/Transit declarations (Figure 39). The whole process of profiling and targeting is fully automated, allowing a small number of customs declarations to be targeted based on random selection (random selection is applied only in the case when the customs declaration is not targeted with the specific risk profiles that already exist in the system).

**Figure 39: Computerized Risk Targeting Process**




*Source: Turkey Customs Administration*

The Profiling and targeting system uses four channels:

- Red channel for physical and documentary inspection;
- Yellow channel for documentary inspection only;
- Blue channel or deferred control;
- Green channel without any customs control including AEO.

Currently, the TCA has approximately 1000 active risk profiles in the RA module of BILGE created based on the risk analysis process, and consist of the combination of one or more risk indicators. For example, the risk profile can combine several risk indicators such as a description of goods, consignor, consignee, tariff codes, transporter, country of origin, etc. (all data elements in customs declaration). The central RA Department manages all risk profiles. The local RA departments are more focused on the regional level where they operate. Local RA departments have no rights to change risk profiles prepared from the central RA department, but they can suggest changes.

### *5.1.4.4 Covering/Treatment*

When the risk profile targets the declaration, the customs inspector responsible for control will proceed with a physical or documentary check based on the instructions associated with the risk profile and the SOP. As an example, the message associated with the risk profile can instruct the officer to "check the goods for dual-use." The officer will refer to the relevant licensing/permit authority (in this case Ministry of Economy, Ministry of National Defense and/or Turkish Atomic Energy Authority). Risk Analysis Operating Instruction is used as guide

and reference for central risk analysis, and by using of message boxes found on profiles, it is possible to send messages that the customs inspectors can make use of during their inspections. It is important to mention that the customs declaration targeted by risk profiles on one of the previously described channels cannot be rerouted by the customs inspectors, but only by the local RA department upon approval by the central RA Department. In such a way, the TCA have deprived customs inspectors and local risk analysis officers of any discretionary powers.

#### *5.1.4.5 Evaluation of outcomes/feedback*

The last stage in the RA cycle is an evaluation of outcomes/feedback from the conducted control. After the finalization of the customs control, it is mandatory for the officer(s) in charge to fill the codes related to the risk profiles in the form of "0 – nothing found, risk profile not verified" and "1 - noncompliance found, the risk profile is verified". When there is code "1", the customs inspector will need to select additional codes that describe the type of noncompliance. For example, undervaluation, non-declared goods, wrong tariff code, origin, etc. In such a way, the RA department can analyze the effectiveness of the risk profiles and improve them over time. Additionally to the pre-defined codes, the customs officers must fill out a textual form and describe the irregularities, focusing on the modus operandi. Having in mind that risk profiles are collections with one or more risk indicators, the RA department can measure the efficiency of the risk profiles, but not on the level of risk indicators. Currently, the RA module of BILGE cannot link the noncompliance/irregularities on the level of risk indicators or risk profiles in the case when more than one risk profile has targeted the customs declaration. The CRM Department together with the IT department is developing user and functional requirements for new risk analysis system. Currently, the new RA system is at a pilot stage, and the short-term plans are to replace the current risk analysis module of BILGE. The new system will include the simulation module that will give the possibility to relate risk indicators that provide capturing of the profile with captured customs declaration. In such a way, the TCA and RA Department will increase the effectiveness and improve the evaluation of outcomes/feedback process. Table 31 compares the TCA CRM previous with its current approach.

**Table 31: TCA CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| Manual Risk Analysis | Full CRM cycle |
| | Intelligence-led risk management |
| | Data Analysis Unit supported by IT |
| risk analysis activities on a central level | Decentralized risk analysis on regional level- each region has different particulars related to specific risk areas |
| 100% physical inspection | 50% of shipments inspected on principles of risk management |
| No CRM Policy/Strategy | TCA legislation in line with the EU acquis |
| No trader simplification measures | AEO concept introduced in January 2013, currently 225 AEO operators |
| Single CRM repository | Common CRM with OGAs and other agencies/institutions |

*Source: Author's compilation*

### 5.1.5 Key Performance Indicators

One of the most important KPI that RA department uses is the efficiency of risk profiles related to hits and noncompliance discovered after the inspection. The RA department conducts an assessment of the risk profiles at every six months.

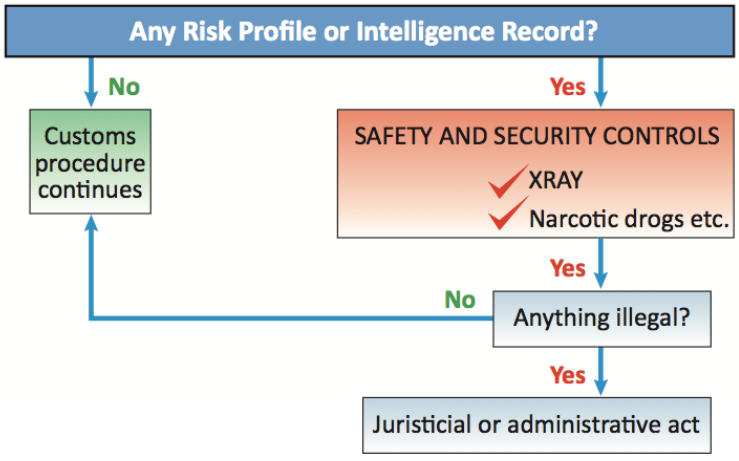
### 5.1.6 Human resource management

In June 2017, 15.640 personnel work in the TCA, 2.312 in TCA HQ, 11.103 in local customs administrations, 1.655 in local, national trade administrations, 566 in revolving fund units, and 4 in overseas operations. Approximately 74 % of the personnel graduated from a university, 30 % of personnel are younger than 30 years of age.

### 5.1.7 Intelligence

Intelligence cycle is deeply integrated into the work of TCA in targeting high-risk vehicles and passengers. A Command Control Centre operates within the DG of Customs Enforcement, and follows in real time, using a GPS system, different vehicles moving across the country, and performs inspection with non-intrusive equipment. The center observes on the screen airplanes coming into Turkey that have already been subjected to risk assessments based on pre-arrival information received for passengers in the specific airplane.

**Figure 40: Inland Border Gates Program**




*Source: Turkey Customs Administration*

When it comes to the land border crossing points, a face recognition system is operational, and it is used to check some databases for risks related to specific passengers. One of the most important systems is the Land Border Gates Program that includes the TIR/Transit Tracking Program, No.1 Vehicle Tracking Program (personal cars) and No.2 Vehicle Tracking Program for busses (Figure 40).

The Intelligence department uses local intelligence officers that prepare intelligence reports used by the RA department to create different risk profiles. They collect information about the seizures and enter them into the WCO's nCEN system to send required data into the CEN according to RILO ECE thresholds. Their Analysis Department uses these databases to analyze trends and create intelligence reports that are disseminated to other departments and DG in the TCA.

### 5.1.8 Customs Risk Management Performances and Effectiveness

TCA has been actively improving the system for electronic Risk Analysis in order to target the increasing number of declarations in all customs procedures and to deal with the requirements of the Risk Analysis processes for safety and security. Based on the risk areas and compliance history of the traders, customs controls shall be prioritized, and as a result, it reduces the overall physical controls necessary at the border. It is important to mention that year over year the TCA increases the number of green channel declarations related to AEO's, thus increasing cooperation and partnership with non-risky companies while decreasing the number of red channel declarations. With all these efforts, customs risk management is performed more effectively.

### 5.1.9 Bilateral/multilateral cooperation

The TCA has built good relationships with national and international agencies, organizations and traders. An important aspect for the development of an effective CRM is that the TCA has the authority to sign administrative agreements / Memoranda of Understanding (MoU) with trade associations, OGAs, other customs administrations, regional/international organizations, port authorities, airlines companies and courier services.

The TCA have excellent collaboration with the Immigration Agency, the Border Guard Agency, the Police, the Environment protection, the Phytosanitary, the Health agency, the Product safety agency as one of the most important domestic governmental agencies/bodies.

When it comes to collaboration with other customs administrations, the TCA has established regular sound collaboration with the Customs administrations of the neighboring countries by sharing intelligence and cross borders data. The exchange of information with overseas customs administrations is at the lower level, based on requests. The TCA has a mutual agreement for information exchange with the Russian Federation. With Georgia, the TCA is exchanging data on transit only. The TCA is exchanging data with Iran for five traders who perform massive exports to Turkey.

The TCA has a highly successful cooperation with the Road Transport Union in terms of information and intelligence sharing, as well as in mutual operations and activities, using the TIR-EPD and TIRCUS for TIR contracting parties as applications enabling the TIR Carnet holder to submit a free-of-charge electronic pre-declaration to customs offices of entry in the Turkish Customs Territory. Additionally, for pre-arrival information related to transit declarations, the TCA uses the NCTS system with EU-EFTA Countries and with Macedonia and Serbia as members of Convention on a Common Transit Procedure and the Convention on the simplification of the formalities in trade in goods.

The Intelligence Department of the TCA exchanges intelligence, information and seizures report through the WCO CEN (Customs Enforcement Network), UNODC intelligence database and SELEC intelligence database.

## 5.2 CRM in Customs Service of Senegal (CSS)

Senegal is located in the westernmost part of Africa, at the crossroads of trade routes linking Western Africa, Europe, North and South America and West Sub-Saharan Africa. The Port of Dakar is a trade hub open for commercial traffic since 1865. Port of Dakar is one of the biggest deep-water seaports in the West African coast, ranking fifth in cargo volume after Richards-Bay, Durban, Lagos, and Abidjan. Senegal customs is managing 24 BCPs, one seaport, one international airport and 22 road BCPs.

Customs Administration in Senegal was established in 1819, after the 1962 outbreak of the Federation of Mali, the Senegalese Customs Administration was reorganized as the Customs Service of Senegal.

Senegal is a member of the ECOWAS Customs Union programme that is concerned with the implementation of the ECOWAS Common External Tariff effective and the promotion of the economic integration among its member states.

### 5.2.1 Various Aspects of Risk Management Implementation in Senegalese Customs

#### *5.2.1.1 Evolution of CRM in CSS*

Senegal is a typical example of an African country relaying for over ten years on external companies assessing the risk management on their behalf. Since 2010, the CSS has been moving the CRM functionalities back into central customs services. The CSS shows improvements in building general organizational capabilities and IT, with a focus on developing appropriate IT tools to support CRM.

In 1990, the Senegalese Customs implemented a GAINDE Integral CDPS to process the customs declaration, collection, and payment of customs duties and taxes. The GAINDE Integral CDPS didn't support CRM functionalities.

**Table 32: SCS Customs Declaration grouped by mode of transport**

| | Number of BCPs | 2015 | | 2016 | |
|---|---|---|---|---|---|
| Mode | | Number of CD | Percent | Number of CD | Percent |
| Air | 1 | 42,909 | 18.31% | 43,415 | 18.86% |
| Sea | 1 | 123,681 | 52.77% | 119,758 | 52.02% |
| Road | 22 | 67,622 | 28.85% | 66,959 | 29.08% |
| Train | | 168 | 0.07% | 104 | 0.05% |
| Total | 24 | 234,380 | 100% | 230,236 | 100% |

*Source: Senegal Customs Service*

Customs Risk Management in Senegalese Customs started in 2001, with the implementation of the Import Verification Program (PVI). The PVI contract determines the customs value of goods imported in Senegal. At the beginning of 2002, the MoF signed a new contract with COTECNA for supply and valuation database development, as well to further assist the Customs in the physical control of goods during import and export procedures.

Risk management in the CSS began with the fourth contract – Import Verification Program (PVI) - signed with the COTECNA Inspections[69]. COTECNA had been requested in 2001 to develop a

[69] http://www.cotecna.com/

risk management system in addition to the conventional checks carried out in the PVI. The Ministry of Economy and Finance signed a contract (N° C-0119/14) with COTECNA Inspections in support of customs authorities.

At the end of 2002, the contract with COTECNA was extended to developing a risk management system to supplement the traditional customs controls. Thus, a computer risk management system "*Système Informatique d'Analyse du Risque*[70]" (SIAR) was developed as an integrated solution, outside of the CDPS.

The CSS has established a CRM Steering Committee responsible for CRM central services and assigned the CSS IT Department to support the design, development, and maintenance of the SIAR. At the operational level, the customs control was done the COTECNA Inspections and Senegalese customs officers.

The SIAR risk management solution was to perform a risk analysis of the pre-arrival import declarations lodged by traders. After issuing the Verification Certificates (AV) by COTECNA, the goods were released for free circulation.

SIAR risk management solution has been in operation since 2010, but has several crucial weaknesses:

- Approximately 50 % of the goods are not subject to customs control. This happens because the SIAR system is automatically releasing the goods as soon as COTECNA issues the Verification Certificates (AV) based on valuation analysis of the goods;
- The results of the customs control carried out by the Customs, even in case of non-compliances or irregularities, are paper-based and not sufficiently documented. Also, there is no possibility to enter the feedback of the customs control in the SIAR system. Consequently, the analysis of the customs control feedback is manual, requiring a lot of resources;
- The Customs officers carry out their controls without consideration of the SIAR system instructions. This significantly increases the physical control of goods and increases the possibility of corruption;
- Senegalese Customs is fully dependent on COTECNA regarding upgrading and maintenance of the SIAR system and customs control;

IMF assisted the AFRITAC West agency[71] to start the development of a new CDP System "*Traitement Automatisé des Marchandises par voie Electronique*" (TAME[72]). With the implementation of TAME, the SIAR become an autonomous system. The TAME CDPS is a modular system, applying risk analysis on a transactional basis, allowing customs officers to enter irregularities/noncompliance reports related to customs declarations electronically.

For the time being, TAME retrieves the results from the SIAR and sends them to the customs clearance system for goods that are subject to a customs control. TAME is a predictive analytics tool that allows risk calculation and dynamic targeting. This enables the SCC to dynamically identify the transactions that are "risky" and likely to be noncompliant, and accordingly enabling most effective resource planning. As the contract with COTECNA ends in 2018, the TAME will take over the overall CRM functionalities.

[70] http://www.cotecna.com/en/Services/Government-services/Risk-Management
[71] http://www.umoatitres.org/en/partner/other-partners/afritac-west
[72] TAME in Wolof language means "Sieve"

**Table 33: SCS Customs Declaration grouped by nature of transaction**

| | 2015 | | 2016 | |
|---|---|---|---|---|
| Nature | Number | Percent | Number | Percent |
| Export | 30,187 | 12.88% | 30,846 | 13.40% |
| Import | 141,896 | 60.54% | 132,265 | 57.45% |
| Re-export | 15,323 | 6.54% | 14,697 | 6.38% |
| Transit | 46,974 | 20.04% | 52,428 | 22.77% |
| Total | 234,380 | 100% | 230,236 | 100% |

*Source: Senegal Customs Service*

The Anti-Narcotics Unit is placed at the Dakar Port and managed by the SCC. It was created with the assistance of UNODC[73] and brings together the customs, the police, and the gendarmerie. The Anti-Narcotics Unit is using TAME to identify specific risk shipments (related to drugs). It is expected to extend the RM coverage with CD which is not yet the case.

### 5.2.2 Organization of CRM in Senegalese Customs

The CRM Department of CSS is part of the Directorate of Intelligence and Customs Investigations and is reporting directly to Director General. The organizational structure of the CRM Department is centralized and operates primarily at the central level at which there is two dedicated structures, the CRM and the Intelligence Department located within the Directorate of Intelligence and Customs Investigations. The Intelligence Department provides the risk indicators to the CRM Department and supports the overall customs operations.

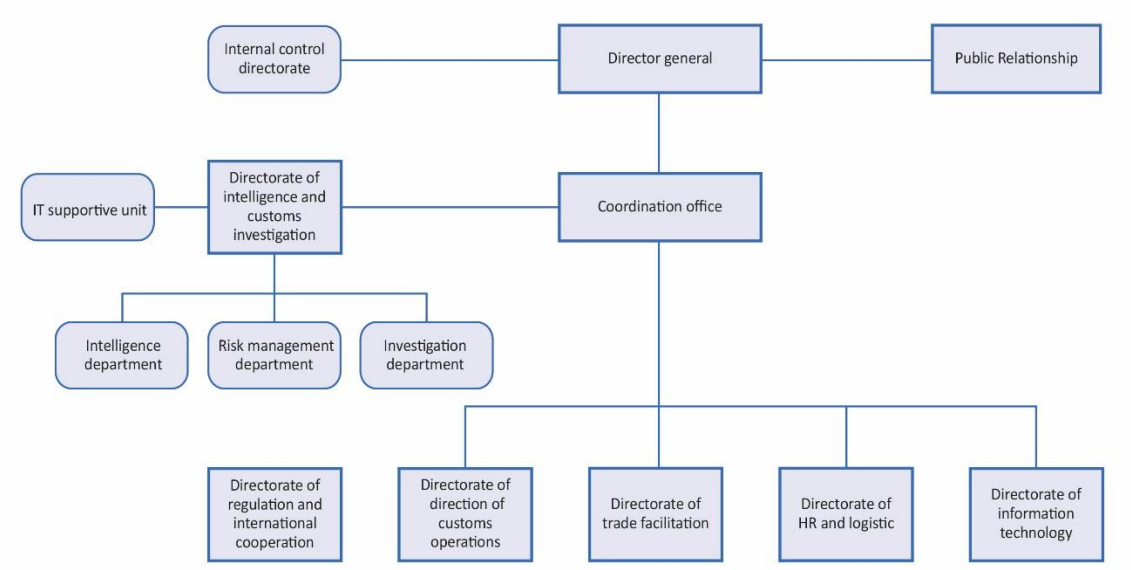
At the operational level, the CRM and Intelligence are primarily operating in the Port of Dakar where 90% of the goods are cleared. Also, customs officers at the BCPs with Mali, Gambia, and Guinea-Bissau are trained in risk management and intelligence.

The CRM Department is responsible for the collection of the risk indicators, management of risk profiles and entry of the risk profiles in the CDPS. The CRM analyzes the risk and the results/feedback from the controls. Only the CRM Department has the authorization for rechanneling customs declarations based on customs officers' requests. Six staff members are assigned to the risk management function at the centralized level (Figure 41).

The Directorate of Intelligence and Customs Investigations of the CSS have a dedicated IT department that supports the CRM and the intelligence data analysis, as well as the development and maintenance of the CRM system.

[73] https://www.unodc.org/

**Figure 41: Organizational Structure of Senegalese Customs Administration**




*Source: Senegal Customs Service*

### 5.2.3 Legal aspects of CRMS in Senegalese Customs

The Senegalese Customs Code has been in effect since 2014 (Code des Douanes du Senegal Loi 2014-10[74]). The CSS has adopted the statutory instruments, the implementing regulation, and the CRM policy.

There is a no clear distinction between objectives stipulated in the law enforcement strategy and a risk management strategy. This is why the CRM can be understood as being used for both control and facilitation purposes. Indeed, it aims among other things, to encourage traders to apply the law voluntarily and fight effectively against fraud. The three-year strategic plan emphasizes that the customs controls must use risk management, but it does not have a regulatory character.

Recently, a CRM framework instruction for customs controls was developed, and it is of regulatory character, but this instruction should be revised for the CRM to be better organized. The CRM framework contains mostly memos from the director general of the SCC.

#### *5.2.3.1 Authorized Economic Operator*

The CSS has implemented a so-called Privileged Partner Program (PPP) in 2011, which is a trade facilitation program that needs to be transformed into a real AEO program. The PPP programme is based on the Décision (Decree) n°0381 DGD/DFPE/BREP of 17 June 2011 setting out the Programme de Partenaires privilégiés (PPP). In total, there are 11 PPP holders. At present, traders with PPP are directed to a blue channel with just 5% randomized control.

The PPP benefits are classified in 4 categories:

- A category: Immediate release of goods upon registration of the accounting documents and fast-track removal procedure; Declarations acknowledged as “In Compliance” for

[74] http://www.finances.gouv.sn/index.php/publications/code-des-douanes-du-senegal

randomly selected operations in the inspection channel and priority processing of those operations; Possibility to obtaining binding advance information;

- B Category: A category Benefits; Establishment within the Customs service of mandatory time limits on processing for all stages; Possible conclusion of protocols to deal with special circumstances; Reduction and rationalization of post-clearance audits;
- C Category: A and B category Benefits; Possibility of replacing the usual financial securities (e.g., bonds, cash deposits) with a company surety; Relocation of physical controls to the undertaking's premises; Granting of simplified export procedures;
- D Category: Be granted the Citizen and responsible company label.

The USAID is providing technical assistance in this area. In April 2017, U.S. Customs and Border Protection and Senegal Customs signed a Customs Mutual Assistance Agreement.

### 5.2.4 Risk Management Process in Senegalese Customs

The SCC has defined several levels of risk, as an important part of the risk management process that rates the risk profiles targeting risky consignments. The level of risk is determined by the score assigned to each of the indicators for every transaction. This score is obtained by combining several assessment criteria such as the importer's history, transportation mode, origin, description of the goods, local regulations, etc.

The Inter-Services Committee is constituted by members of the Intelligence Unit, the Decision Support Unit, and the Control Clearance Unit and meets monthly to review the statistics and maintain the parameters and criteria of risk profiles.

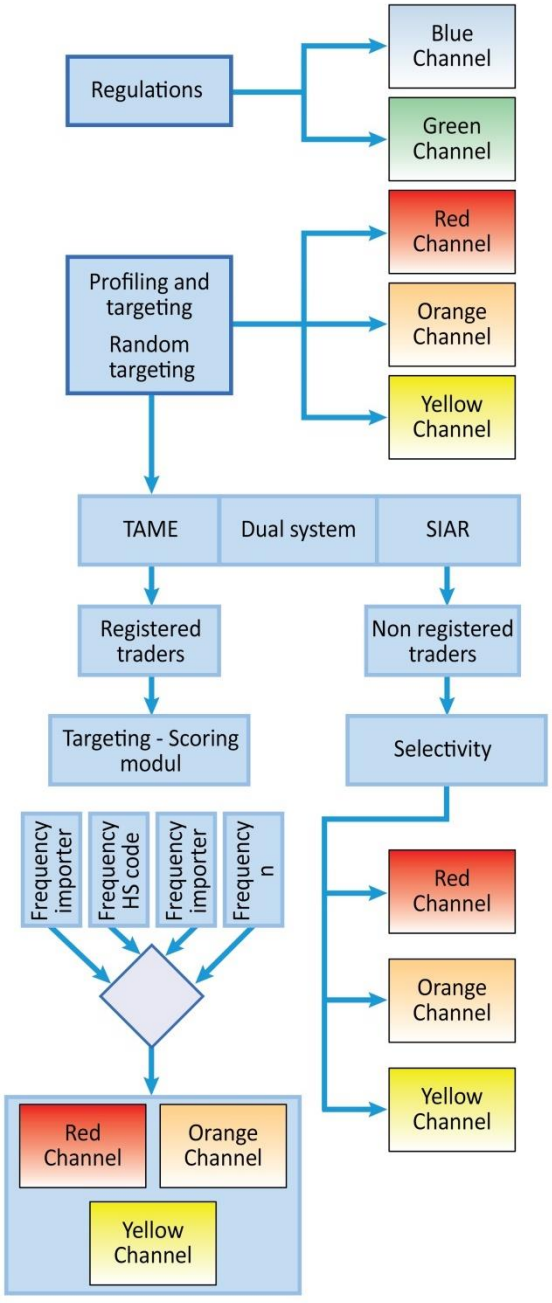
A steering committee of SIAR, mixed COTECNA/SCS, meets regularly to adapt the CRM system to the operational requirements. In reality, two risk management systems coexist. The first, SIAR, is based on the analysis of data from the PVI (Import Verification Program). It determines which imports undergo pre-shipment inspection and channeling, by a verification certificate, and assigns one of the five control circuits at the destination. The second one concerns the non-PVI imports which are managed by the TAME system. 70 % of imports "escape" the SIAR and therefore do not benefit from the COTECNA analysis of risk. Imports below FOB CFAF 1 million are excluded from the PVI. The importers do not have to file a pre-import declaration. Imports whose CIF value is less than CFAF 3 million (and more than CFAF 1 million FOB value) are subject to control, but not before boarding. For pre-import declaration over 3 million CFAF control is carried out before boarding. The verification certificate is then transmitted electronically to the customs through the GAINDÉ system.

The SIAR integrates two levels: the upstream SIAR and the downstream SIAR. The upstream SIAR determines the type of intervention of the company COTECNA before loading the goods, based on the analysis of the IPR (Prior Declaration of Importation) and guides the imports to three channels (Figure 42):

- The blue channel for goods excluded from COTECNA's intervention;
- The green channel for documentary check;
- The yellow channel - check the tariff classification and valuation analysis;
- The red channel involves a physical check of goods before boarding.

The objective of the SIAR-upstream is to limit the number of physical inspections before boarding to 10% of import operations. The downstream SIAR determines the type of Senegalese customs intervention at the arrival of the goods for those subject to a VA.

**Figure 42: CRM Process in Customs Service of Senegal**




*Source: Senegal Customs Service*

#### *5.2.4.1 Risk assessment process (identification, analysis and prioritization)*

The risk assessment is essentially done by an Inter-Services Committee that coordinates the risk management department and analyzes risks to customs operations. The analysis is based on statistics, operational experience, information received from various sources, instructions from

the authority, etc. The main objective stipulated in the CRM strategy is to decrease all types of controls in the red channel by 15%.

The SCC has access to different sources including the FNID[75], information from UNODC and open sources (internet, social networks, etc.). Software and databases used by SCS:

- GAINDE Intégrale: CDPS constitutes the support for customs declarations, collection, and payment of duties and taxes;
- GAINDE extension: management of all internal customs procedures in customs clearance offices: request for Post Clearance Audit, parcels, air/rail cargo manifest, etc.;
- GAINDE DEMAT: gateway for exchanging permits and certificates managed by GANDE 2000 SW, pre-clearance documents (OGA's), payments (banks), insurance, transporters, etc.;
- CDPS TAME: risk analysis, targeting and risk guidance;
- FNID: National Information and Documentation System (FNID), a database for management of information related to drugs, litigation, vessels and currency declarations.

**Figure 43: Senegalese Customs IT Systems**


*Source: Senegalese Customs presentation WCO IT Conference 2016*

The Intelligence Unit is using the information available in WCO CEN and enters the data in the TAME as needed. Currently, there is a pilot project for exchange of data with the Senegalese Tax Administration, but for the time being, the tax information is not used systematically. The SCC is planning to develop a common CRM IT System for the SW, customs and tax administrations.

Table 34 compares the SCC CRM previous with its current approach:

[75] National Information and Documentation File (FNID), database information, narcotics, litigation, ships and currency declarations

**Table 34: SCC CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| Manual Risk Analysis | Import Verification Program (PVI) |
| | Intelligence-led risk management |
| | SIAR CRM System |
| 100% physical inspection | 50% of shipments inspected on principles of risk management |
| No CRM Policy/Strategy | TCA legislation in line with the EU acquis |
| No trader simplification measures | Privileged Partner Program (PPP) concept introduced in 2011 |
| Single CRM repository | Common CRM with OGAs and Tax Administration (GANDE Single Window) |

*Source: Author's compilation*

#### *5.2.4.2 Profiling and targeting*

At this stage of the CRM, based on the analysis and risk assessment, the CRM Unit is using econometrics to establish: the calculation parameters; the valuation of the criteria; the calculation of the scores of each transaction; the different weights to obtain the final risk score; and the assignment of the channeling by the CDPS when registering the declarations.

Targeting of the CD is performed by TAME and in the SIAR on the Verification Certificates. The targeting can be based on static or dynamic risk profiles. The TAME system supports five channels (blue, green, yellow, orange and red), but there is an ongoing project to reduce them to only three (without control, documentary control, and physical and documentary control).

For commercial operations excluding PVI, which therefore do not have risk analysis of the SIAR, the GAINDÉ system directs the declarations towards one of the five control channels according to the criteria defined by the SIAR/SCC Steering Committee based on their perception of the risks of fraud:

- The Blue channel with automatic release granted by the customs clearance system upon registration of the customs declaration, applicable for goods that are not subject to customs/VAT and special cases approved by the authorities.
- The Green channel for low-risk goods, subject only to documentary control, applicable to raw materials, industrial equipment and capital goods;
- The Yellow channel for moderate risk goods, in case when it is difficult or impossible to carry out a check on the wharves, hence the goods are controlled in the importer's premises (fragile, dangerous or heavy goods);
- The Orange channel for medium to high-risk goods that are subject to a documentary check and scan;
- The Red channel for high-risk goods that are subject to documentary control and physical verification by a customs officer.

The customs officers, based on particular information and/or local criteria, inform the CRM central office to manually change the channeling in the system and increase the level of control

by moving the customs declaration from a weaker channel to one with more controls (e.g., green to orange or orange to red). At this level, however, the opposite rechanneling is not allowed.

During the 1st quarter of 2017, 7947 customs declarations were subject to customs control (red, orange, yellow and green channel), by the selectivity module of the TAME. Corresponding customs controls resulted in the detection of fifty-six offenses (irregularities) were detected, or 0.7% of controlled declarations. During the 2nd quarter of 2017, 7633 declarations were subject to control or 99.8% of the customs declarations with risk. Sixty customs declarations or 0.8% of the controlled declarations resulted in the offense.

#### *5.2.4.3 Covering/Treatment*

TAME is covering 95% of the customs declarations submitted by traders. The total coverage of all operations depends on the coverage of the customs territory by telecommunication networks; two BCPs are not yet connected, and they do not use risk management.

The treatment is supposed to be done by observing the results issued by the system. The changes made by the operational services should normally be justified by a report stating the relevance of the reasons and readjust, if necessary, the calculation inputs. Unfortunately, this procedure is not always observed by the customs officers.

However, TAME significantly reduced the red channels that were due to a lot of static targeting related to origins and category of traders, without really applying an up-to-date analysis and risk assessment

#### *5.2.4.4 Evaluation of results/feedback*

The evaluation/feedback from the control is still a weak point due to the incomplete information provided by customs officers. The main issue is the *modus operandi* - description of irregularities, pictures/method of concealment and the route of shipment. Also, there is no feedback from the control even in cases where no irregularities were found, which is of particular importance, to review the risk profiles/indicators and measure their performances. This is not due to the lack of regulations, as the results from the control must always be entered to control reports and Fact Sheet on the Fraud[76] (FIF). All elements of the control are supposed to be integrated for analysis and risk evaluation. It is especially necessary to analyze past events and evaluate the *modus operandi*. To mitigate these weaknesses, Customs has developed applications for an automatic collection of results obtained from computer checks and mandatory information/data which oblige the agents in charge of the checks to filed reports, as they won't be able to grant release. An improvement in feedback has been reported, however, a lot remains to be done.

#### *5.2.4.5 Customs Control Infrastructure and Inspection Equipment*

The Port of Dakar is fully equipped with inspection (NII) and scanners for screening means of transport, sea containers, as well as personal luggage**.** The scanners are placed at the port of Dakar, Yoff airport, Kidira BCP on the border with Mali and Rosso BCP on the border with Mauritania.

The orange channel (scanners) is integrated into the risk management. A mixed unit (Customs, Police, and Gendarmerie) with the assistance of UNODC are using scanners to combat drugs and other forms of crime.

[76] Fiche d'Informations sur la Fraude

#### *5.2.4.6 Key Performance Indicators in Senegalese Customs*

The SCC has developed an application for management of offenses. The application allows the drafting of a visiting order based upon a fraud information sheet provided by the application itself. In this way, the Decision Support Office can generate feedback and make it available to the evaluation committee for further risk estimation. On the other hand, for the offices that are not connected to the TAME system, the paper remains as the only means of transmission of the inspection results.

Quantitative measurements (number of declarations per channel and feedback from control/inspection) are performance indicators of ratios per channel. They also enable measuring the effectiveness of the CRM via the ratio of controls number and the results obtained. The analysis of TAME data showed that the red channel had not led to a reduction in the number of irregularities. This suggests that risk management was effective, but it is important to keep these performances over a longer period.

#### *5.2.4.7 Intergovernmental integration of risk management in Senegalese Customs*

On the Governmental level, there is an ongoing project for interconnectivity and interoperability between the customs and tax administration, the treasury, the statistical agency, etc. At the moment it is only the customs and the tax administration that can exchange information between them to better direct their controls. On the other hand, additional risks such as food or environmental risks are not yet covered. A common risk indicators repository is pending development and will allow OGAs actively to participate in the CRM.

#### *5.2.4.8 Bilateral/multilateral cooperation in Senegalese Customs*

Senegal is part of the ECOWAS[77] and WAEMU[78] which both have adopted the Common Customs Code. The current version of the regional framework is not concerned with risk management. The UEMOA framework does not mention the CRM - except in its revised version, but the member countries have not yet adopted it.

It should be noted that Senegal has adopted both the WCO Framework of Standards and the WTO Trade Facilitation Agreement, both of which requires the CA to make use of risk management as the primary control tool.

### 5.2.5 Intelligence in Senegalese Customs

The focus of the Intelligence Unit is on specifying what has been found in the process of information collection, analysis, and measurement of risk. The types of knowledge involved in the practice of the Intelligence Unit can be categorized as administrative, policing, legal, procedural, and analytical knowledge.

General tasks for the Intelligence Unit are:

- Support to RM Unit by providing risk indicators;
- Support to customs operational staff;
- Support to national/international LE Agencies and LIO's ;
- Management of the Intelligence IT system;
- Strategic, tactical and ad-hoc analysis;

[77] http://www.ecowas.int/
[78] http://www.uemoa.int/en

- Management of informants and other sources of information;
- Dissemination of intelligence.

At the intelligence office, not many resources dedicated to risk management are available. Eight officers are working on the intelligence; three of them are dedicated to working with the Decision Support Office and Risk Management Unit. Six officers are managing the risk profiles in the TAME system, fully supported by the IT Department.

Among the responsibilities of the Intelligence Unit is to coordinate and communicate with the national and international agencies. As mentioned before, the Intelligence Unit is also part of the Drugs Unit together with the Police and Gendarmerie. They also manage the National Information and Documentation System (FNID), and for the time being, the information from the tax system is used on an ad-hoc basis, but the data exchange platform which is in a pilot stage should enable full behavioral analysis.

Intelligence Unit has access to WCO CEN; the head of the Unit is appointed as head of the West Africa RILO and takes care of West Africa RILO coordination.

The operational departments are responsible for implementing the results of the risk analysis and, above all, for documenting the results of the controls to redirect

As stated above, the offices that are connected to the CDPS are transmitting the inspection results electronically, even though litigation regulations require a written report the analyses.

### 5.2.6 Economic impact from CRM in Senegalese Customs

In reality, there are only a few measures for the potential economic impact of the risk management. This is one of the areas where reporting and analysis should be done in future. In particular, there is a need to improve the link between the risk management, the trade facilitation, the trusted operators and, especially, the post-clearance controls. One of the current projects in the SCC works to strengthen risk management - extension to post-clearance audit as demanded by both the WCO and the Trade Facilitation Agreement.

## 5.3 CRM in Albanian Customs Administration (ACA)

In total, ACA has 28 customs offices. ACA operates on 4 seaports, 1 airport and 9 roads BCPs for commercial traffic, 8 BCPs for passengers only, and 6 inland customs offices.

In 2001, the ACA implemented ASY 1.18, an updated IT package, ASYCUDA++, was implemented in 2003. AW becomes operational in 2006 (ver. 4.0.24) after ACA interconnected all BCPs and inland customs offices.

#### *5.3.1.1 Evolution of CRM in ACA*

The ACA is a part of the Ministry of Finance of the Republic of Albania. ACA is responsible for implementation of customs related policies, effective implementation of customs procedures, revenue, and compliance. Risk Analysis and Monitoring Directorate was established in 2003 when the AW was implemented. The customs controls are based at the risk management; decrease the need for controls resulted with saving of costs and reduction of time for the traders.

The main responsibilities of the Risk Analysis and Monitoring Directorate are related to:

- The establishment of the risk management context;
- Risk identification;
- Risk analysis;
- Risk assessment;
- Addressing the risks; and
- Monitoring and reviewing the process through compliance measurement.

ACA is using risk management for inspection of the consignments on the strategic, tactical and operational level. The CRM strategy is oriented towards TF, revenue collection and safety, security and environmental protection. All BCP's and inland customs offices are equipped with ANPR and container number scanner. The monitoring unit is performing live monitoring of customs operation through CCTV system. The monitoring unit is managing the risk indicators related to means of transport registration and container number. The system is alerting the customs officers, and they have to take measures, and accordingly to instruct the customs officer of the field for the risk. Then the control of the consignment is monitored live, recorded and the findings/feedback is entered into the system.

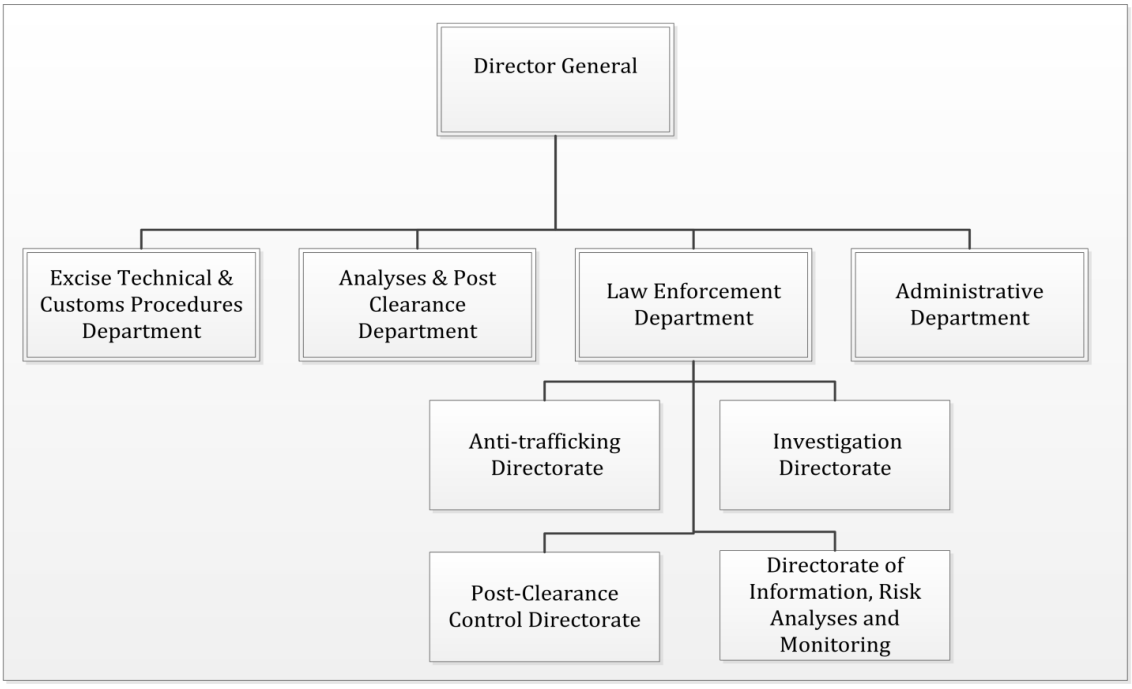
### 5.3.2 Organization of CRM in ACA

ACA adopted the new organizational structure in January 2017.In total, ACA consist of 1052 employees at central and local level.

The Risk Analysis and Monitoring Directorate (RAMD) is organized in a centralized manner, and risk management tasks are carried out in a centralized manner. The RAMD consist of the two units, the Risk Analysis, and the Monitoring Unit.

In 2006, ACA established a Risk Management Committee, staffed with 12 members and is managed by the Director General of ACA. The Committee meets regularly on a monthly basis and manages information related to CRM.

**Figure 44: ACA Organizational chart**




*Source: Albanian Customs Administration website*

### 5.3.3 Legal aspects of CRMS

In 1999, ACA adopted the Law No 8449, "The Customs Code of the Republic of Albania" and in 2014, an addendum to the Customs Code No 02. Currently, Albanian Customs is applying the implementing provisions of the new Customs Code to be partially aligned with the Commission Delegated Regulation (EU) 2015/2446 and Commission Implementing Regulation (EU) 2015/2447. Albania achieved EU candidate country status in June 2014 and is a member of WCO since 1992.

ACA has adopted the Administrative Instructions, Implementing Regulations, and Standard Operational Procedures statutory instruments that cover the CRM. It is mandatory for traders to submit to ACA the advance cargo information related to import and export consignments. AW currently manages transit procedure; it is expected the NCTS to become operational by mid-2018.

The Customs Code of the Republic of Albania confers power to the ACA to detain/seize the goods, means of transport and persons. It seems that currently, the legal environment does not set any barriers to the use of modern CRM. As a part of the overall ACA customs strategy, the CRM is oriented towards trade facilitation, risk detection, revenue collection and safety, security and environmental protection based on risk management.

#### *5.3.3.1 Authorized Economic Operator*

The Albanian Customs Administration has implemented the AEO status according to WCO standards, and for that purpose, a Common Recognition Agreement has been signed with the CEFTA MS in compliance with EU legislation. ACA has defined the benefits resulting from the status of AEO operator as follow:

- More favorable treatment regarding risk assessment and control:

- An AEO operator shall be subject to fewer physical and document-based controls than other economic operators;
- Where consignments declared by an AEO have been selected for physical or document-based control, those controls shall be carried out as a matter of priority;
- On request from an AEO, the controls may be carried out at a place other than the place where the goods have to be presented to customs.

Up to date, no trader has applied for AEO status.

*5.3.3.2 EU Systems (NCTS, ITE)*

In 2016, EU financed the twinning Project under IPA 2012 "Modernization of the Albanian Customs Administration" with duration of 24 months. The purpose was the implementation of NCTS, divided into 2 components:

- Customs legislation and procedures related to interoperability of IT systems with the EU – NCTS System;
- Enforcement and Intelligence related to transit procedures.

Another important project related to the integration of Albania in the EU is Integrated Tariff Management System -ITMS[79] (ITE). The project will introduce a fully compatible IT system with the EU Integrated Tariff Environment. ACA adopted the new legislation, manuals, and guidelines in accordance with EU standards on tariff and EU regulatory requirements.

### 5.3.4 Risk Management Process in ACA

ACA is facing the same issues as countries that are using AW. This is particularly related to the CRM functionalities, limited to selectivity. ACA is making utmost efforts to create and manage the risk profiles targeting consignments or customs declarations with high risk.

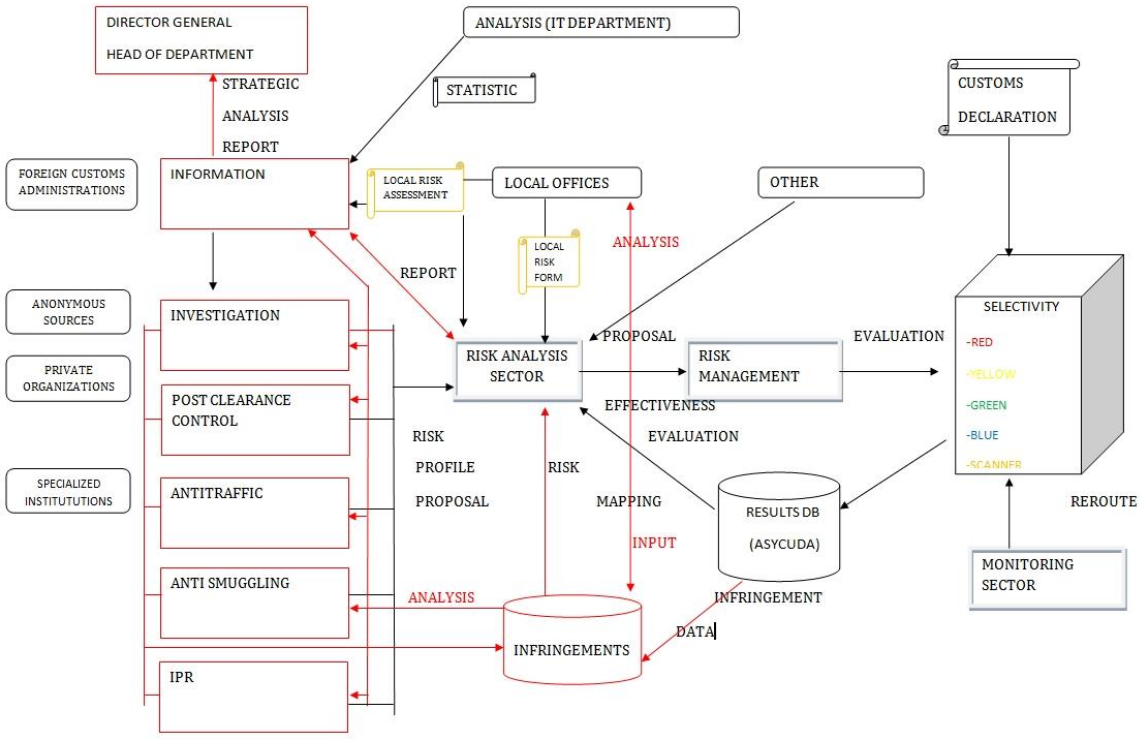
*5.3.4.1 Risk assessment process (identification, analysis, and prioritization)*

The RAMD is responsible for the identification, analysis, preparation, and prioritization of the risk profiles. AW selectivity module has limited technical facilities to identify and target the high-risk goods which comprise applying profiles on the central and local level. However, due to complicated procedure of approving of profiles on the national level, this facility hasn't been used too much. ACA recently started to apply the CRM on a local level. Risk assessment process is separate from AW CDPS. A specific body, Risk Management Committee, is responsible for approval of new and change of existing risk profiles. There is no predefined period for an update of profiles. Each profile, once approved by the Committee, is tested before applied into the production environment. The RAMD can perform a test of the risk profile/indicators on the historical data in AW.

ACA is part of the SEED project and exchange data in real time with neighboring countries (Macedonia, Serbia and Monte Negro). ACA has established cross-border cooperation between Montenegro (part of the Western Balkans Integrated Border Management Strategy) and with the Republic of Kosovo[80].

[79] Integrated Tariff Management System
[80] http://www.bezbednost.org/upload/document/border_management_best_practice_[eng].pdf

**Figure 45: CRM Process in ACA**




*Source: Albanian Customs Administration*

### *5.3.4.2 Profiling and targeting*

Two levels of profiles exist: national and local. National and local risk profiles are applied centrally. However, customs officers at BCPs are not motivated to enhance/update the risk profiles into the system. Customs officers can re-channel the customs declaration with the permission of the shift leader. The re-channel the customs declaration can be allowed only if the customs declaration is re-channel on a higher level of customs control (ex. yellow to red channel).

Currently, ACA has 298 on import and 54 active risk profiles on transit procedure. There is an average of minimum 3 risk indicators per risk profile. The PCA – blue channel is not yet integrated into AW. This is one of the main obstacles for the proper implementation of the AEO concept. ACA is applying random targeting on two levels. The first level is random targeting on the green channel in AW within a predefined timeframe. The random selectivity rate on the green channel is 0.25 % of a total number of the customs declaration. If the customs officer decides to check the shipment, the customs declaration is re-channel. In case when the customs declaration is not selected for control, the monitoring unit can decide to select the customs declaration for control. The percentage of the second level of control (by monitoring unit) is 0.50 % in average of the total number of customs declarations.

### *5.3.4.3 Evaluation of outcomes/feedback*

As mentioned before, the AW is not providing an assessment on the risk profiles/indicators that match/hit the customs declaration. The feedback from control is entered in the AW that consist of the dropdown list from where the customs officer can select one irregularity and the text field

where the modus operandi is entered. The RAMD is manually analyzing the paper-based outcomes/feedback from the customs control.

ACA should make a strategic decision on implementation of CRM and is encouraged to choose "integrated solution," where the CRM will be aside of the current AW setup.

Table 35 compares the ACA CRM previous with its current approach.

**Table 35: ACA CRM previous and current approach**

| Previous approach | Risk-based approach |
|---|---|
| No Risk Analysis | Risk Management |
| | Intelligence-led risk management |
| | 298 active risk import profiles<br>54 transit risk import profiles<br>Average 3 indicators per profile |
| Risk analysis activities on a central level | Decentralized risk analysis on central/regional level- each region has different particulars related to specific risk areas |
| 42% physically inspected in 2007 | 12% of shipments are physically inspected in 2012 |

*Source: Author's compilation*

### 5.3.5 Key Performance Indicators

According to the WB Doing Business Trading across Borders 2017 data, the Republic of Albania is the best performer among the OIC MS and globally ranked on 65th place (Table 36).

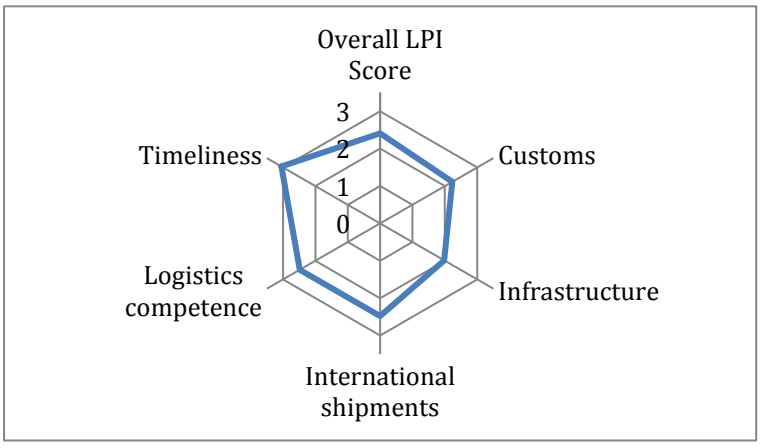
**Table 36: Albania Trading Across Border Indicator**

| Trading Across Border Indicator | 2016 |
|---|---|
| Trading Across Border ranking (2018) | 65 |
| Time to export: Border compliance (hours) | 9 |
| Cost to export: Border compliance (USD) | 55 |
| Time to export: Documentary compliance (hours) | 6 |
| Cost to export: Documentary compliance (USD) | 10 |
| Time to import: Border compliance (hours) | 10 |
| Cost to import: Border compliance (USD) | 77 |
| Time to import: Documentary compliance (hours) | 8 |
| Cost to import: Documentary compliance (USD) | 10 |

*Source: WB Trading Across Border*

On the contrary, Albania with 2.41 LPI overall score is ranked 117 out 160 countries (see Figure 46).

**Figure 46: LPI Country Score Card: Albania 2016**




*Source: WB LPI*

There is no logical explanation for this discrepancy. The document "Trade effects of customs reform: evidence from Albania"[81] exploits a dramatic reduction in the rate of physical inspections by Albanian customs to estimate the effects of fewer inspection-related delays on the level and composition of imports. The reason for such dramatic reduction of cost is "due to the policy change leading to such a large reduction in inspection rates was the introduction of an inspection strategy known as risk management."

### 5.3.6 Human resource management

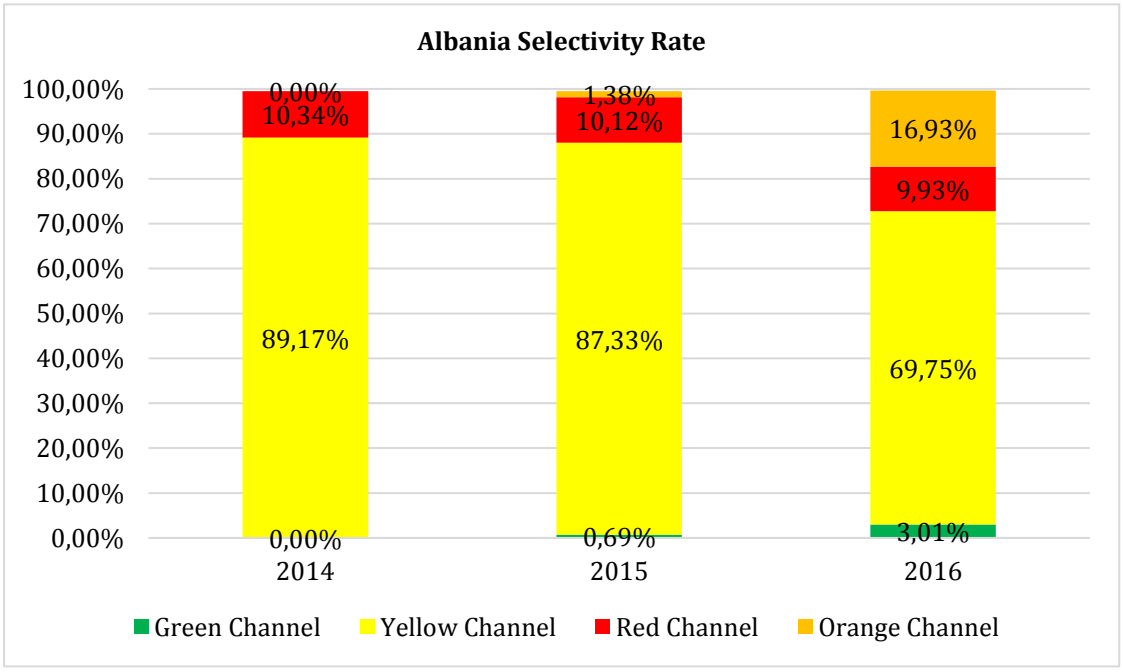
Currently, the RAMD is staffed with 23 customs officers. Short term plan is to merge the RAMD with the Intelligence Department. The total number of the officers in the RAMD/Intelligence Department will be 44. ACA is planning to train local intelligence officers (LIO) on risk management to enhance the risk on the local level (BSPs). Currently, there are two LIO officers in the seaport of Durres and Rinas airport.

### 5.3.7 Customs Risk Management Performances and Effectiveness

The CRM of the ACA performs physical inspection average rate (2014 – 2016) of 10.13% of shipments. A documentary check is in average 82.09% for all shipments (import and export), while the orange channel is in average 6.11%. Large growth can be seen on the average selectivity rate on the orange channel; in 2014 was 0%, in 2015 1.38% and 2016 16.93% (see Figure 47).

[81] http://documents.worldbank.org/curated/en/713351468190188513/Trade-effects-of-customs-reform-evidence-from-Albania

**Figure 47: ACA Selectivity Rate**



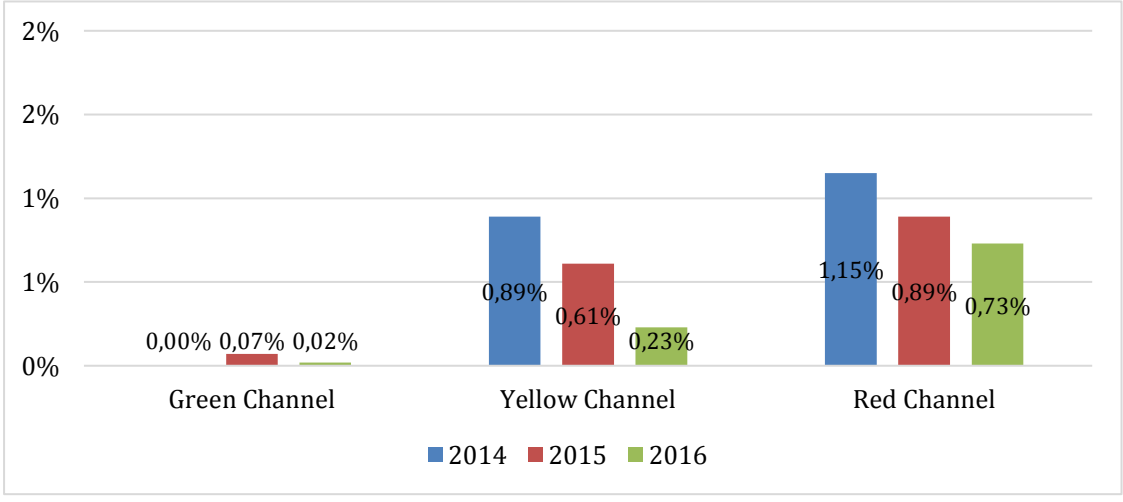

*Source: Albanian Customs Administration*

### 5.3.8 Effectiveness Assessment of CRM

The effectiveness assessment of the ACA CRM uses the number of offenses or non-compliance identified through the risk profiling and selectivity process as a percentage of the total declarations on the specific channel. Figure 48presents the effectiveness of the ACA based on channeling of the customs declarations and irregularities per channel accordingly.

The red channel average success rate for the 2014-2016 period is 0.92%, yellow channel success rate in average is 0.58% and 0.03% for the green channel (see Figure 48).

**Figure 48: Effectiveness Assessment of ACA CRM**




*Source: Albanian Customs Administration*

## 5.4 Summary – Lesson Learned from Turkey, Senegal and Albanian Customs

The following section is presenting the three OIC MS that were chosen as case studies.

**Legal, strategic and other mechanism supporting CRM system**

*Turkey*

- TCA CRM Strategy is closely linked with the overall TCA Strategy, focusing on more effective tax collection and selective but more effective customs control based on CRM.
- TCA is continuously improving its legal, technical and administrative infrastructure aiming for better service to the trade community, uniform implementation of customs legislation.
- The AEO concept was implemented in 2013, there are 225 AEO certificates issued to traders for import and export procedures.

*Senegal*

- There is a no clear differences between the objectives stipulated in the LE strategy and the CRM strategy. The CRM is used for both, control and facilitation purposes. The Senegalese Customs developed a three-year strategic plan for the CRM but it does not have a regulatory character.
- The Privileged Partner Program (PPP) was established in 2011. The Senegalese Customs with support from USAID will transform the PPP programme in AEO. In total, there are 11 PPP holders.

*Albania*

- ACA has adopted the Administrative Instructions, Implementing Regulations, and Standard Operational Procedures statutory instruments that cover the CRM.
- The Albanian Customs Administration has implemented the AEO status according to WCO standards, and for that purpose, a Common Recognition Agreement has been signed with the CEFTA MS in compliance with EU legislation. Up to date, no trader has applied for AEO status.

**Organization and management**

*Turkey*

- The TCA CRM Directorate is organized in a decentralized manner, meaning that the risk analysis activities are delegated to each region that allows the risk assessment process to be performed on the local and regional level.

*Senegal*

- The Senegalese Customs CRM is organised in a centralised manner, constitute in a two dedicated structures, the CRM and the Intelligence Department. The IT department is providing continuous support to the CRM and the Intelligence Department.

*Albania*

- The Risk Analysis and Monitoring Directorate (RAMD) is organized in a centralized manner, and risk management tasks are carried out in a centralized manner. The RAMD consist of the two units, the Risk Analysis, and the Monitoring Unit.

- The short term plan of Albanian Customs is to merge the CRM and Intelligence departments. The new department will be staffed with 44 customs officers.

**Risk Management Cycle**

*Turkey*

- TCA is using an integrated customs data warehouse (GUVAS) that supports CRM in identification of the risks on the pre-arrival summary declarations, detailed declarations, NCTS declarations, TIR/transit tracking program and land border gates program. The Bilge CDPS data is also integrated in the DW for managing the information related to feedback from the control, case management, irregularities and seizures.
- The TCA CRM is covering the full CRM cycle and is intelligence-led. The CRM process of profiling and targeting is fully automated. A small number of customs declarations are based on random selection only in the case when the customs declaration is not targeted with the specific risk profile.

*Senegal*

- An Inter-Services Committee is coordinating the CRM Department and analyzes risks to customs operations. The analysis is based on statistics, operational experience, information received from various sources, instructions from the authority, etc. The main objective stipulated in the CRM strategy is to decrease all types of controls in the red channel by 15%. There is a two parallel CRM systems – SIAR and TAME that are used for risk analysis, targeting and risk guidance.

*Albania*

- The CRM Department is responsible for the identification, analysis, preparation, and prioritization of the risk profiles. AW selectivity module has limited technical facilities to identify and target the high-risk goods which comprise applying profiles on the central and local level.
- ACA is part of the SEED project and exchange data in real time with neighboring countries (Macedonia, Serbia and Monte Negro).

**Monitor and Review**

*Turkey*

- TCA CRM Directorate is continuously monitoring the performances related to the feedback from the controls and noncompliance. The RA Department conducts an assessment of the risk profiles at every six months.

*Senegal*

- Senegalese Customs is using the quantitative measurements - number of declarations per channel and feedback from control/inspection as performance indicators of ratios per channel and measuring the effectiveness of the CRM via the ratio of controls number and the results obtained. For the customs offices that are not connected to the TAME system, the paper remains as the only means of transmission of the inspection results.
- Senegalese Customs has developed an National Information and Documentation System (FNID), a database for management of information related to drugs, litigation, vessels and currency declarations.

**Technology**

*Turkey*

- TCA CRM is using advanced IT tools for analysis of the risk profiles/indicators. The integrated customs data warehouse (GUVAS) is allowing the CRM to monitor and measure the effectiveness of the CRM processes. Currently, there is an ongoing project for implementation of data mining concept in TCA.

*Senegal*

- Senegalese Customs is currently integrating the GAINDE Intégrale CDPS and other supportive systems for management of all internal customs procedures in customs clearance offices, exchanging permits and certificates managed by the SW and TAME for risk analysis, targeting and risk guidance.

Table 37 presents the performances of the non OIC and OIC MS and the costs and time for import and export according to the WB Trading Across Border indicators.

**Table 37: Performances of the Global Best Cases and OIC MS**

| | Non OIC Case Countries | | | OIC Case Countries | | |
|---|---|---|---|---|---|---|
| Country | Kosovo | Australia | New Zealand | Turkey | Senegal | Albania |
| Volume of Export/Import | 263478 declarations | 5250000 entries | 14.4 mil. Transactions | / | 230236 declarations | 539563 Declaration |
| % of Green | 20.32% | 59.80% | 99.15% | / | | 3.70% |
| % of Blue | 0.78% | | | / | | 0.00% |
| % of Yellow | 56.63% | | | / | | 82.09% |
| % of Orange | / | 40.00% | 0.52% | / | | 6.11% |
| % of Red | 22.27% | 0.20% | 0.33% | / | | 10.13 |
| Success Rate Physical Inspection | 1.99% | 4.17% | 4.06% | / | | 0.92% |
| Time to Import (in hours) | 22 | 43 | 26 | 52 | 125 | 10 |
| Time to Export (in hours) | 66 | 43 | 40 | 21 | 87 | 9 |
| Cost to Import (in US$) | 170 | 625 | 447 | 797 | 1247 | 77 |
| Cost to Export (in US$) | 232 | 1013 | 404 | 463 | 643 | 55 |
| RA on Pre-Arrival Information | Yes | Yes | Yes | Yes | Yes | Yes |
| RA on Pre-Departure Information | No | Yes | Yes | Yes | Yes | No |

| | | | | | | |
|---|---|---|---|---|---|---|
| CRM System in Use (Integrated, Embedded) | Integrated | Integrated | Integrated | Integrated | Embedded & Integrated | Embedded |

As can be seen from the comparative table, developed countries as Australia and New Zealand have very low percentage of customs declaration on physical control, 0,20% and 0,33% respectively compared with 10,13% physical inspection in Albania. Even they have lower rates of a physical inspection; the success rates of inspection are much higher.

When it comes to the time and costs to export and import, Albania is a leader among non-OIC and OIC case countries. All Non-OIC case countries have integrated CRM system, while only Turkey from the OIC case countries has fully integrated CRM system.

# 6 Conclusion and Recommendations

This chapter provides a summary of the findings from the cross-country assessment showing the different level of implementation of CRM in OIC Member Countries. A comparative analysis of findings – outcome from the OIC Survey, OIC, and non-OIC countries cases, global trends and the best practices provide the basis for recommendations including technical cooperation and peer learning. The focus on recommendations is on introducing the new tools and IT systems – Integrated Risk Management, Data Warehouse, Business Intelligence and data mining that can assist in advanced CRM. It furthermore looks into challenges faced by CRM to ensure implementation progress, sustainability and a significant and continued trade facilitation impact, and presents CRM policy options for overcoming these challenges. Implementation of CRM requires a long-term commitment from customs administrations and continuous cooperation with other national and international agencies and organizations. This process should not be understood as a project that will be implemented and finished. It requires continuous improvement and alignment with many law enforcement challenges on the one hand, and with TF on the other.

## 6.1 Challenges

The challenges laid ahead of OIC Member States are shown in Table 38.

**Table 38: OIC Member States' CRM Challenges**

| Dimension | Challenges |
|---|---|
| Legal aspects and strategy/policy support to the CRM<br>Ensuring legal and strategic support to the CRM | • CAs need to ensure that their Customs Codes and Implementing Regulations allow customs control to be based on risk analysis, use of pre-arrival information and the concept of simplified procedures;<br>• Needs of strategic support of CRM with overall customs strategy and specific Law Enforcement and CRM Strategy that will ensure focusing on safety and security instead only on revenue collection;<br>• Action plans related to strategies will need to be more specific with all necessary elements that will enable efficient implementation of the strategies;<br>• Establishment of legal basis for exchange of security-related information of high-risk consignments;<br>• The legal basis for customs and trade partnership programmes for Authorized Economic Operators. |
| Organisation and management<br>The position of the CRM within the CA and managerial aspects | • Proper positioning of CRM within the organization to ensure quick and efficient decision-making process; |

| | |
|---|---|
| | • Change management and continuous improvement that will ensure use of state of the art CRM tools and techniques;<br>• Continuous human resource development to be in alignment with the most advanced risk management techniques and tools;<br>• Training for customs staff (e.g., risk management counter-terrorism issues, use of non-intrusive inspection equipment, radiation detection) should be developed and implemented;<br>• Identification of all necessary CRM processes with the requisite standard operational procedures. |
| Risk management cycle<br>Challenges to implementing the operational stages of risk management cycle | • Existence of full coverage of CRM cycle in all MS limited by the CDPS in use;<br>• Risk assessment (risk identification, analysis and evaluation, and prioritization) uses state of the art techniques and approaches;<br>• Combination of automated (using data mining and predictive analytics) and manual preparation/profiling;<br>• Fully automated targeting that will not allow the customs officers to change inspection level at their own discretion;<br>• Covering/treatment based on the risk assessment;<br>• Evaluation of feedback/outcomes from the control. |
| Monitoring and review<br>Challenges to measuring performance and ensure quality CRM system | • Lack of common measurement methodology including analysis and statistical tools, key performance indicators, and data;<br>• Lack of awareness of quality assurance and commitments. |
| Technology<br>Challenges related to the IT support for the CRM | • IT supports for the electronic submission of pre-arrival/pre-departure information for risk assessment; |

| | |
|---|---|
| | • Adequate tools, equipment (non-intrusive inspection technology) and infrastructure for the inspection and examination of goods/means of transport;<br>• Existence of the effective LE IT system that supports CRM;<br>• CRM Module embedded in CDPS;<br>• Using integrated CRM system including DW, BI, and data mining. |

### 6.1.1 Legal, strategic and other mechanism supporting CRM system

**Challenge 1: A legal environment that does not hold back modern CRMs***;* The Customs Code and the Customs Code's Implementing Regulation must envisage and justify the establishment and functionality of the CRM. OIC MS will be unable to implement an efficient CRM if there is a lack of legal support to:

- Perform risk analysis based customs controls;
- Receive advance cargo information on import, export and transit shipments;
- Perform post-clearance controls based on risk analysis.

**Challenge 2: No proper alignment between the overall Customs Strategy and the LE and CRM strategy;** the overall Customs Strategy is the foundation for any LE and CRM strategy. The Customs Strategy must set clear objectives and directions for the TF, LE, and CRM. Many CAs give insufficient attention to strategic goals and the development of an appropriate mid to long-term LE and CRM vision. Due to the focus on revenue issues, there is no clear link between the Customs Strategy and the LE and CRM strategies. According to the conducted research, the CRM Policy and Strategic Governance have an essential influence on the full coverage of the CRM cycle, the implementation of the AEO concept, the Doing Business score and the logistics performance index. 25 OIC MS do not have a CRM Policy in place (no information available for 8 of the OIC MS). This is a significant challenge to improve overall achievements related to CRM implementation. Additionally, in most of the cases where there is a CRM Policy, it is adapted to the embedded CRM functionalities in the CDPS – selectivity module for risk analysis.

**Challenge 3: Need of a shift of focus: from revenue collection to ensuring the security and safety of the citizens;** CAs still play an important role in revenue collection, but the safety and security of their citizens become increasingly more important, in particular given the increased trends of smuggling of illicit goods. Strategic documents and their supportive action plans will need to include performance measures that will measure the safety and security aspects. In many cases, due to their significant revenue collection responsibilities, CAs report directly to the Ministry of Finance. Such an arrangement frequently makes it difficult for Customs officials to give sufficient priority to non-revenue objectives such as trade facilitation, CRM, community protection and national security. CAs must develop Strategies and action plans with clear goals, objectives and performance measures which reflect the wide range of responsibilities they have. Adding performance measures related to safety and security will change the current mindset of customs officers - now focusing only on revenue collection. In such a way the Customs will increase the focus on balancing revenue and non-revenue strategic objectives.

**Challenge 4: Establishment of a legal basis for the exchange of security-related information of high-risk consignments;** The Customs Code and its Implementing Regulation does not provide an adequate legal basis for the exchange of security-related information on high-risk consignments. In particular:

- Security-related information is not provided before arrival or departure of the goods;
- Customs Code does not contain the requisite safeguards to support data exchange with other countries as per the requirements of the WCO SAFE Framework;
- The data elements/schema is not defined;
- There is a no supportive IT system for regular (real-time) data exchange.

**Challenge 5: Legal basis for customs and trade partnership programmes for AEOs***.* The legal basis for customs and trade partnership programmes for Authorized Economic Operators should be established (e.g., authority for granting authorizations, application process, requirements and criteria for economic operators).

The legal basis that will confer the CAs powers – regarding trade partnership programmes for AEOs and use the CRM as the basis for simplification and trade facilitation for non-risky traders, transporters and shipments is required. CAs need to have the authority to grant authorizations, to define the application process, the requirements and criteria for low-risk economic operators to use simplified procedures (AEOs). 30 out of 57 OIC MS have not implemented the AEO concept, 3 MS are currently developing the AEO concept, and 24 MS have fully implemented it[82]. The main obstacles to implementing the AEO concept are:

- There are no AEO guidelines in place;
- There are no AEO validation processes;
- To encourage the traders to apply to the security systems and practices;
- No authority has been designated (or resourced) for receiving, auditing and granting AEO authorizations.

**Challenge 6: Legal basis for international cooperation/exchange of information***;* The CRM cannot ensure efficient operations unless there is a legal base and support for internal (within the CA) and external (with other GA, other CA and international organizations) exchange of information. Legal provisions do not encourage the Customs to exchange information on local, national, and regional/international level. National legislation needs to allow the exchange of information with national and international agencies.

**Challenge 7: Relationship between Customs and other Border Management Agencies***;* Modern CRM Systems and TF activities at border crossing points cannot succeed unless OGAs and other border agencies are integrated into the cross-border process. The Study on SW in OIC MS shows that the OIC MS CA do not cooperate effectively with other border agencies. This leads to duplication of effort and unproductive delays. Only eight in 34 analyzed OIC MS have fully implemented legislation framework for cooperation between border agencies, while 21 have made partial progress, leaving one MS at the planning stage. Four OIC MS have not started implementing such a legislative framework.

[82] http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium-2017.pdf?db=web and OIC MS CAs websites

**Challenge 8: Implementation of international conventions, standards, and recommendations***;* Alignment of Customs Code, implementing regulations, strategies, action plans, procedures and instructions with the recommendation from WCO RKC, SAFE Framework of standards, WCO Risk Compendium Recommendations and ISO AS/NZS ISO 31000: 2009. Modern CRM Systems are based on these international conventions, standards, and recommendations. Considerable familiarity with the conditions of international trade will ensure more efficient risk management.

### 6.1.2 Organization and Management

**Challenge 1: CRM's position, authority, power, and commitment***;* the CRM as a function in the organizational structure of CAs is not providing cross-functional cooperation on all organizational levels. Limited or no interaction between the Intelligence department and the CRM department restrain the efficiency of the CRM. The position of the CRM must ensure organizational consistency where headquarters and customs offices efficiently participate in the entire CRM cycle.

**Challenge 2: Effective and efficient reforms implementing and improving CRM system require an effective change management system to handle the significant challenges ahead of the CAs.**

- Lack of sound change management strategy to underpin reform and CRM improvement and modernization efforts;
- Resistance to change - lack of ownership, commitment, and accountability in implementation of policy options and continuous improvement process;
- Lack of Change Management sustainability;

**Challenge 2: Lack of high-level body to integrate CRM and other functional departments***;* Implementation of CRM in CAs requires that CRM is integrated into the organization's culture, especially among senior managers. Isolated CRM departments have limited authority and little or no commitment to the other departments and customs operation in general. There is a need for a CRM Committee to ensure authority, power, and commitment on the cross-functional level.

**Challenge 3: Continuous human resource development aligned with the advanced risk management techniques and tools**. An efficient CRM system will depend on the competences of the human resources in the CRM. This applies to all departments related to the CRM, such as the LE and the customs officers responsible for inspection of the documents and goods.

**Challenge 4: Existence of a comprehensive CA HRM Plan***;* Having the right CRM competencies embedded into the CAs human resources on all organizational stages will remove functional barriers inside the organization and improve risk assessment, profiling, and targeting techniques. There is a strong need for comprehensive CA HRM Plan, which should be closely linked to the long-term strategic direction and ambitions of the CA. The issues that will need to be considered include the following:

- Current and future staffing and competency requirements;
- Recruitment, deployment, advancement, and separation;
- Ethical standards and requirements;
- Performance management and appraisal;
- Roles, responsibilities, and obligations of managers, supervisors, HRM officials and individual employees.

**Challenge 5: Lack of a comprehensive CA HR policy;** without a reliable and comprehensive CA HRM Plan, the link between the long-term strategic direction and the ambitions of the administration will not be achieved. Issues that need to be addressed include the following:

- The importance of the role played by HR;
- The CA HR policy's contribution towards the achievement of CA key priorities and strategic objectives;
- Recruitment, promotion, mobility and performance management;
- Responsibilities of managers, supervisors, training staff, and individual Customs officials.

**Challenge 6: Continuous development of CRM competencies in CA***;* The CRM approach will require continuous development of new knowledge, experience, and skills. From risk identification to feedback, all stages of the CRM cycle require specific competencies. This impacts the competence development and human resource allocation and must be linked to the long-term strategic direction and ambitions of the administration.

**Challenge 7: Training for customs staff (e.g., risk management counter-terrorism issues, use of non-intrusive inspection equipment, radiation detection) should be developed and implemented.**

- No education/training programmes on risk management, security standards and trade facilitation initiatives available for customs officers;
- Lack of resources to implement the initiatives;
- Lack of adequate training facilities and tools to ensure effective training programmes;
- Lack of trained in-house instructors to conduct special training/education programmes.

**Challenge 8: Continuous human resource development aligned with the advanced risk management techniques and tools**; An efficient CRM system will depend on the competences of the human resources in the CRM. This applies to all departments related to the CRM, such as the LE in general and the customs officers responsible for inspection of documents and goods.

**Challenge 9: Definition of all necessary processes that concern the CRM cycle***;* the precise definition of all necessary processes will require a significant amount of time and effort. The quality of the output of the processes correlates with the quality of the design of the process itself. The CRM is a cross-functional system that supports overall customs operations; there is need to be integrated into the whole CA organizational system. The integration issues are following:

- Clear definition of all processes to cover all stages of CRM cycle
- Definition of processes without associated SOPs and instructions;
- An interpretation of inputs and outputs from one process and how these inputs and outputs create the value for the whole organization concerning the CRM system;
- Measure risk and the possible consequences at the high level of certainty.

### 6.1.3 Challenges: Risk Management Cycle

**Challenge 1: Existence of full coverage of CRM cycle in all MS limited by the CDPS in use**; Full coverage of CRM cycle in the OIC MS limited by the CRM functionalities embedded in CDPS. Integration of the full CRM cycle is an essential part of the establishment of efficient CRM system.

**Challenge 2: Use advanced risk assessment techniques and tools**. Most OIC MS does not use advanced techniques based on scientific approaches. Different analytical techniques based on WCO Risk Compendium recommendation and ISO AS/NZS ISO 31000: 2009 need be implemented.

**Challenge 3: Automated preparation/profiling by using transactional and behavioral risk analysis combined with advanced data mining and predictive analytics;** Effective CRM system requires integration of transactional and behavioral risk analysis, so it is essential to have possibilities to combine automated profiling with manual profiling.

**Challenge 4: Need for fully automated targeting that will not allow customs officers to change inspection at their discretion**. Discretionary rights of customs officers to change the inspection level of cargo and passengers increase cost and time for traders and decrease the transparency process of the CAs.

**Challenge 5: Covering/treatment does not allow the necessary inspection measures based on risk assessment**. The success of the risk management process is measured by the success rate at the profiling stage inside the CRM process. The CRM system will need to have the right feedback to implement effective evaluation of outcomes.

### 6.1.4 Challenges: Monitor and Review

**Challenge 1: Continuous monitoring and review of the CRM performances**; CAs cannot measure the efficiency and performances of the CRM system unless they have the appropriate KPIs. This is important for the continuous improvement process of the CRM.

### 6.1.5 Technology

**Challenge 1: No adequate IT support for the electronic submission of pre-arrival/pre-departure information for risk assessment**. Successful targeting requires that risk assessment is, to a great extent, based on the pre-arrival and pre-departure information. The CRM system will not yield the desired results unless there is IT supports for real-time data exchange data.

**Challenge 2: Infrastructure for examination of the goods/means of transport and use of Non-Intrusive Inspection Equipment**. Non-intrusive inspection (NII) equipment and radiation detection equipment should be available and used for inspections in accordance with risk assessment. This equipment is necessary for the fast inspection of high-risk containers or cargo, without disrupting the flow of legitimate trade.

**Challenge 3: No effective LE IT system that supports the CRM**; According to the results from correlation analysis in Chapter 4, having in place effective LE IT system that improves the overall success of the CRM system. This system will help in effective data collection, exchange of information with other agencies, but also exchange the data with WCO through RILO.

**Challenge 4: In most of the cases CRM Module is embedded in CDPS, covering preparation and profiling (partially), targeting and covering/treatment**; According to the analysis, an embedded CRM module has a low contribution to the Risk Identification, Risk Analysis, and Evaluation of Outcomes/Feedback. These are important stages of the CRM cycle.

**Challenge 5: No adequate data integration;** There are several challenges related to the organization of the data and the presentation of the data in an accurate and timely manner:

- Data is frozen in multiple systems/data layers;
- Manual data processing and „homegrown“ solutions extend complexity and accuracy;

- Inconsistent „fact" base for decisions create multiple versions of the truth.

The following concepts are IT supportive elements that will enhance the CRM performances and the overall customs operations:

Data Layers Integration; Customs ICT systems are built on heterogeneous, distributed data architecture. CRM must manage the data from multiple sources that is impossible without proper data layers integration;

**Data Warehouse** should support the systematic process of data integration from multiple sources. Without DWH, the CRM and the other LE Units/Departments will not have access to the analysis, and there would be no timely dissemination of information that describes trends, problems, patterns, and potential risks;

**Business intelligence;** many factors influence the performance of the CRM and the CA in general. The decisions that the CA management makes every day throughout the organization from the strategic, tactical and operational level are a critical factor. The decision should be based on the accurate and timely information.

**Data mining**: The above mentioned various data sources allow the CRM to be effective and declarations to be channeled to different customs control. Unfortunately, the CRM exploits only a small part of the information available. Data mining is the proper tool that will provide the CRM with advanced analytical capabilities.

## 6.2 OIC MS CRM Policy Options

This chapter provides a summary of the findings from the cross-country assessment showing the different level of implementation of CRM in OIC Member Countries. The comparative analysis of the findings from the OIC Survey combined with OIC and non-OIC cases, global trends and best practices serve as a base for recommendations, including those for technical cooperation and peer learning. The recommendations focus on the introduction of new tools and IT systems – Integrated Risk Management, Data Warehouse, Business Intelligence and data mining that can assist in advanced CRM. It furthermore looks into challenges faced by the CRM to ensure implementation progress, sustainability and a significant and continued trade facilitation impact, and presents CRM policy options for overcoming these challenges. Implementation of CRM requires a long-term commitment from customs administrations and continuous cooperation between other national and international agencies and organizations. This process should not be understood as a project that will be implemented and finished. It requires continuous improvement and alignment with many law enforcement challenges on the one hand, and with TF on the other. The Policy Options laid ahead of OIC Member States are shown in Table 39.

**Table 39: OIC Member States' CRM Policy Options**

| Dimension | Policy Options |
|---|---|
| Legal, strategic and other mechanism supporting CRM system | • Align Legislation with International Conventions, Standards, and Recommendations;<br>• Continuous improvement of Customs-to-Business Cooperation to facilitate legal trade;<br>• Relationship between Customs and other Border Management Agencies; |

| | |
|---|---|
| | • Overcome possible barriers to International Cooperation / Exchange of information;<br>• Establishment of legal basis for exchange of security-related information on high-risk consignments<br>• Legal basis for customs and trade partnership programmes for Authorized Economic Operators<br>• Develop/update Customs Business Strategy to focus on foreseeable issues;<br>• Develop a comprehensive CRM strategy that supports the Intelligence and risk assessment approach;<br>• Develop appropriate KPIs that are linked to the CA vision, goals, objectives and KPAs; |
| Organization and Management | • Repositioning the CRM higher in the CA's organizational structure<br>• Establish a Risk Management Committee<br>• Integration of Intelligence into the CRM system<br>• Develop sound change management strategy to underpin reform and CRM improvement and modernization efforts;<br>• Definition of responsibility for monitoring process to the entire CRM implementation and improvement process;<br>• Integration from partial to full coverage of the CRM cycle using business process re-engineering;<br>• Integrate strong CA HRM Strategic Planning Process<br>• Ensure continuous HR development and career advancement<br>• Development and implementation of training programme for customs staff (e.g., risk management counter-terrorism issues, use of non-intrusive inspection equipment, radiation detection) should be developed and implemented<br>• Develop and review CRM processes and integrate them into the other CA processes |
| Risk Management Cycle | • Clear definition and procedures for the concept of measurement, object of measurement and methods of measurement of risk and the possible consequences of high level of uncertainty;<br>• Use of advanced risk assessment techniques and tools (identification, analysis and evaluation and prioritization);<br>• Regular and ad-hoc review and updating of the risk profiles/indicators;<br>• Continuous monitoring and assessment |

| | |
|---|---|
| Monitor and Review | • Monitoring and Review Tools |
| Technology | • Infrastructure for examination of the goods/means of transport and use of Non-Intrusive Inspection Equipment<br>• IT support for the electronic submission of pre-arrival/pre-departure information for risk assessment.<br>• Customs Law Enforcement IT System;<br>• Integrated Customs Risk Management System;<br>• Data integration for effective CRM;<br>▪ Data Integration;<br>▪ Data Warehouse;<br>▪ Business intelligence;<br>▪ Data mining. |

*Source: Author's compilation*

### 6.2.1 Legal, strategic and other mechanism supporting CRM system

The OIC MS CAs must review the current legislation to ensure they have sufficient authority to operate and implement CRM practices, and to undertake inspection functions and exercise their requisite powers in terms questioning, examination, detention, arrest, search, and seizure in respect of persons, goods, and means of transport, documents and commercial records. They need to establish CRM plans with selectivity criteria to target suspect goods, persons, and means of transport, minimizing the incidence of physical examination.

**Policy Option 1: Align Legislation with International Conventions, Standards, and Recommendations***;* the legal environment must provide the CA and its field officers with clear authority to make risk-based decisions, along with flexibility for middle (tactical level) management to optimize operations. There are several important things about the legal system that should be reviewed:

- Ensure that legal framework for efficient CRM including selective verification of cargo and passengers based on risk management principles, post-clearance inspection, pre-arrival and pre-departure data is in place;
- Exchange of information and intelligence based CRM approach;
- International conventions, standards, and recommendations;
- Consider changes to national legislation to allow the use of informants;
- Development of SOP, change strategy and action plan.

A strategic approach to required reforms that involve the development and implementation of an effective CRM system will ensure high-level commitment for the introduction of all necessary changes.

**Policy Option 2: Continuous improvement of Customs-to-Business Cooperation to facilitate legal trade***;* CAs will need to work closely with the traders and provide them with an opportunity to work in partnership with the Customs to reduce risk levels. This will need to ensure that the CAs can:

- Work together with the traders to develop and conduct appropriate safety training programmes and provide assistance as required for the development of training materials and programmes;
- Encourage continuous cooperation at the national level between CA and businesses to improve knowledge of trading practices.

**Policy Option 3: Relationship between Customs and other Border Management Agencies**. Where necessary, establish cooperation with other border agencies to coordinate activities while ensuring that the customs retain the control function by targeting inefficiencies and ensuring effective resource allocation. Often, coordination and delegation of control mechanisms do not exist, or they are unproductive. Under such circumstances, achieving Single Window concept to border management will be difficult. The CA should embark on a Coordinated Border Management concept where border management agencies work closely together conducting examinations concurrently, while only one CA performs examinations of goods on behalf of all agencies. When multiple organizations are involved in risk assessment to facilitate legal trade, as is the case at border crossing points, the agencies need to prevent multiple examinations of a single shipment.

- Establish closer contact points and sign MOU's, MAA's and other formal arrangements to improve relationship and level of cooperation with OGAs;
- Active participation of OGAs in CRM;
- Co-ordinate functional responsibilities with other government agencies to eliminate inefficiency and assure effective resource allocation.
- Maintain communication and cooperation with other agencies relevant to border control and encourage a consultative approach to relationships with key agencies and stakeholders.
- Introduce efficient IT system for communication with traders and OGAs relevant to border control to allow the sharing of necessary information.

**Policy Option 4: Overcome possible barriers to International Cooperation / Exchange of information***;* Undertake gap analysis and develop a long-term International Cooperation/Exchange of information implementation strategy/plan. Key compliance areas include:

- As appropriate, establish MOU's, MAA's and other formal arrangements;
- Develop and implement guidelines, criteria, and procedures governing the exchange of information;
- Enhancing the exchange of information and intelligence;
- Understand the need and benefits of international co-operation;
- Encourage direct information exchange with other CAs, and regional/international organizations;
- Encourage active participation and maximum use of international information mechanisms.

Regarding these strategic issues, it is important to encourage all OIC MS to use international recommendations, standards, and agreements, related to WTO TFA and RKC ratified by OIC MS.

**Box 8: Customs Code and Implementing Regulations Support of CRM**

Turkey - The TCA has modern legislation aligned with EU customs acquis covering all necessary aspects of the CRM concept. Turkey's Customs Code and Customs Implementing Regulation cover the definitions of "Risk" and "Risk Management," allowing customs control to be based on risk analysis. Traders are required to submit pre-arrival information on import and transit operations. Also, to facilitate legal trade, the TCA has introduced the AEO concept. The post-clearance controls are based on risk analysis. The national legislation confers power to the TCA to detain/seize the goods, means of transport and persons. It seems that currently, the legal environment does not set any barriers against the modern CRM.

**Box 9: Systematic Electronic Exchange of Data – SEED**

The SEED system was implemented by the Customs Administrations of the six Western Balkan countries: Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia.
The legal basis for the SEED is drawn from the bilateral:
- Customs Mutual Administrative Assistance Agreements (CMAAA), followed by the SEED Memorandum of Understanding (MoU) / Protocol on electronic exchange of data (which, among other things, are defining scope of data to be exchanged);
- Recently, the six Western Balkans CAs and Moldova (members of the CEFTA Agreement) adopted "Additional Protocol 5 to the CEFTA Agreement".
CEFTA Trade Facilitation Framework and the Additional Protocol 5 is a common legal base for extension of the scope of the SEED.
Based on the CEFTA Additional Protocol 5, the CEFTA MS will exchange the Phytosanitary and Veterinary certificates.

**Policy Option 5: Establishment of a legal basis for the exchange of security-related information of high-risk consignments;** There is an important link and a mutual dependency between the Customs Code and its Implementing Regulation. The Customs Code and its Implementing Regulation need to be amended to include provisions for the exchange of security-related information on high-risk data. The legal framework needs to, among other things, define the data, submission timelines, and the exchange requirements.

To comply with the overriding objective, the OIC MS must fully comply with WCO SAFE Framework requirements. Therefore, the OIC MS Customs Code and its Implementing Regulation need to be modernized to incorporate a wide range of SAFE Framework security provisions.

The OIC MS data protection law should contain provisions that specify that any data collected and or transmitted by Customs must be treated confidentially and securely and be sufficiently protected, and it must grant certain rights to natural or legal persons to whom the information pertains.

The data exchanged must be fairly and lawfully processed; processed for limited and explicit purposes; adequate, relevant and not excessive; accurate; not kept longer than necessary; processed by the data subject's rights; secure, and not transferred to third countries that do not ensure an adequate level of protection.

**Policy Option 6: Adoption of legal framework and establishment of the AEO concept;** OIC MS need to introduce legislation supported by guidelines that will enable it to grant AEO status (see Table 16) to any economic operator meeting the following common criteria: customs compliance, appropriate record-keeping, financial solvency and, where relevant, security and safety standards.

CAs should be designated as the appropriate authority for receiving, auditing and granting AEO authorizations. A dedicated AEO Unit should be created. This unit will need to be properly resourced, and staff will need to be trained.

It will be necessary to design AEO validation processes and quality accreditation procedures that offer incentives to businesses to ensure that they see a benefit to their investment in good security systems and practices. Enhanced AEO incentives will need to be devised covering *inter alia* fast-track customs clearance; reduced guarantees; simplified procedures; reduced rates of examination, etc.

**Policy Option 7: Develop/update Customs Business Strategy to focus on foreseeable issues***;* To fully benefit from the Business Strategy, the goals and objectives should be accompanied by tangible KPIs to enable periodic assessments of the progress being made and to take corrective actions if necessary. Specific training in defining KPIs according to the management position of the intended users should be provided, eventually making use of the WCO mechanism. Once an updated Business Strategy document should be endorsed and published, it should serve as a useful reference tool supporting every-day decision-making by all top-level and middle-level managers in Customs. To ensure its usefulness it has to be regularly reviewed and updated (governed according to best practices). As an output of the Strategy, an Action Plan must be developed with objectives, resource allocation (human, technical and budget impact), KPIs, their starting value and desirable value to achieve the strategic objectives. Deadline, the timeframe for review and evaluation of the progress must also be addressed in the Action Plan. The Action Plan produced must tend to focus on documenting existing functional responsibilities rather than articulating a clear strategic vision for the future. In many Customs administrations, there is a lack of planning on multi-annual strategy - the objectives and the development.

**Policy Option 8: Develop a comprehensive CRM strategy that supports the Intelligence and risk assessment approach***;* CAs still need to develop and implement a CRM specific Strategy to introduce an integrated approach to CRM and targeting based on WCO Risk Management Framework. The strategy should identify major risk management framework targets with planned maturity levels to be achieved for the certain milestones. That will facilitate the implementation of the WCO SAFE initiatives for Supply Chain Security.

**Policy Option 9: Develop appropriate KPIs that are linked to the CA vision, goals, objectives and KPAs***;* Review the CA information and statistical and collection methodology to identify areas where enhanced information would be beneficial. It is also necessary to define the strategic key performance areas that are linked to the administration's vision, goals, objectives, and performance indicators. Assessment of the performances information is available on the TF (clearance times, processing times, the contribution of other border management agencies, etc.); CAs must ensure input from the senior managers and key stakeholders to determine and develop performance indicators, and analysis methodologies.

### 6.2.2 Organization and Management

**Policy Option 1: Repositioning the CRM higher in the CAs organizational structure***;*

CRM functions should ideally be centralized in one dedicated functional entity, such as a department, focusing on all cross-functional departments and possible risks.

**Policy Option 2: Establish a Risk Management Committee.** Risk Management Committee is collectively responsible for the preparation of the Risk Management Strategy, implementation of the risk management concepts and the strategic review of the overall risks. The Risk Management Committee oversees the risk management process and ensures its full integration in all areas of customs work. It should hold regular monthly meetings at which the effectiveness of each risk management element is assessed to identify problems and recommend appropriate improvements. By suggesting adequate corrections, it will ensure the correct balance between

resources allocated and achieved results. The Risk Management Committee should develop clear criteria to define acceptable and unacceptable risk levels. It prepares annual progress reports as to the achievement of the Strategy's objectives.

**Policy Option 3: Integration of Intelligence into the CRM system**. Establish an effective organizational intelligence structure with headquarters, regional units, and liaison officers at border crossing points. The following minimum requirements should be considered:

- Undertake awareness training to emphasize the importance of feedback in the information/intelligence cycle;
- Develop guidelines for the use of informants;
- Ensure hotlines are established and operational;
- Improve information gathering, processing, and dissemination procedures to ensure availability of relevant information for Customs staff and other agencies and administrations as appropriate;
- Develop an intelligence and information system which supports Investigation, Post Clearance Audit, and CRM;
- Use registers/tasks for everyday intelligence work, both Customs & other law enforcement registers.

The concept of Intelligence CRM shall be based on an intelligence-led strategy to target its' resources at the higher risk aspects. Both elements are mutually enhanced by each other. Effective risk analysis requires intelligence as a primary source of information. The information required by the intelligence is often provided by staff working in risk analysis units based on historical data/events. For intelligence to be effective, it needs to be properly processed, evaluated & disseminated. Within the process of collection, processing, verification, and distribution of intelligence, the CRM must become an active participant in the intelligence cycle and use the information/intelligence in the CRM cycle. The intelligence risk profiling is providing valuable information for advance selection of high-risk entities and commodities. This targeting technique leads to better use of resources, both human and technical, to more effective action in combating crime. Feedback from customs control is crucial for intelligence. The results from the controls and additional information can help in the evaluation of Intelligence and CRM. The methodology of collection, processing, and distribution of information, as well as the control of the entire system of intelligence flow, shall surely result in a professional customs structure, which shall contribute to the timely detecting of violation of regulations, frauds, and their sanctioning and efficient collection of customs revenues.

**Policy Option 4: CRM support to Post Clearance Audit**

CRM should provide support to PCA in creation of risk profiles and indicators, continually validate, monitor and review the control processes. PCA and CRM are playing a crucial role in controlling the AEO and trusted trader programs information regarding the performance and effectiveness of the concepts. The CRM should provide indicators to PCA for planning and conduct of controls on the traders as well the feedback from PCA to CRM.

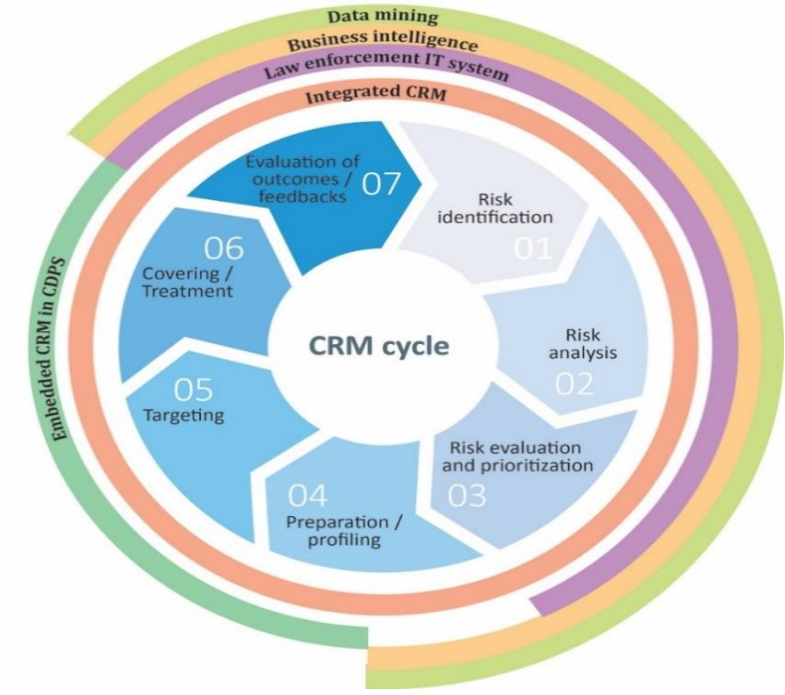
**Policy Option 5: Develop sound change management strategy to underpin reform and CRM improvement and modernization efforts***;* A sound change management strategy and plan should be developed covering the vision/mission, goals, key performance indicators, and critical success factors. The change management process requires the establishment of a strategic unit that should ensure the actions included in the change management strategic plan

are in included in the yearly action plans and implemented according to the defined performance indicators. This unit will make annual reviews of progress to measure the progress of change management strategic objectives.

**Policy Option 6: Definition of responsibility for monitoring the entire CRM implementation and improvement process***;* the change management unit should measure the readiness of the staff for CRM reforms and should develop communication strategies to overcome the possible resistance to change. Resistance to change is to be expected in all stages of the CRM reform process, especially having in mind that customs employees will lose many discretionary powers as a result of the re-engineering of the CRM process and the shift from a manual and paper-based CRM system to an electronic, automated system.

**Policy Option 7: Integration from partial to full coverage of the CRM cycle using business process re-engineering***;* Improving business processes by integrating a CRM system will enable CAs to provide better services to facilitate legal trade. Business Process Improvement (BPI) efforts attempt to understand, map and measure the current CRM and other processes with a cross-functional view, and achieve performance improvements accordingly. This method is effective in obtaining gradual and incremental improvement. Nowadays, organizations across the CRM board are enforcing performance changes and not just incremental changes. One approach for rapid change and dramatic improvement that has emerged is the Business Process Reengineering (BPR). OIC MS must apply utmost efforts for implementation of an integrated CRM system that will cover the entire CRM cycle (see Figure 49).

**Figure 49: Mapping IT Systems and coverage of CRM Cycle**

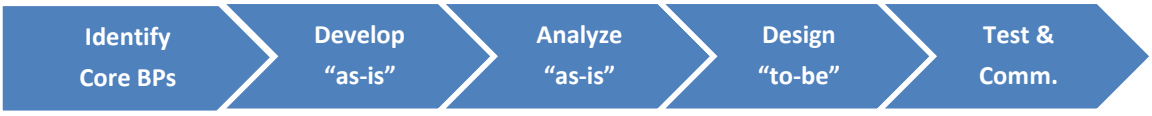



*Source Author's compilation*

Process re-engineering can be best managed by using a process framework with defined clear steps. The following five steps of the BPR standard should be followed: (1) identification of core CRM processes, (2) mapping current CRM processes – develop AS-IS, (3) analyzes of the current

CRM processes - Analyze AS-IS, (4) Design of new CRM processes - Design "TO-BE" and (5) implementation/integration of the proposed changes.

**Figure 50: Process Re-engineering Steps**




*Source Author's compilation*

**Policy Option 8: Integrate strong CA HRM Strategic Planning Process**; The HRM Strategy and annual Training Plans should be developed and adequately aligned to the Customs Business Strategy. The Training Strategy should ensure the provision of required skills and IT support for business capabilities defined with the strategic goals and objectives. Both HR and LE/CRM Strategies should provide sustainable development of business capabilities required to achieve the strategic goals and objectives.

**Policy Option 9: Ensure continuous HR development and career advancement;** Continuous HR development and career advancement will depend on:

- Recruitment process that will need to take into consideration Intelligence and CRM competencies;
- Definition of clear roles and responsibilities to coordinate work and eliminate inefficiencies and ensure effective resource allocation;
- Develop and implement training on: the CRM and intelligence function, analysis purposes as required, counter-terrorism issues, use of non-intrusive inspection equipment, and radiation detection;
- Training on the AEO concept and awareness/training programmes as required.

**Box 10: Turkey Customs Continuous human resource development**

| |
|---|
| Turkey CRM staff with advanced knowledge of risk analysis tools and techniques; most of them have an engineering background. |

**Policy Option 10: Development and implementation of training programme for customs staff (e.g., risk management, counter-terrorism issues, use of non-intrusive inspection equipment, radiation detection)**; in planning for implementation of CRM and facilitation initiatives, the CAs needs to conduct a core competency analysis of current staff to ensure staff's capacity to correctly employ security methods. The CAs need to establish the necessary skills, competencies, and qualifications for staff dedicated to CRM and control.

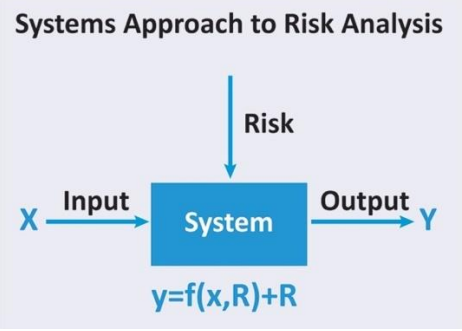
CAs needs to identify the core competencies of its staff and measure against identified needs in respect of risk management. A training strategy that encompasses risk management and security training/education should be devised. Awareness raising training in risk management should be provided to key staff, and in due course cascaded down to the rest of the customs officers. The CRM Departments should develop their in-house training manuals for risk management and trade facilitation initiatives.

**Policy Option 11: Develop and review CRM processes and integrate them into the other CA processes***;* an efficient CRM requires a clear definition of all necessary processes to cover all stages of the CRM cycle. Development of CRM processes should start at the top-level, focusing on the legal environment, policy, and strategy. The CRM processes should be broken down into sub-processes and procedures with subsequent action steps (Figure 26). This is not related only to the CRM, but to the entire CA as an organizational system.

### 6.2.3 Risk Management Cycle

**Policy Option 1: Clear definition and procedures for the concept of measurement, object of measurement and methods of measurement of risk and the possible consequences of high level of uncertainty***;* CAs must understand how to measure risks and uncertainty already identified in the first stage of the cycle; they can effectively implement risk analysis process as the base for all next stages of the risk management cycle. Changing the input parameters in the CRM will allow output simulation. The CRM operates in highly uncertain environments that produce a high level of risk.

**Figure 51: Systems approach to risk analysis**




*Author's compilation*

The following risk factors should be included in the equation:

- Environmental risk factors. For example, if a trader has been identified as non-compliant in valuation, this is something that can be part of environmental risk factors. The question here is how risk analysts will know what the traders can do in the uncertain future.
- Input variable risk factors. Additionally, there will always be the risk related to input indicators. For example, different country of origin, exporter, type of goods, etc. and their specific combination can present a risk to collect import customs duties. Again, the CRM has a tool to quantify measure and analyze using ranges. For example, Monte Carlo simulation (not mentioned ISO Standard 31010:2009) can be used when it comes to risks related to ranges of data

**Policy Option 2: Use of advanced techniques and tools for risk assessment (identification, analysis and evaluation and prioritization);**

*Risk Identification*: The ISO Standard 31010:2009 recommends techniques that can be used at the risk identification stage: brainstorming, Delphi technique, structured or semi-structured interviews, use of check-lists, primary hazard analysis, Hazard and Operability Studies (HAZOP), Hazard Analysis and Critical Control (HACCP), environmental risk assessment, scenario analysis, Structure "What if?" (SWIFT); Failure mode effect analysis (FMEA), and Cause-and-effect analysis (Fishbone analysis).

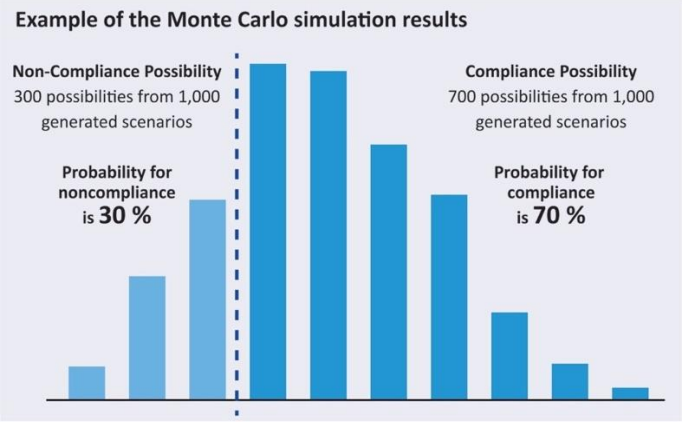
*Risk Analysis*: Techniques and tools proposed by the ISO Standard 31010:2009: Bayesian statistics and Bayes nets, Bow tie analysis, Cause-and-consequence analysis, Cause-and-effect analysis, Consequence/probability matrix, Cost/benefit analysis, Decision tree, Environmental risk assessment, Event tree analysis, Failure mode effect analysis, Fault tree analysis, FN curves, Hazard Analysis and Critical Control (HACCP), Hazard and Operability Studies (HAZOP), Human reliability analysis, Layer protection analysis, Markov analysis, Multi-criteria decision analysis,

Reliability centered maintenance, Risk Indices, Root cause analysis, Scenario analysis, Structure "What if?" (SWIFT), Human reliability analysis, Reliability centered maintenance, Consequence/probability matrix, and Fault tree analysis.

*Risk Evaluation and Prioritization*: WCO Risk Management Compendium (Volume 1) talks about the following techniques and tools that can be used in this stage of the CRM: Threat analysis, SWOT analysis (Strengths, Weaknesses, Opportunities, Threats), Fault tree analysis, FMEA (Failure Mode & Effect Analysis), BPEST (Business, Political, Economic, Social, Technological) analysis, PESTLE (Political Economic Social Technical Legal Environmental), Dependency modeling and Real Option Modelling; Statistical Modelling.

To measure the possibilities of the risk in an uncertain environment, the CRM can use the Monte Carlo simulation[83]. CRM can use Monte Carlo simulation to generate a large number of scenarios based on known probabilities for inputs. This technique randomly generates values for each of the unknown variables in given range. In such a way the CRM can easily compute outcome for each of the thousands of scenarios. The CRM can calculate the probability of risk events as some non-compliant scenarios divided by randomly generated variables.

**Figure 52: Example of Monte Carlo simulation results**

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*Data Mining* is a technique that can be used for risk analysis, recommended by the WCO Risk Management Compendium. WCO is defining the data mining as the *nontrivial extraction of implicit, previously unknown, and potentially useful information from data*. Data Mining automates the detection of some trends or patterns of behavior within a large amount of data. Based on a specific algorithm, DM can recognize certain future trends. CRM needs extraction of the knowledge in the form of information. Possible data mining sources of information are: LE/intelligence database, seizures database, offenses database, criminal reports, CEN, websites (information that can be of interest to the CRM, from news sites, forums, social networks, etc.), data from video monitoring system as entry/exit of means of transport across the border, etc.

*Game Theory CRM* - tools that can be used to predict and quantify these issues using the game theory, not covered as a CRM technique in ISO Standard 31010:2009;

**Policy Option 3: Regular and ad-hoc review and updating of the risk profiles/indicators***;* The CAs must review the risk profile at regular intervals to ensure that it is always up to date

[83] https://en.wikipedia.org/wiki/Monte_Carlo_method

and that it reflects the latest relevant risk indicators. Continuous updating of risk profiles and risk profiling methods is also vital for the correct functioning of the system in this context, especially when new national legislation is developed, or new trade activities or trade policies are introduced.

**Policy Option 4: Continuous monitoring and assessment**; to ensure efficiency of the CRM, all the stages of the process shall be subject to constant monitoring and assessment. The monitoring and evaluation shall enable the development of a flexible risk management system taking into account the changes occurring with certain risks, i.e., the decreasing, increasing or disappearing the risks that had been previously identified, as well as the occurrence of new risks.

### 6.2.4 Monitor and Review

**Policy Option 1: Monitoring and Review Tools***;* It is important for CAs to have identified clear indicators that will be analyzed and evaluated on a regular basis. As a first step, Key Performance Areas (KPA) should be identified, i.e., the key goals of the CRM and Intelligence. Next, KPIs should be defined per value type for each KPA. Finally, every KPI can be measured (on a quantitative basis) or assessed (on a qualitative basis) by one or more concrete Performance Indicators (PIs). This three level analysis can be represented as a pyramid; the KPA is resting at the top. Each level is elaborated further in ANNEX 7.4.

### 6.2.5 Enhanced Use of Technology

**Policy Option 1: Infrastructure for examination of the goods/means of transport and use of Non-Intrusive Inspection Equipment;** The CRM Strategy should incorporate a section on the requirements and use of non-intrusive Inspection equipment in the context of security. In particular, the CRM should establish whether the customs officers have the necessary training, equipment, and technology to detect such controlled goods as nuclear materials, chemical and/or biological materials.

CAs should maintain statistical reports that contain performance measures including, but not limited to;

- Examinations of high-risk shipments by non-Intrusive Inspection technology
- Examinations of high-risk shipments by Non-Intrusive Inspection equipment and physical means;
- Examinations of high-risk shipments by physical means only, customs clearance times and positive and negative results.
- Usage of non-Intrusive Inspection equipment (particularly at import) is not fully integrated with CRM – "orange channel").

CAs should build an infrastructure that will allow examination of the goods/means of transport. The BCPs and customs offices, as part of the examination infrastructure, should be equipped with tools and equipment for examination like vehicle lifts, forklifts, portal monitor, radiation pagers, viscosity meters, fiberscope cameras, laser distance meters and other tools. CAs should use non-intrusive inspection equipment based on modern technologies at border crossings, cargo terminals, seaports, and airports (e.g., x-ray or gamma rays scanners).

In many of the OIC MS, there are no formal agreements with other border agencies and neighboring customs administrations regarding the coordination and use of non-intrusive Inspection equipment. The CAs must agree on joint strategies with other border agencies/customs administrations regarding the use and coordination of Non-Intrusive

Inspection equipment. It is of the highest importance that the usage of non-Intrusive Inspection equipment is fully integrated with the risk management strategy.

**Policy Option 2: IT Support for the electronic submission of pre-arrival/pre-departure information for risk assessment;** CAs should develop integrated automated systems based on an international best practice that use risk management to identify cargo and container shipments that pose a potential risk to security and safety based on advance information and strategic intelligence.

When implementing the SAFE Framework requirements, the CAs should take note of the Revised Kyoto Convention ICT Guidelines[84]. The Revised Kyoto Convention ICT Guidelines recommend the Customs to offer more than one solution for the electronic exchange of information. While EDI using the international standard UN/EDIFACT is still one of the preferred interchange options, Customs should also look at other options such as XML. Depending on the risks involved, even the use of e-mail could provide a suitable solution[85].

**Policy Option 3: Customs Law Enforcement IT System**

The LE IT System provides crucial support in that it paves the road to better decisions by transforming raw data into organized information. It ensures that raw data from various sources becomes organized information that law enforcement operations can make use of, and thus assists the making of improved business decisions and the effectiveness of law enforcement interventions.

The Customs Law Enforcement IT System must be simple and efficient, linked to all enforcement data layers to assist the successful management of information, intelligence, and cases. The Successful LE IT System is characterized by simplicity, flexibility, and suitability:

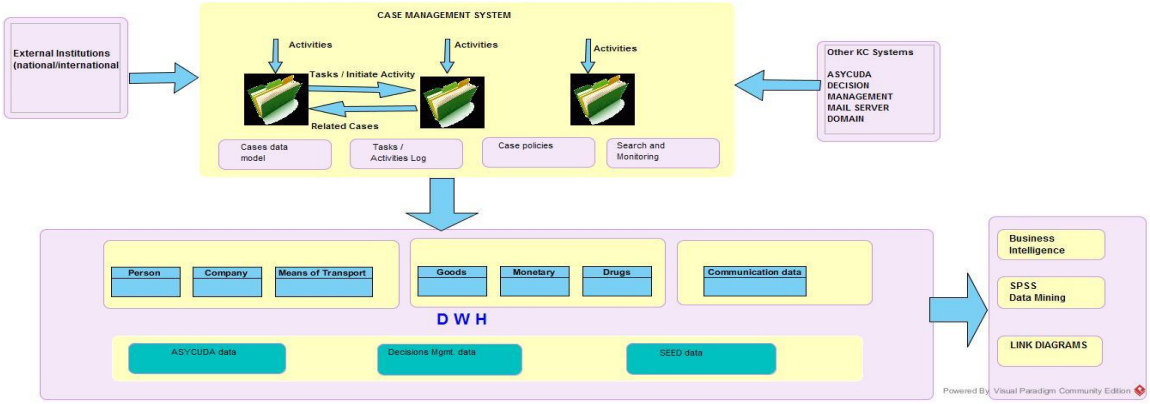
- Simplicity in design is a desirable quality. Considering the tasks of management of information, joint operations, and the communication layer, the LE IT System will provide for proper allocation of resources, both human and technical;
- Flexibility helps establish the conditions for tactical level to make correct decisions and adjust operations accordingly with assistance of the BI and data mining system;
- Suitability - An effective LE IT system must be economically efficient. It's very difficult to measure the performance of the LE without a good feedback management system. The BI is an important element for reporting and analysis by using the KPIs at all levels – strategic, tactical and operational.

Figure 53 is presenting the Kosovo Customs LE IT System:

[84] Standards 7.1, 6.9, 3.21 and 3.18 of the General Annex to the Revised Kyoto Convention require Customs to apply Information and Communication Technologies (ICT) for Customs operations, including the use of e-commerce technologies. For this purpose, the WCO has prepared detailed Guidelines for the application of automation for Customs. These Kyoto ICT Guidelines should be referred to for the development of new, or enhancement of existing, Customs ICT systems.

[85] WCO SAFE Framework of Standards (June 2007): Standard 6.4. Electronic data-exchange standards, p 20

**Figure 53: Kosovo Customs LE IT System**



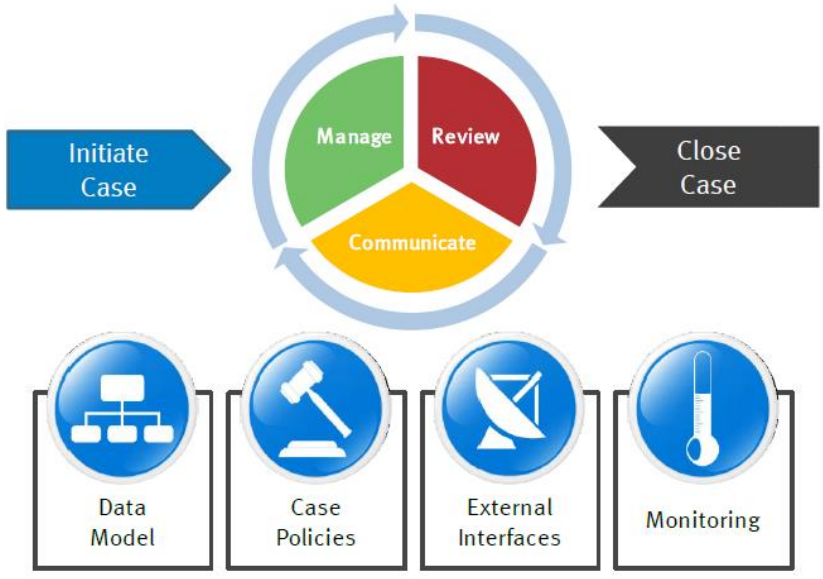

*Source: Kosovo Customs*

The LE IT system allows users to have access to accurate, integrated and trusted data and information relevant to LE operations and supports flexible planning and decision-making at the strategic, operational and tactical level. Figure 54 is presenting LE IT System Logical Model:

The expected benefits from the LE IT are:

- Increased customs efficiency with relevant data & analysis;
- Preventing customs fraud and economic crime based on predictable patterns;
- Shared information resource and expertise for use by other LE Agencies and LE Units;
- Eliminate redundant or inconsistent information;
- Provide customs officers access to the facts, information and "the truth";
- Boost departmental efficiency in allocating resources with strategic planning and tactical approach;
- Improve timeliness of response based on accurate risk indicators;
- Cost savings by having data readily available and in a usable format.

**Figure 54: LE IT System Logical Model**




*Author's compilation*

**Policy Option 4: Using Integrated CRM system including Data Warehouse, Business Intelligence, and Data Mining**; The Integrated Customs Risk Management System (ICRM) is the principal mechanism that should provide a high level of coordination of the CRM between customs, tax, Single Window, government agencies and institutions competent in import, export and transit procedures. The ICRM can provide an effective risk assessment service, based on scientific methods, which will complement and enhance the currently embedded CRM system in the CDPS. The ICRM will not attempt to replace the current workflow; it will complement current and future CRM systems, and it will assist "human controllers" in OIC MS by developing a web-based risk assessment service that will enhance the identification of risk profiles through the utilization of data mining and statistical algorithms techniques. The ICRM will allow the customs and other agencies to most effectively deploy their limited resources. The ICRM addresses the following key issues of concern in the area of CRM:

- Limited administrative resources for control;
- Need for more effective and efficient risk management in customs control;
- Insufficient technology support within customs and agencies;
- Higher trade costs for importers /exporters;
- Revenue losses and negative impact on national economic growth,
- Low level of trust in customs services and agencies.

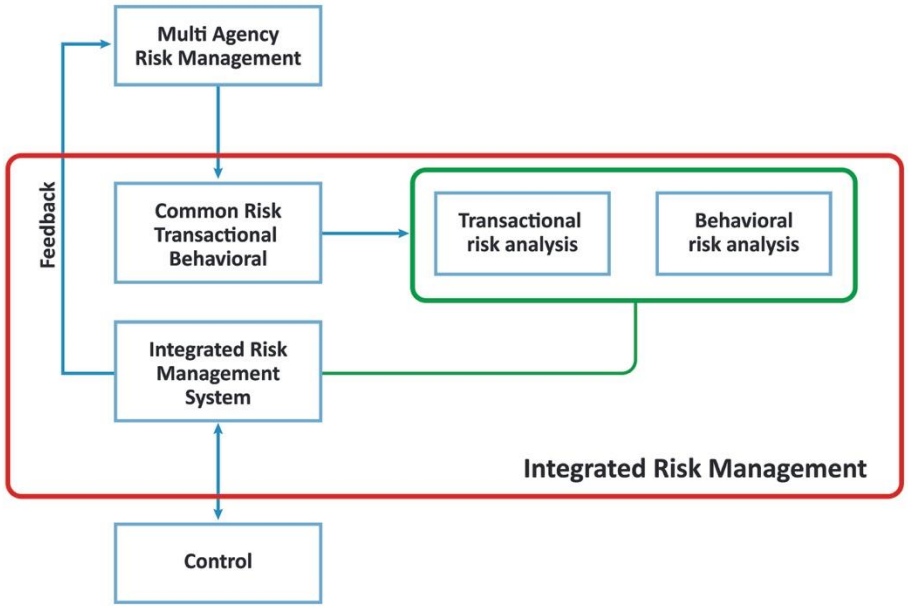
The ICRM will aim to optimize the control processes by addressing the issues of concern mentioned above, and by developing advanced risk assessment accessible by the customs administrations and agencies. The advanced risk assessment should base its assessments using automated analysis of past detections of irregularities and non-compliance in trading, and, hence, it will complement any current risk assessment methodology or tool currently used;

- The risk assessment service should be able to "learn from experience," using feedback and self-learning module (data mining);

- The general experience that the improved efficiency in customs and agencies - together with the traders´ incentive to achieve faster release - brings about better compliance on the traders' part. This has a further positive impact on the correctness of foreign trade statistics;
- Based on its integrated risk assessment service, the ICRM will greatly facilitate and, in fact, automate the decision-making procedures. The risk for each case will be estimated with precision, and the decision will be dependent on this risk. This way the exercise of discretionary powers by customs officers and agencies will be minimized;
- The improved efficiency in the customs control may lead to an increase in revenue collection by the customs of the participating countries since the outcome of the risk assessment will be more reliable and will point to consignments with the highest risk;
- The time taken to clear goods through customs using old-fashioned procedures can amount to as much as one or two weeks. The ICRM could dramatically reduce the release time of the goods – and thus reduce the transaction costs of the traders significantly;
- Significant volumes stored in a common data layer, transferred and processed information, as well as centralized, common information management, are the typical characteristics of integrated systems;
- Many customs authorities in the OIC MS are using (proprietary) risk assessment methods and tools. The ICRM will enhance such methods based on advanced data mining techniques, consolidating data from any possible source and applying "state-of-the-art" pattern recognition techniques;
- Although BPR (Business Process Re-engineering) is not an objective of the ICRM, positive impact can be expected especially in the identification of additional functionalities that will enrich the CRM;
- Information/data that should ideally be used to achieve optimal results from the risk analysis. The identification of additional information and the need to obtain them and utilize them in the CRM process may stress the need and eventually lead to process improvement;
- The expectation from the implementation of ICRM is to influence the working environment for the customs officers through the modernization of the risk assessment framework and the effective decision support processes. Correct, timely and accurate decisions can be based on an automated way to evaluate the risk and take specific measures.

Important aspects of the ICRM are the interoperability and interconnectivity. Interoperability should define the mapping of business processes and data sets that will allow the adequate exchange of required information for ICRM. Interconnectivity is a communication layer, which allows the exchange of various types of information between different types of platforms and databases.

**Figure 55: ICRM Conceptual Diagram**




*Author's compilation*

Attention should be paid to the heterogeneity of the IT Architecture of the participants in ICRM - that consist of dissimilar or diverse IT systems. It is necessary to integrate these heterogeneous environments into a single integrated system relying on hardware and software technologies ensuring:

- Use of highest ICT standards;
- Flexibility and modularity;
- Usability of legacy services/application and functionalities from ICRM participants;
- Subsequent usability of newly developed services;

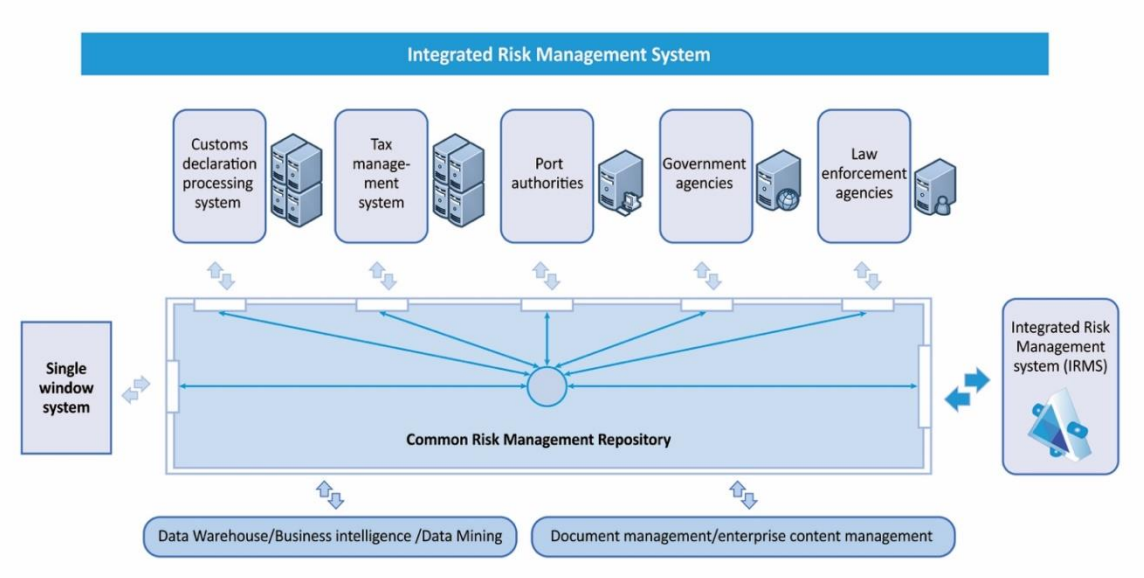
Based on the risk profiles developed in ICRM, control measures should be coordinated between customs and other agencies;

- High level of coordination of measures and activities in the system of ICRM;
- Exchange of data and information between government agencies and institutions that have competencies in the system of ICRM;
- Coordination and assessment of situation in emergency cases at border crossings and customs terminals;
- ICRM is a base for coordination of cross-border cooperation.

One of the biggest benefits of the ICRM system is the feedback from control. This does not apply only to cases of detected irregularities/non-compliance, but also to those cases in which the control did not produce any results/findings. This applies not only to customs but to all agencies involved in the import, export and transit procedures.

The ICRMS System can provide a common platform for an accurate and rapid exchange of information (risk indicators), that consists of a CRM common data layer and a risk analysis engine (Figure 56).

**Figure 56: Example of ICRM System Conceptual Model**




*Author's compilation*

As a concluding remark, the ICRM is addressing, in particular, the needs of OIC MS:

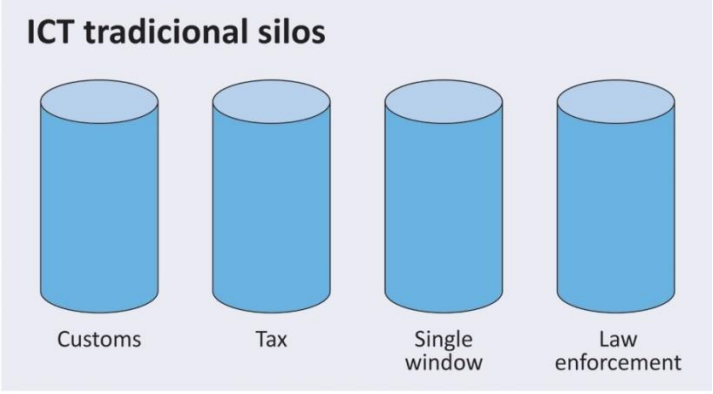
- Define alternative risk level assessment rules to be applied on declarations and other data as selection criteria; these rules derived with the help of advanced data mining methods will be fine-tuned to detect very specific types of risk and accurate estimation of their level thus making control even more efficient;
- Pose very light IT requirements to national authorities, being a centrally located service, "invisible" to end users service;
- Apply a security layer based on "need to know access[86]";
- Employ a central repository of risk level assessment rules harmonizing the assessment practices of the authorities that use it; moreover, this will make it easily adaptable to assessment practices facilitating their adoption, when desired, by OIC MS.

**Policy Option 5: Data integration for effective CRM**; Today, most customs ICT systems are built on web technologies based on heterogeneous, distributed data architecture. Such systems have client/server architecture to process the information requests. Distributed data architecture is based on diverse hardware and technology, obsolete infrastructure and require a lot of resources (human and technological) and does not allow the modernization and implementation of innovative technologies that are necessary to support the CRM. Fragmentation of data in the "traditional data silos" (Figure 57) that make IT projects for customs modernization hard and expensive to organize and manage. The traditional data -silos, PC-centric and client-server architecture made IT projects difficult and expensive to deploy and

[86] https://en.wikipedia.org/wiki/Need_to_know

manage, resulting in a desire just to spend less. That's why the recommendations are to "melt the silos" and switch to data integration. The CRM Security and compliance requirements often sacrifice output and innovation for the determination of risk avoidance.

**Figure 57: Example of Silo Oriented Data Architecture**




*Author's compilation*

Data integration as a service refers to data integration functionality (such as extraction, transformation, and loading (ETL), data federation and replication) delivered by a model where an external provider or any of the stakeholders owns the infrastructure and hosts the capabilities used by the CRM. These hosted capabilities can be used as alternatives to in-house deployments of data integration software or the development of custom-coded solutions. Data integration as a CRM supportive service can potentially be applied to most OIC MS Customs. Early benefits will come as resource-constrained organizations apply these solutions to specific issues, such as the synchronization of data between customs, tax, single window and law enforcement. Currently, many customs administrations are using cloud-based (private/public) offerings to achieve flexible and low-cost non-production IT system (development and quality assurance) environments. As cloud-based infrastructures mature, data integration as a service will become a major supportive component to the CRM infrastructure.

**The path to integrate the Data for CRM** - the first process is "melting the silos" and defines the conceptual framework for interconnectivity and interoperability within the isolated data layers. The scope of the framework covers organization, knowledge, processes, information and technology and their relationships to one another. It is suited for implementation within a national domain environment and allows connectivity with and from external sources (Figure 58).

*Interconnectivity* represents the backbone of any interoperability, defined as middleware standards and technologies for connecting data layers. During the past 5 to 10 years, interconnectivity technologies have been gradually integrated with middleware layer (web services and Enterprise Service Bus).

The term *interoperability* has different meanings in different contexts. In its broad sense, it describes the ability of stakeholders to work together and the ability to share and use the information. At a technical level, it is the ability of two or more diverse information systems or components to meaningfully and seamlessly exchange information and use the information that is exchanged. Interoperability in the context of the CRM integration framework can be categorized as follows:

- Operational or Business Interoperability - includes the business strategy, policies, legal and organizational elements that define the interactions between agencies;
- Information Interoperability - defines how information is to be shared; definition of the components that agencies use to align document payloads and business processes. Components include risk indicators, taxonomies, data dictionaries, etc.;
- Technical Interoperability – elements that include communication protocols, security standards, messaging standards, share infrastructural resources and services.

**Search Engines** - the CRM needs a search capability that is not limited to the CDPS, but one that covers all data layers in the customs (LE IT system, Enterprise Resource Planning, Appeal System, etc.) and external data (other LE Agencies, SW), social networks (Facebook, Twitter, pipl.com, etc.). The possible search engines (structured, unstructured data and content management) applicable to Customs are:

Full-text search combined with Boolean queries indexes[87] any document or textual content to add fast, accurate retrieval of information to internet/intranet content management applications, ODBC compliant databases, IMAP mail servers, HTML documents on the intranet, files on disk and news services (RSS), etc. It should index content stored in file systems, databases, or on the Web. Full-text search allows text searches to be combined with regular database searches in a single SQL statement. It should find documents based on their textual content, metadata, or attributes.

Data Warehouse / Business Intelligence BI system has search possibilities across dimensions, not limited to enforcement data. The LE IT System must be integrated into the DW so the BI layer will provide valuable search/analysis services.

**CRM Report and Analysis Services**

The following list covers some key components that are needed for proper reporting services;

- Delivers consistent information across all types of report output;
- Can be personalized and targeted;
- Enables collaboration across users with support from the ICT Department;
- Provides access via email, portal, files, content, search and mobile devices, etc.;
- Search and analysis of multiple dimensions of information;
- Performs complex reports and scenarios easily and quickly;
- Gets to the "why" behind trends to reveal symptoms and causes;
- Moves from summary level to detail levels of information effortlessly.

**Data Warehouse** - the current setup of the IT Systems within the OIC MS CA produces complex ICT administrative tasks. The application and inquiry system shall be flexible, installed and stored within an enterprise in multiple data storage systems (subsystems) that are centralized, heterogeneous and autonomous. Therefore, Data Warehouse will provide a centralized environment and should be given a different treatment from the normal application implementation. It's necessary to separate the operational data store (ODS) from analysis data (DW) since the data will be not significantly changed with the transferring and transmitted the data in the warehousing system. The analysis phase of building a DW can be done through a

[87] https://docs.oracle.com/cd/E26180_01/Search.94/ATGSearchQueryRef/html/s0202booleanqueries01.html

journey from existing entity-relationship (ER) model (ex. traders, means of transport, goods, etc.).

*CRM and Law Enforcement Data Warehouse* - the separation of operational data from the analysis data is the most fundamental data-warehousing concept. Not only is the data stored in a structured manner outside the operational/production system, but analysis services also allocate considerable resources to build data warehouses at the same time that the operating applications are deployed.

It is necessary to separate the operational data from analysis data (DW) since the data will be not significantly changed by the transfer and transmission of the data into the warehousing system. In the analysis and design phase, the building of a Data Warehouse is performed via ETL from entity-relationship (ER) model. Advances in technology support very sophisticated online analysis including multi-dimensional analysis.

The LE Data Warehouse shall be entity-oriented meaning that the data is organized into dimensions with similar data linked together. The time is an important dimension; data are recorded and tracked within timelines so that change of modus operandi and patterns in offenses can be determined over time. Another important dimension is the type of crime/ offenses by linking others elements related to entities, places, commodities, etc.

- Information about the type of event, offense, crime, route, modus operandi, method of concealment, etc.;
- The time and place of the event;
- The factual consequences and potential consequences;
- The measures proposed – Risk Indicators and collected intelligence;
- The measures that were undertaken and other activities – feedback;
- Request for further measures for coordination and other measures and activities;
- Other relevant information.

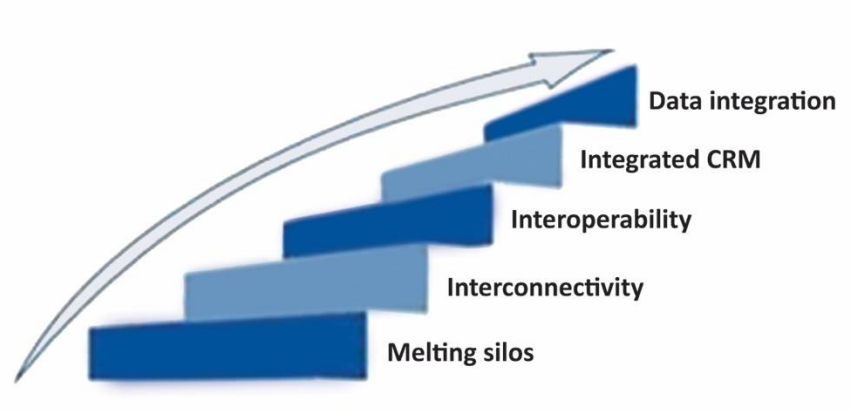
Since the data needs to be brought together from more than one source, this integration can be done at a place independent of the source data layers/applications. The primary reason for combining data from multiple source applications is the ability to cross-reference data from these data layers.

**Data Layers Integration**;

The underpinning for integration is that existing data layers continue to be operational but that there is an integration layer on the information level that allows multiple users to share data and processes, and enables a single point for analysis.

- The logical reasons to push for integration is to transform Customs into an integration point for Integrated Risk Management;
- Offering better alignment of business and IT with high reduction in costs;
- To manage complexity better and aiding overall decision-making;
- To provide for cross-border information exchange from a single secure technical infrastructure.

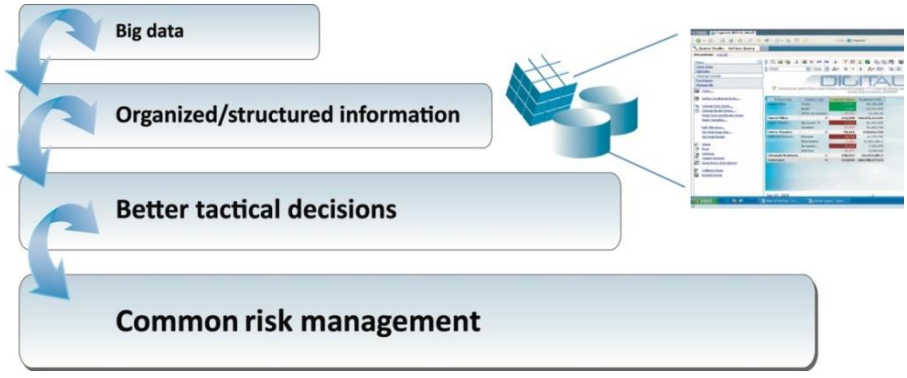
**Figure 58: Data Integration steps**




*Author's compilation*

**Use of Big data in CRM Context;** Big data contains clusters of raw data that are disordered and untidy. More technically, it relies on a broad mix of both structured and unstructured data formats. This represents a stark change for Customs administrations usually accustomed to structured data; that is, data from electronic declarations, for example, are well defined by the WCO Data Model and the EDIFACT family of standards. The "standards" defining big data would be much more varied, and largely outside of government's control. The following figure presents the transformation of the big data in the structured model of information that is crucial for the CRM (Figure 59).

**Figure 59: Big data transformation**




*Author's compilation*

It is clear that any intentions to exploit the potential of big data will require Customs, on the one hand, to have a strong mastery of its structured data management and to advance into other areas to exploit new data on the other hand. The standards are still being written for the areas of commerce and industry; therefore, Customs administrations seeking data from the business community will be encouraged to focus their attention on new emerging standards, to benefit from the 'sense-making' potential of big data[88].

[88] http://www.wcoomd.org/~/media/wco/public/global/pdf/topics/research/research-paper-series/39_okazaki_big-data.pdf

**Box 11: New Zealand Customs Big Data Concept**

New Zealand Customs and its border partner, Ministry of Primary Industries (MPI), are currently undertaking a modernization project in which analytics tools have been delivered for risk assessment and border management purposes. While their capability is still in the early phases, the relevant technology has already been in place behind an analytics team comprised of Customs, Immigration, and MPI officers. The co-located team is in the process of combining multi-agency datasets and developing targeting models while looking into the existing data to find patterns and connections that may provide insights and inform their decision making. New Zealand Customs is of the view that this joint team's ongoing collaboration with the Administration's Information Services group has been beneficial for prioritizing analytics data requirements.

**Business intelligence**

Advances in the technology warehousing systems support sophisticated BI online analysis based on the multi-dimensional analysis, necessary for the CRM and LE. With the possibility to drill down/drill up the data with the BI solution, the obtaining of more detailed indicators make it easier to collect targeted information. Hence, to assess risks, it is practical to break down the risk profiles in indicators and sub-indicators. The creation of accurate risk profiles depends on the reliability of the indicators since the quality of the profiles shall improve compliance controls.

The BI encompasses the technologies, applications, and means for collecting, integrating, analyzing, and presenting business data to understand and analyze trends, strengths, and weaknesses and enable better decision making in customs organizations. The BI is a primary mechanism for presenting the information from all available sources into consolidated data in a way it can be easily managed, accessed, and analyzed.

The BI thus enables the creation of knowledge base allowing customs to deploy resources more effectively, increase operational efficiency, determine effectiveness, and identify new streams of customs operations. The BI model can include analysis on all required dimensions such as companies, countries, customs procedures, regimes, goods, staff, customs locations, date, and valuation methods and combine them with measures like a tax, duty and excise amounts, cargo weight, uplifts, processing time, selectivity control, etc.

**Real-time (ad hock) analytics**; the need of customs CRM to accelerate tactical and operational decision making will drive the use of real-time or ad-hock analytics. In turn, real-time decision making will increase the need for complex-event processing, where IT systems incorporate continuous data feeds, assess their relevance, and trigger fully automated responses or provide alerts and other immediate analytic support for human decisions. The growing information collected by the CRM will also increase the need for complex-event processing (CEP) to support decisions and the data related to specific events – place, time, and modus operandi, method of concealment, means of transport, perceived importance, quality or value of the information, as well as its relationship to other information/events.

CEP is the basis for a growing number of pattern-Based CRM, particularly those that leverage tactical and operational intelligence. CEP enables activity monitoring used to control or monitor physical assets and processes in real time (or near real-time).

**Box 12 Kosovo DW and BI**

The Kosovo Customs (KC) uses Data Warehouse to store and process the data. It uses web services to query the national register for persons (Kosovo Police) and link with the LE cases. The persons' entry and exit data from Kosovo are also available from the border police.

KC maintains the replica of the database from the Kosovo Business Registration Agency – ARBK and links persons with companies and means of transport. Regarding the means of transport, the KC has an ANPR[89] system operational on the BCP and maintains the means of transport movement data. Short term plan is to exchange the data with all agencies within the framework of Kosovo Integrated Border Management.

For analysis and reporting purposes, the KC uses a BI solution that provides live information and notification for the management (dashboards) and advance analysis for the RAU. The RAU can simulate one or more risk profiles, combining the indicators against historical data and produce the complex comparative analysis. The data mining tool (data mining modeler) offers advanced analysis capabilities, identifying the hidden relationship between entities and concealments. The integrated predictive algorithms lead to actionable predictions on high-risk goods and entities without programming.

[89] Automatic number-plate recognition

# 7 List of Annexes

## 7.1 ANNEX I

World Bank's Doing Business report presents times and costs of the logistical processes for export and import to/from countries. The costs measured exclude tariffs related costs. To analyze current trade costs related to OIC MS the data from Doing Business - "Trading Across Border[90]" were used-that focuses on two sets of trade costs:

- **Time and costs for documentary compliance related to import and export**. These data are related to the time and the costs associated with documentary compliance requirements of all government agencies. This shows how traders spend time and money to prepare the number of documents that will allow them to trade across the border. The time and cost of documentary compliance includes the time and cost of obtaining documents, preparing documents, processing documents, presenting documents, and submitting documents;
- **Time and costs for border compliance related to import and export**. Border compliance measures the time and cost for the country's customs and other inspections, in addition to the time and cost for handling at ports or borders. These trade costs include time and cost related to customs clearance process and other government inspection procedures.

The ranking of OIC MS regarding trading across the border is presented in ANNEX I. Albania, Jordan, Malaysia, Morocco, Oman, and Turkey are the best-ranked countries regarding time and costs for import and export procedures. 24 of the 56 OIC MS presented in this report rank below the mean value (Table 40 presents basic statistics).

**Table 40: Trading Across the Border OIC MS Basic Statistics**

| 2017 | | Trading across Borders - Rank | Time to Export | Time to Import | Cost to Export | Cost to Import |
|---|---|---|---|---|---|---|
| N | Valid | 56 | 55 | 55 | 55 | 54 |
| | Missing | 1 | 2 | 2 | 2 | 3 |
| Mean | | 130.34 | 154.53 | 212.69 | 697.84 | 932.46 |
| Mode | | 24[a] | 40[a] | 161[a] | 643 | 1169 |
| Std. Deviation | | 41.021 | 99.599 | 132.127 | 458.054 | 469.701 |
| Skewness | | -0.544 | 1.526 | 0.683 | 2.398 | 0.463 |
| Std. Error of Skewness | | 0.319 | 0.322 | 0.322 | 0.322 | 0.325 |
| Range | | 165 | 558 | 568 | 2753 | 2169 |
| Minimum | | 24 | 15 | 8 | 65 | 87 |
| Maximum | | 189 | 573 | 576 | 2818 | 2256 |
| 2016 | | | | | | |
| N | Valid | 55 | 55 | 55 | 55 | 55 |

[90] http://www.doingbusiness.org/data/exploretopics/trading-across-borders

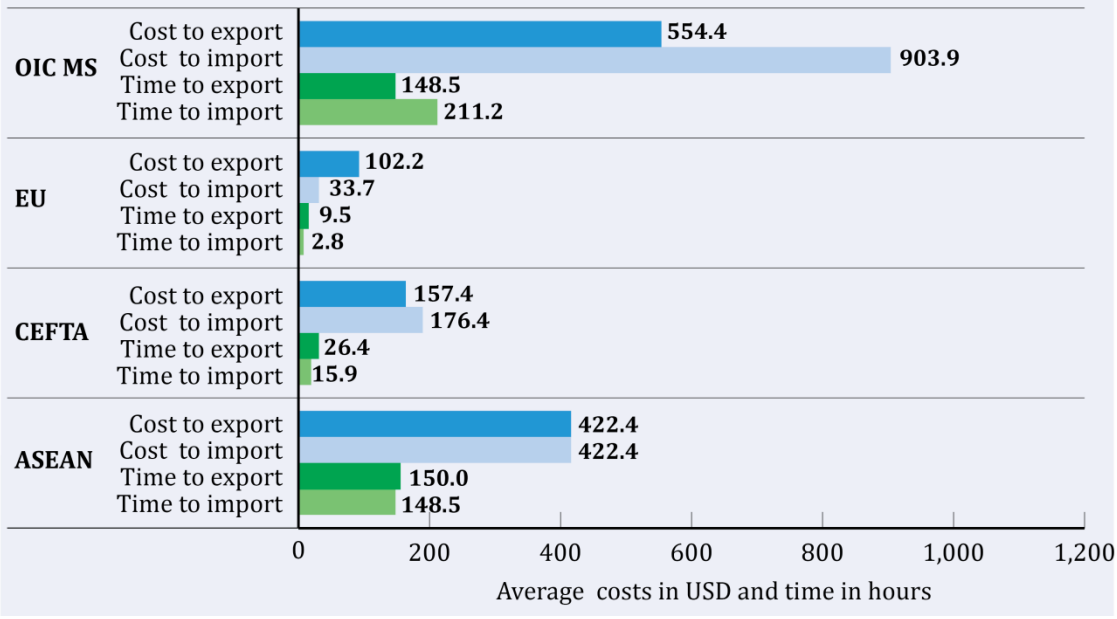
| | | | | | | |
|---|---|---|---|---|---|---|
| | Missing | 2 | 2 | 2 | 2 | 2 |
| Mean | | 57.066 | 156.425 | 208.636 | 684.293 | 882.522 |
| Mode | | 15.990 | 90.000 | 161.000 | 147.000 | 478.000 |
| Std. Deviation | | 18.354 | 100.356 | 124.386 | 470.583 | 468.805 |
| Skewness | | -0.373 | 1.631 | 0.688 | 2.421 | 0.526 |
| Std. Error of Skewness | | 0.322 | 0.322 | 0.322 | 0.322 | 0.322 |
| | | 80.980 | 575.000 | 568.000 | 2878.000 | 2256.000 |
| Minimum | | 15.990 | 14.000 | 8.000 | 40.000 | 0.000 |
| Maximum | | 96.970 | 589.000 | 576.000 | 2918.000 | 2256.000 |

*Source: Author's compilation*

Albania ranks highest (minimum value), while Yemen ranks lowest of the 189. There is not a big difference between the data for 2016 and those for 2017, but there are still opportunities for improvement for many OIC MS.

The comparative analysis of the trade costs and time to import and export on OIC MS average level with developed countries such as EU MS shows that the average of OIC MS has higher costs and time based on border and documentary compliance. The similar results are for the CEFTA MS that sign the pre-accession Agreement with EU, due to the implementation of the EU acquis related to the common EU customs domain.

**Figure 60: Trade Costs and Time Comparative Analysis between OIC MS, EU, CEFTA and ASEAN**




*Source: Author's compilation*

Data on time and costs for border and documentary compliance are presented in Figure 60. The basic statistics are given in Table 41. There is not much difference between the data for 2016 and 2017, but there is a large difference between the best and the worst OIC MS regarding

minimum and the maximum value of time expressed in hours and costs expressed in USD. The minimum value for time to export for border and documentary compliance is 9 and 2 respectively, while the maximum value is 202 and 504 respectively. For the country with the highest ranking, the time required for border and documentary compliance is below 10 hours, while the worst ranked country requires more than 8 days for border compliance and more than 20 days for border compliance including customs and OGAs inspections. According to these statistics around half the countries rank below mode value, so there is much room for improvements, and the implementation of efficient CRM can help improve the results.

**Table 41: Export time and costs in OIC MS related to border and documentary compliance**

| Year | | | Time to export: Border compliance (hours) | Cost to export: Border compliance (USD) | Time to export: Documentary compliance (hours) | Cost to export: Documentary compliance (USD) |
|---|---|---|---|---|---|---|
| 2016 | N | Valid | 55 | 55 | 55 | 55 |
| | Mean | | 74.51 | 483.33 | 82.38 | 214.31 |
| | Mode | | 48 | 602 | 48 | 100[a] |
| | Std. Deviation | | 36.644 | 281.775 | 81.105 | 254.671 |
| | Range | | 194 | 1473 | 502 | 1790 |
| | Minimum | | 8 | 30 | 2 | 10 |
| | Maximum | | 202 | 1503 | 504 | 1800 |
| 2017 | N | Valid | 55 | 55 | 55 | 55 |
| | Mean | | 73.44 | 486.91 | 81.09 | 210.93 |
| | Mode | | 48[a] | 602 | 48 | 100[a] |
| | Std. Deviation | | 36.759 | 289.635 | 80.66 | 253.648 |
| | Range | | 193 | 1586 | 502 | 1790 |
| | Minimum | | 9 | 47 | 2 | 10 |
| | Maximum | | 202 | 1633 | 504 | 1800 |

*Source: Author's compilation*

The same situation is when it comes to the costs expressed in USD for border and documentary compliance related to export. These data are related to export procedures, and some of the countries present extremely high costs, for example, Gabon -for border compliance with 1633 USD and Iraq for documentary compliance with 1800 USD, and have a large impact on their national economies presents the basic statistics on time and costs related to border and documentary compliance on imports. The comparison shows that the trade costs related to import are higher than those for export. Again, looking at the minimum and maximum values, there is a large discrepancy between the best and worst ranked countries. Obviously, an effective CRM can improve documentary compliance and trade facilitation process through more efficient border compliance and Single Window concept.

**Table 42: Import time and costs in OIC MS related to border and documentary compliance**

| Year | | | Time to import: Border compliance (hours) | Cost to import: Border compliance (USD) | Time to import: Documentary compliance (hours) | Cost to import: Documentary compliance (USD) |
|---|---|---|---|---|---|---|
| 2016 | N | Valid | 55 | 55 | 55 | 55 |
| | Mean | | 110 | 607.04 | 103.24 | 302.75 |
| | Mode | | 84 | 0[a] | 72 | 200 |
| | Std. Deviation | | 70.386 | 318.99 | 73.349 | 235.676 |
| | Range | | 325 | 1407 | 330 | 900 |
| | Minimum | | 2 | 0 | 6 | 0 |
| | Maximum | | 327 | 1407 | 336 | 900 |
| 2017 | N | Valid | 55 | 55 | 55 | 55 |
| | Mean | | 110.13 | 606.4 | 102.56 | 309.11 |
| | Mode | | 84 | 0[a] | 72[a] | 200 |
| | Std. Deviation | | 72.047 | 322.827 | 73.555 | 249.544 |
| | Range | | 325 | 1407 | 318 | 1000 |
| | Minimum | | 2 | 0 | 6 | 0 |
| | Maximum | | 327 | 1407 | 324 | 1000 |

*Source: Author's compilation*

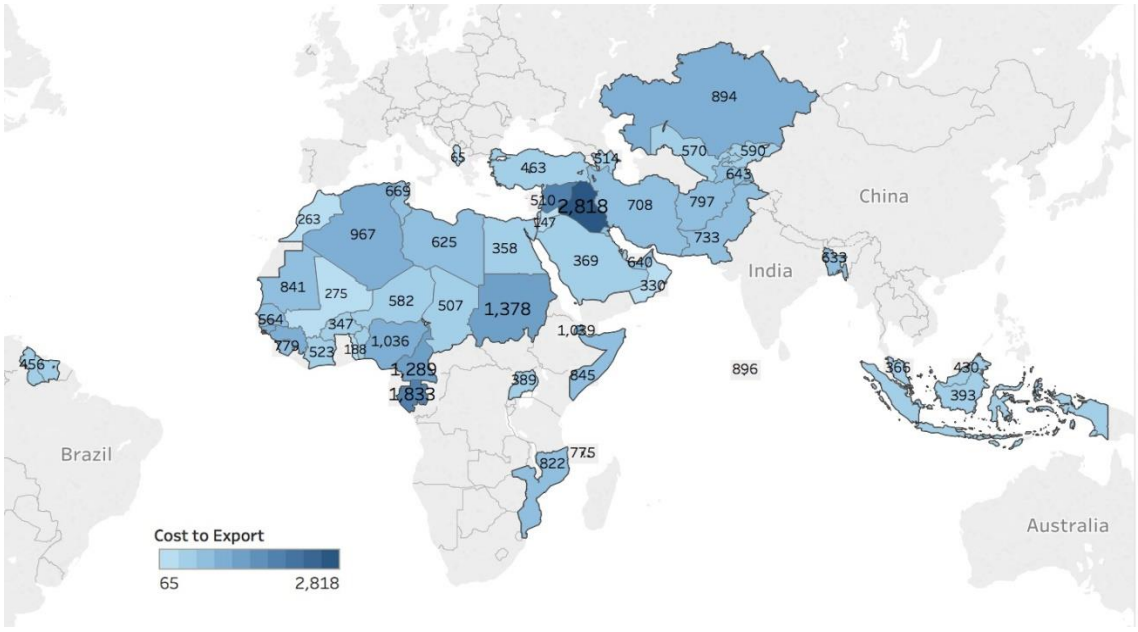
World Bank changed the Trading across Border Methodology in 2016. Therefore, it is impossible to include a larger timeframe for analysis.

The data collected under the Trading across Borders new methodology is not comparable to the data collected under the old one since Doing Business 2016 published data is significantly different compared to data published in (and before) Doing Business 2015. Due to methodological changes, the time is measured in hours and not in days, allowing the data to reflect the widespread use of electronic data interchanges. Additionally, as opposed to the so-called 'old methodology' the data on domestic transport is no longer taken into consideration for the calculation of the Distance to Frontier and the ranking for the economy. Similarly, the exact number of documents needed for exports and imports is no longer taken into consideration for the calculation of the Distance to Frontier and the ranking for the economy. For documentary compliance, only the overall time and cost of preparing, submitting and validating all the documents required by law and commonly done in practice is counted.

For these reasons, it is practically impossible to make a comparative analysis of data between the old and the new methodology and to determine if there was any impact of the CRM on trade across borders.

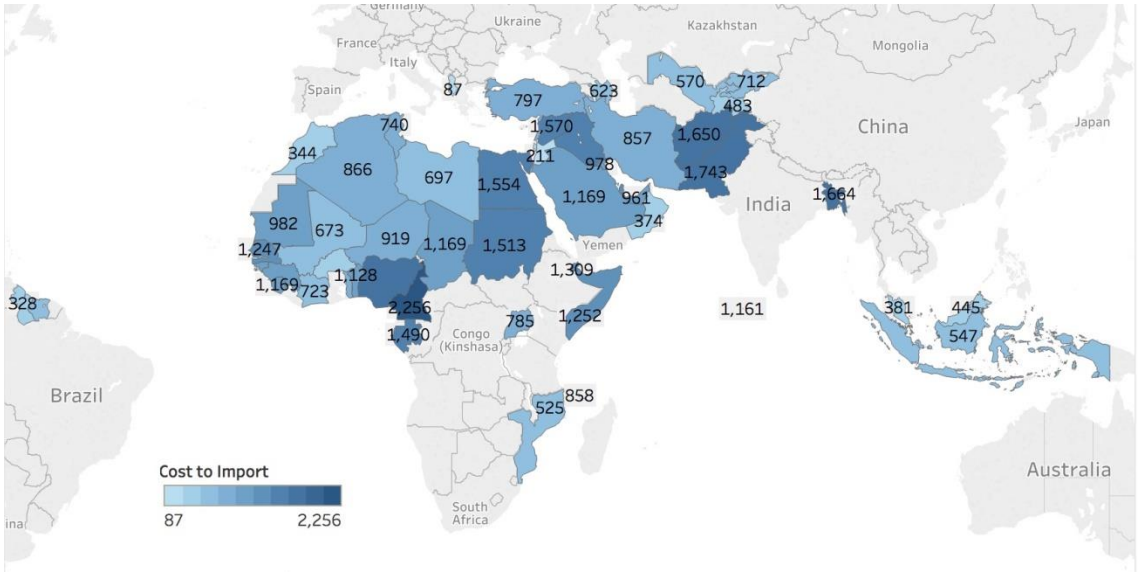
The Figures below are visualizing the trade costs and time for import and export in OIC MS.

**Figure 61: OIC MS Cost to Export - Border and Documentary Compliance**



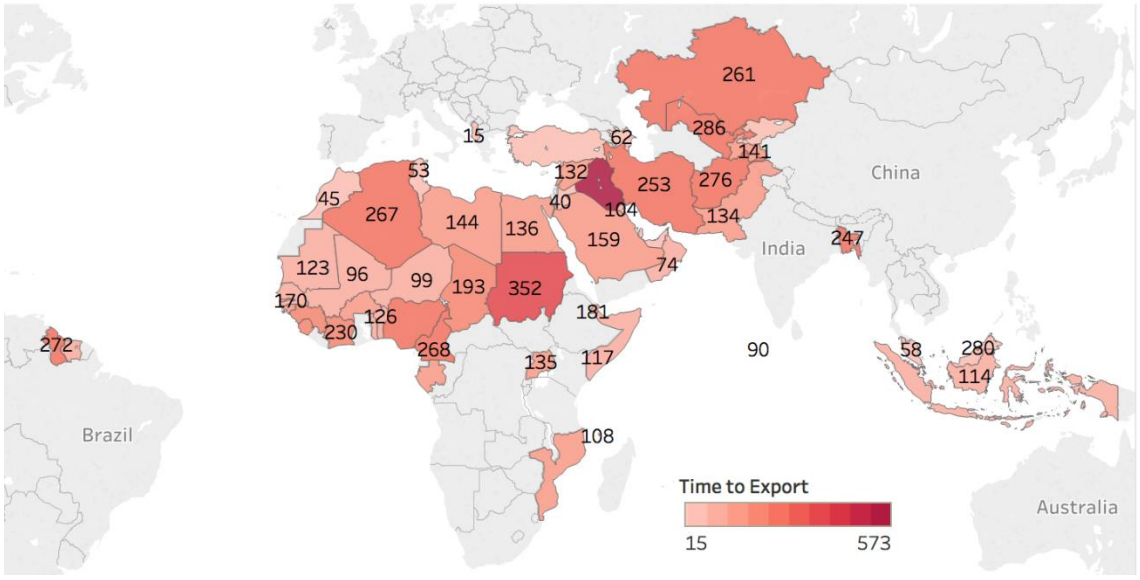

*Source: Author's compilation based on WB Doing Business Trade across Border 2017*

**Figure 62: OIC MS Cost to Import - Border and Documentary Compliance**



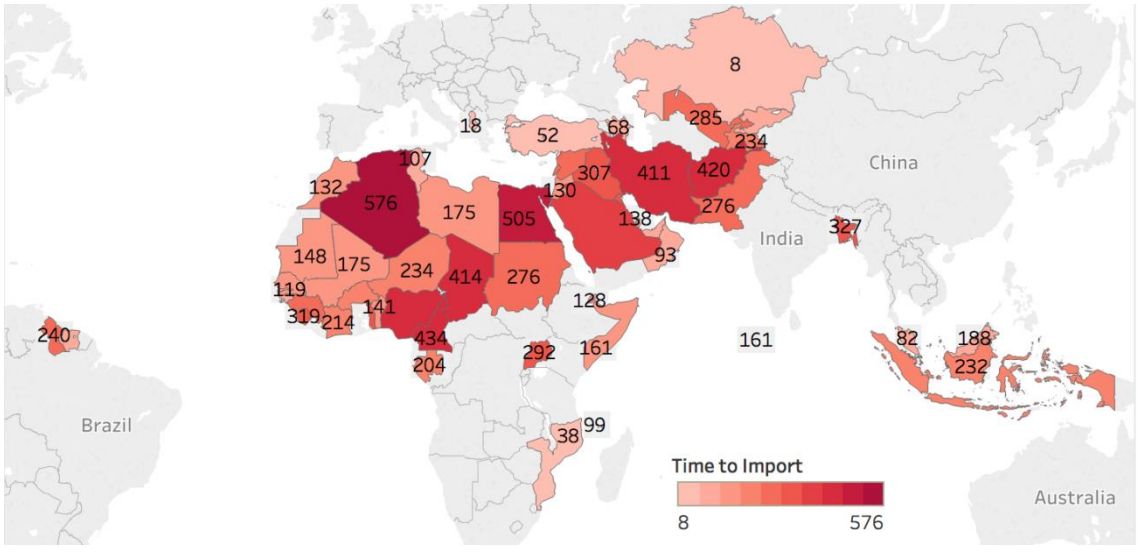

*Source: Author's compilation based on WB Doing Business Trade across Border 2017*

**Figure 63: OIC MS Time to Export - Border and Documentary Compliance**




*Source: Author's compilation based on WB Doing Business Trade across Border 2017*

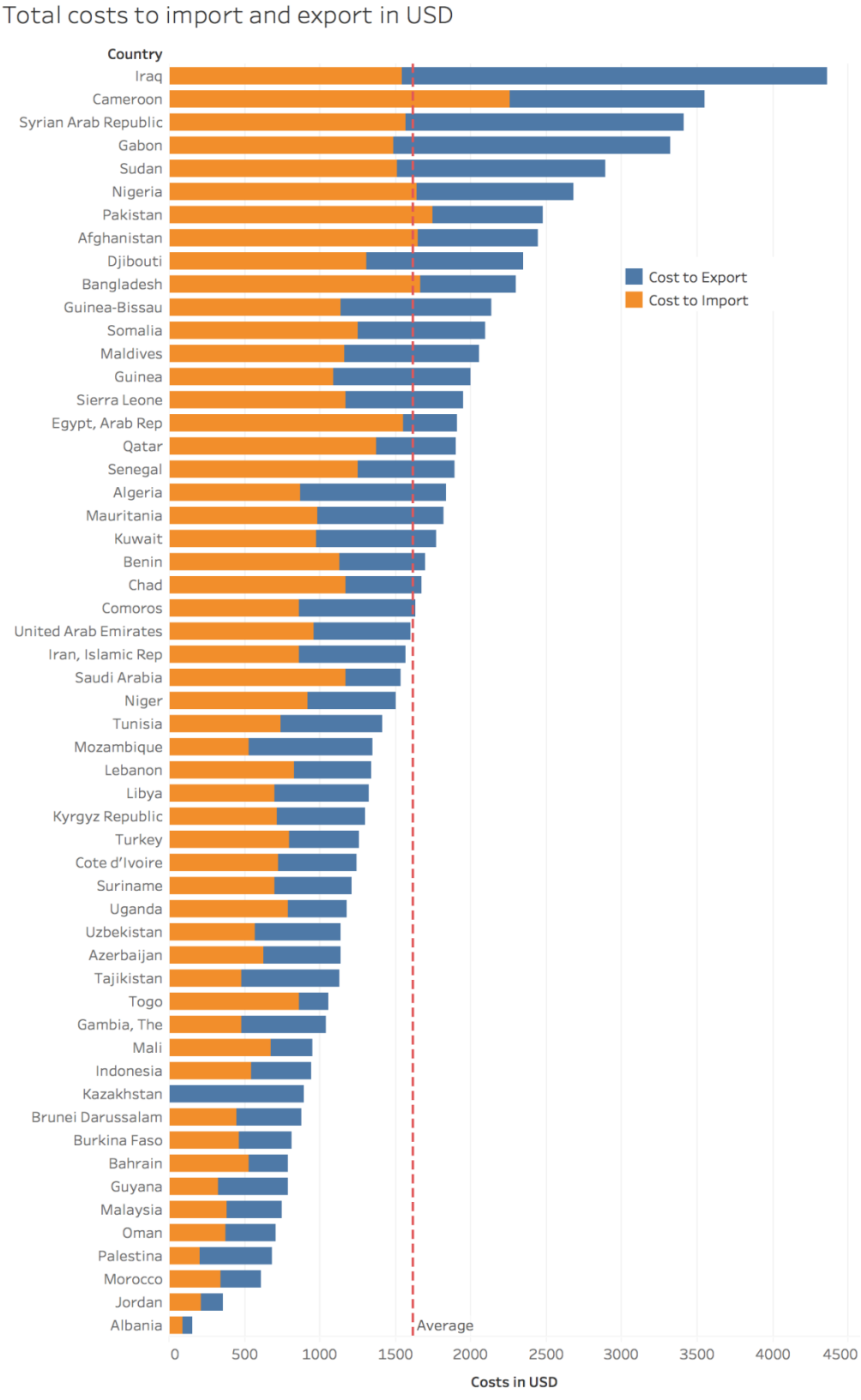
**Figure 64: OIC MS Time to Import - Border and Documentary Compliance**




*Source: Author's compilation based on WB Doing Business Trade across Border 2017*

| Country (Logistics performance index 2016) | Logistics performance index: Efficiency of customs clearance process (1=low to 5=high) | Ease of Doing Business Rank | Trading across Borders - Time to export: Border compliance (hours) | Trading across Borders - Time to export: Documentary compliance (hours) | Trading across Borders - Cost to export: Documentary compliance (USD) | Trading across Borders - Time to import: Border compliance (hours) | Trading across Borders - Time to import: Documentary compliance (hours) | Trading across Borders - Cost to import: Documentary compliance (USD) |
|---|---|---|---|---|---|---|---|---|
| United Arab Emirates | 3.61 (2012) 3.42 (2014) **3.84** (2016) | 2017: **85** ▼ 2016: 84 | 27 (2015) 27 (2016) **27** (2017) | 6 (2015) 6 (2016) **6** (2017) | 178 (2015) 178 (2016) **178** (2017) | 54 (2015) 54 (2016) **54** (2017) | 12 (2015) 12 (2016) **12** (2017) | 283 (2015) 283 (2016) **283** (2017) |
| Qatar | 3.12 (2012) 3.21 (2014) **3.55** (2016) | 2017: **128** ▼ 2016: 124 | 30 (2015) 30 (2016) **30** (2017) | 10 (2015) 10 (2016) **10** (2017) | 150 (2015) 150 (2016) **150** (2017) | 148 (2015) 88 (2016) **88** (2017) | 72 (2015) 72 (2016) **72** (2017) | 617 (2015) 617 (2016) **617** (2017) |
| Turkey | 3.16 (2012) 3.23 (2014) **3.18** (2016) | 2017: **70** ◀ 2016: 70 | 16 (2015) 16 (2016) **16** (2017) | 5 (2015) 5 (2016) **5** (2017) | 87 (2015) 87 (2016) **87** (2017) | 41 (2015) 41 (2016) **41** (2017) | 11 (2015) 11 (2016) **11** (2017) | 142 (2015) 142 (2016) **142** (2017) |
| Malaysia | 3.28 (2012) 3.37 (2014) **3.17** (2016) | 2017: **60** ▼ 2016: 58 | 48 (2015) 48 (2016) **48** (2017) | 10 (2015) 10 (2016) **10** (2017) | 45 (2015) 45 (2016) **45** (2017) | 72 (2015) 72 (2016) **72** (2017) | 10 (2015) 10 (2016) **10** (2017) | 60 (2015) 60 (2016) **60** (2017) |
| Bahrain | 2.67 (2012) 3.29 (2014) **3.14** (2016) | 2017: **82** ◀ 2016: 82 | 79 (2015) 79 (2016) **71** (2017) | 24 (2015) 24 (2016) **24** (2017) | 211 (2015) 211 (2016) **211** (2017) | 54 (2015) 54 (2016) **54** (2017) | 84 (2015) 84 (2016) **84** (2017) | 130 (2015) 130 (2016) **130** (2017) |
| Uganda | 2012 2014 **2.97** (2016) | 2017: **136** ▲ 2016: 141 | 85 (2015) 85 (2016) **71** (2017) | 64 (2015) 64 (2016) **64** (2017) | 102 (2015) 102 (2016) **102** (2017) | 154 (2015) 154 (2016) **154** (2017) | 138 (2015) 138 (2016) **138** (2017) | 296 (2015) 296 (2016) **296** (2017) |
| Kuwait | 2.73 (2012) 2.69 (2014) **2.83** (2016) | 2017: **157** ▲ 2016: 159 | 74 (2015) 74 (2016) **74** (2017) | 32 (2015) 32 (2016) **32** (2017) | 191 (2015) 191 (2016) **191** (2017) | 215 (2015) 215 (2016) **215** (2017) | 148 (2015) 148 (2016) **120** (2017) | 332 (2015) 332 (2016) **332** (2017) |
| Brunei Darussalam | 2012 2014 **2.78** (2016) | 2017: **142** ▲ 2016: 143 | 120 (2015) 120 (2016) **117** (2017) | 168 (2015) 168 (2016) **163** (2017) | 90 (2015) 90 (2016) **90** (2017) | 48 (2015) 48 (2016) **48** (2017) | 144 (2015) 144 (2016) **140** (2017) | 50 (2015) 50 (2016) **50** (2017) |
| Oman | 3.10 (2012) 2.63 (2014) **2.76** (2016) | 2017: **67** ▲ 2016: 71 | 77 (2015) 53 (2016) **52** (2017) | 31 (2015) 31 (2016) **11** (2017) | 107 (2015) 107 (2016) **107** (2017) | 94 (2015) 70 (2016) **70** (2017) | 24 (2015) 24 (2016) **23** (2017) | 20 (2015) 20 (2016) **20** (2017) |
| Egypt | 2.60 (2012) 2.85 (2014) **2.69** (2016) | 2017: **168** ▼ 2016: 157 | 48 (2015) 48 (2016) **48** (2017) | 88 (2015) 88 (2016) **88** (2017) | 100 (2015) 100 (2016) **100** (2017) | 120 (2015) 120 (2016) **240** (2017) | 192 (2015) 192 (2016) **265** (2017) | 650 (2015) 650 (2016) **1000** (2017) |
| Lebanon | 2.21 (2012) 2.29 (2014) **2.73** (2016) | 2017: **134** ▼ 2016: 132 | 96 (2015) 96 (2016) **96** (2017) | 48 (2015) 48 (2016) **48** (2017) | 100 (2015) 100 (2016) **100** (2017) | 180 (2015) 180 (2016) **180** (2017) | 72 (2015) 72 (2016) **72** (2017) | 135 (2015) 135 (2016) **135** (2017) |
| Saudi Arabia | 2.79 (2012) 2.86 (2014) **2.69** (2016) | 2017: **158** ◀ 2016: 158 | 69 (2015) 69 (2016) **69** (2017) | 90 (2015) 90 (2016) **90** (2017) | 105 (2015) 105 (2016) **105** (2017) | 228 (2015) 228 (2016) **228** (2017) | 131 (2015) 131 (2016) **131** (2017) | 390 (2015) 390 (2016) **390** (2017) |
| Indonesia | 2.53 (2012) 2.87 (2014) **2.69** (2016) | 2017: **108** ▲ 2016: 113 | 53 (2015) 53 (2016) **53** (2017) | 72 (2015) 72 (2016) **61** (2017) | 170 (2015) 170 (2016) **139** (2017) | 99 (2015) 99 (2016) **99** (2017) | 144 (2015) 144 (2016) **144** (2017) | 164 (2015) 164 (2016) **164** (2017) |
| Cote d'Ivoire | 2.31 (2012) 2.33 (2014) **2.67** (2016) | 2017: **150** ▲ 2016: 151 | 110 (2015) 110 (2016) **110** (2017) | 120 (2015) 120 (2016) **120** (2017) | 136 (2015) 136 (2016) **136** (2017) | 125 (2015) 125 (2016) **125** (2017) | 164 (2015) 89 (2016) **89** (2017) | 267 (2015) 267 (2016) **267** (2017) |
| Pakistan | 2.85 (2012) 2.84 (2014) **2.66** (2016) | 2017: **172** ◀ 2016: 172 | 79 (2015) 79 (2016) **75** (2017) | 65 (2015) 65 (2016) **59** (2017) | 307 (2015) 307 (2016) **307** (2017) | 141 (2015) 141 (2016) **129** (2017) | 153 (2015) 153 (2016) **147** (2017) | 786 (2015) 786 (2016) **786** (2017) |
| Comoros | 2.00 (2012) 2.58 (2014) **2.63** (2016) | 2017: **107** ▼ 2016: 106 | 51 (2015) 51 (2016) **51** (2017) | 57 (2015) 57 (2016) **57** (2017) | 124 (2015) 124 (2016) **124** (2017) | 70 (2015) 70 (2016) **70** (2017) | 29 (2015) 29 (2016) **29** (2017) | 93 (2015) 93 (2016) **93** (2017) |
| Niger | 2.67 (2012) 2.49 (2014) **2.59** (2016) | 2017: **132** ▲ 2016: 148 | 48 (2015) 48 (2016) **48** (2017) | 51 (2015) 51 (2016) **51** (2017) | 39 (2015) 39 (2016) **39** (2017) | 78 (2015) 114 (2016) **78** (2017) | 156 (2015) 156 (2016) **156** (2017) | 457 (2015) 457 (2016) **457** (2017) |
| Bangladesh | 2012 2.09 (2014) **2.57** (2016) | 2017: **173** ◀ 2016: 173 | 100 (2015) 100 (2016) **100** (2017) | 147 (2015) 147 (2016) **147** (2017) | 225 (2015) 225 (2016) **225** (2017) | 183 (2015) 183 (2016) **183** (2017) | 144 (2015) 144 (2016) **144** (2017) | 370 (2015) 370 (2016) **370** (2017) |
| Jordan | 2.27 (2012) 2.60 (2014) **2.55** (2016) | 2017: **50** ◀ 2016: 50 | 40 (2015) 40 (2016) **38** (2017) | 2 (2015) 2 (2016) **2** (2017) | 16 (2015) 16 (2016) **16** (2017) | 79 (2015) 79 (2016) **75** (2017) | 55 (2015) 55 (2016) **55** (2017) | 30 (2015) 30 (2016) **30** (2017) |
| Burkina Faso | 2.12 (2012) 2.50 (2014) **2.55** (2016) | 2017: **104** ◀ 2016: 104 | 75 (2015) 75 (2016) **75** (2017) | 84 (2015) 84 (2016) **84** (2017) | 86 (2015) 86 (2016) **86** (2017) | 102 (2015) 102 (2016) **102** (2017) | 96 (2015) 96 (2016) **96** (2017) | 197 (2015) 197 (2016) **197** (2017) |
| Kazakhstan | 2.58 (2012) 2.13 (2014) **2.52** (2016) | 2017: **119** ▲ 2016: 128 | 133 (2015) 133 (2016) **133** (2017) | 132 (2015) 132 (2016) **128** (2017) | 430 (2015) 430 (2016) **320** (2017) | 2 (2015) 2 (2016) **2** (2017) | 6 (2015) 6 (2016) **6** (2017) | 0 (2015) 0 (2016) **0** (2017) |
| Mozambique | 2012 2.26 (2014) **2.49** (2016) | 2017: **106** ▼ 2016: 105 | 78 (2015) 78 (2016) **78** (2017) | 70 (2015) 70 (2016) **70** (2017) | 220 (2015) 220 (2016) **220** (2017) | 14 (2015) 14 (2016) **14** (2017) | 24 (2015) 24 (2016) **24** (2017) | 171 (2015) 171 (2016) **171** (2017) |
| Togo | 2.29 (2012) 2.09 (2014) **2.49** (2016) | 2017: **117** ▲ 2016: 127 | 75 (2015) 75 (2016) **67** (2017) | 15 (2015) 15 (2016) **11** (2017) | 25 (2015) 25 (2016) **25** (2017) | 267 (2015) 195 (2016) **168** (2017) | 203 (2015) 203 (2016) **203** (2017) | 252 (2015) 252 (2016) **252** (2017) |
| Nigeria | 1.97 (2012) 2.35 (2014) **2.46** (2016) | 2017: **181** ◀ 2016: 181 | 135 (2015) 135 (2016) **135** (2017) | 131 (2015) 131 (2016) **131** (2017) | 250 (2015) 250 (2016) **250** (2017) | 284 (2015) 284 (2016) **284** (2017) | 173 (2015) 173 (2016) **173** (2017) | 564 (2015) 564 (2016) **564** (2017) |
| Mali | 2012 2.08 (2014) **2.45** (2016) | 2017: **89** ▼ 2016: 88 | 55 (2015) 48 (2016) **48** (2017) | 55 (2015) 48 (2016) **48** (2017) | 33 (2015) 33 (2016) **33** (2017) | 105 (2015) 98 (2016) **98** (2017) | 84 (2015) 77 (2016) **77** (2017) | 375 (2015) 375 (2016) **375** (2017) |
| Guinea-Bissau | 2.39 (2012) 2.43 (2014) **2.44** (2016) | 2017: **153** ▲ 2016: 154 | 67 (2015) 67 (2016) **67** (2017) | 60 (2015) 60 (2016) **60** (2017) | 316 (2015) 316 (2016) **316** (2017) | 72 (2015) 72 (2016) **72** (2017) | 36 (2015) 36 (2016) **36** (2017) | 384 (2015) 384 (2016) **384** (2017) |
| Guyana | 2.29 (2012) 2.46 (2014) **2.40** (2016) | 2017: **135** ◀ 2016: 135 | 72 (2015) 72 (2016) **72** (2017) | 200 (2015) 200 (2016) **200** (2017) | 78 (2015) 78 (2016) **78** (2017) | 84 (2015) 84 (2016) **84** (2017) | 156 (2015) 156 (2016) **156** (2017) | 63 (2015) 63 (2016) **63** (2017) |
| Maldives | 2.24 (2012) 2.95 (2014) **2.39** (2016) | 2017: **147** ◀ 2016: 147 | 42 (2015) 42 (2016) **42** (2017) | 48 (2015) 48 (2016) **48** (2017) | 300 (2015) 300 (2016) **300** (2017) | 100 (2015) 100 (2016) **100** (2017) | 61 (2015) 61 (2016) **61** (2017) | 180 (2015) 180 (2016) **180** (2017) |

| Country (Logistics performance index 2016) | Logistics performance index: Efficiency of customs clearance process (1=low to 5=high) | Ease of Doing Business Rank | Trading across Borders - Time to export: Border compliance (hours) | Trading across Borders - Time to export: Documentary compliance (hours) | Trading across Borders - Cost to export: Documentary compliance (USD) | Trading across Borders - Time to import: Border compliance (hours) | Trading across Borders - Time to import: Documentary compliance (hours) | Trading across Borders - Cost to import: Documentary compliance (USD) |
|---|---|---|---|---|---|---|---|---|
| Djibouti | 1.72 (2012) 2.20 (2014) **2.37** (2016) | 2017: 155 ◀ 2016: 155 | 109 (2015) 109 (2016) **109** (2017) | 72 (2015) 72 (2016) **72** (2017) | 95 (2015) 95 (2016) **95** (2017) | 78 (2015) 78 (2016) **78** (2017) | 50 (2015) 50 (2016) **50** (2017) | 100 (2015) 100 (2016) **100** (2017) |
| Algeria | 2.26 (2012) 2.71 (2014) **2.37** (2016) | 2017: 178 ◀ 2016: 178 | 118 (2015) 118 (2016) **118** (2017) | 149 (2015) 149 (2016) **149** (2017) | 374 (2015) 374 (2016) **374** (2017) | 327 (2015) 327 (2016) **327** (2017) | 249 (2015) 249 (2016) **249** (2017) | 400 (2015) 400 (2016) **400** (2017) |
| Iran | 2.19 (2012) **2.33** (2014, 2016) | 2017: 170 ▲ 2016: 171 | 107 (2015) 107 (2016) **101** (2017) | 159 (2015) 159 (2016) **152** (2017) | 143 (2015) 143 (2016) **143** (2017) | 148 (2015) 148 (2016) **141** (2017) | 284 (2015) 284 (2016) **270** (2017) | 197 (2015) 197 (2016) **197** (2017) |
| Uzbekistan | 2.25 (2012) 1.80 (2014) **2.32** (2016) | 2017: 165 ▲ 2016: 166 | 112 (2015) 112 (2016) **112** (2017) | 174 (2015) 174 (2016) **174** (2017) | 292 (2015) 292 (2016) **292** (2017) | 111 (2015) 111 (2016) **111** (2017) | 174 (2015) 174 (2016) **174** (2017) | 292 (2015) 292 (2016) **292** (2017) |
| Senegal | 2.46 (2012) 2.61 (2014) **2.31** (2016) | 2017: 130 ▼ 2016: 125 | 61 (2015) 61 (2016) **61** (2017) | 26 (2015) 26 (2016) **26** (2017) | 96 (2015) 96 (2016) **96** (2017) | 53 (2015) 53 (2016) **53** (2017) | 72 (2015) 72 (2016) **72** (2017) | 545 (2015) 545 (2016) **545** (2017) |
| Guinea | 2.42 (2012) 2.34 (2014) **2.28** (2016) | 2017: 112 ▼ 2016: 109 | 72 (2015) 72 (2016) **72** (2017) | 139 (2015) 139 (2016) **139** (2017) | 128 (2015) 128 (2016) **128** (2017) | 91 (2015) 91 (2016) **91** (2017) | 156 (2015) 156 (2016) **156** (2017) | 180 (2015) 180 (2016) **180** (2017) |
| Albania | 2.43 (2012) 2.23 (2014, 2016) | 2017: 24 ▼ 2016: 22 | 14 (2015) 8 (2016) **8** (2017) | 6 (2015) 6 (2016) **6** (2017) | 10 (2015) 10 (2016) **10** (2017) | 9 (2015) 9 (2016) **10** (2017) | 8 (2015) 8 (2016) **8** (2017) | 10 (2015) 10 (2016) **10** (2017) |
| Sudan | 2.14 (2012) 1.87 (2014) **2.23** (2016) | 2017: 184 ◀ 2016: 184 | 162 (2015) 162 (2016) **162** (2017) | 190 (2015) 190 (2016) **190** (2017) | 428 (2015) 428 (2016) **428** (2017) | 144 (2015) 144 (2016) **144** (2017) | 132 (2015) 132 (2016) **132** (2017) | 420 (2015) 420 (2016) **420** (2017) |
| Morocco | 2.64 (2012) 2.22 (2014, 2016) | 2017: 63 ▲ 2016: 68 | 19 (2015) 19 (2016) **19** (2017) | 27 (2015) 26 (2016) **26** (2017) | 107 (2015) 107 (2016) **107** (2017) | 132 (2015) 132 (2016) **106** (2017) | 29 (2015) 26 (2016) **26** (2017) | 116 (2015) 116 (2016) **116** (2017) |
| Benin | 2.59 (2012) 2.64 (2014) **2.20** (2016) | 2017: 133 ▼ 2016: 130 | 138 (2015) 78 (2016) **78** (2017) | 108 (2015) 48 (2016) **48** (2017) | 80 (2015) 80 (2016) **80** (2017) | 154 (2015) 82 (2016) **82** (2017) | 131 (2015) 59 (2016) **59** (2017) | 529 (2015) 529 (2016) **529** (2017) |
| Mauritania | 2.33 (2012) 1.93 (2014) **2.14** (2016) | 2017: 137 ▲ 2016: 139 | 72 (2015) 72 (2016) **72** (2017) | 59 (2015) 59 (2016) **51** (2017) | 92 (2015) 92 (2016) **92** (2017) | 126 (2015) 84 (2016) **84** (2017) | 150 (2015) 72 (2016) **64** (2017) | 400 (2015) 400 (2016) **400** (2017) |
| Cameroon | 2.37 (2012) 1.86 (2014) **2.09** (2016) | 2017: 186 ◀ 2016: 186 | 202 (2015) 202 (2016) **202** (2017) | 66 (2015) 66 (2016) **66** (2017) | 306 (2015) 306 (2016) **306** (2017) | 271 (2015) 271 (2016) **271** (2017) | 163 (2015) 163 (2016) **163** (2017) | 849 (2015) 849 (2016) **849** (2017) |
| Chad | 1.86 (2012) 2.46 (2014) **2.08** (2016) | 2017: 171 ▼ 2016: 170 | 106 (2015) 106 (2016) **106** (2017) | 87 (2015) 87 (2016) **87** (2017) | 188 (2015) 188 (2016) **188** (2017) | 242 (2015) 242 (2016) **242** (2017) | 172 (2015) 172 (2016) **172** (2017) | 500 (2015) 500 (2016) **500** (2017) |
| Gabon | 2.00 (2012) 2.00 (2014) **2.07** (2016) | 2017: 166 ▼ 2016: 165 | 96 (2015) 96 (2016) **96** (2017) | 60 (2015) 60 (2016) **60** (2017) | 200 (2015) 200 (2016) **200** (2017) | 84 (2015) 84 (2016) **84** (2017) | 120 (2015) 120 (2016) **120** (2017) | 170 (2015) 170 (2016) **170** (2017) |
| Afghanistan | 2.33 (2012) 2.16 (2014) **2.01** (2016) | 2017: 175 ▲ 2016: 176 | 48 (2015) 48 (2016) **48** (2017) | 243 (2015) 243 (2016) **228** (2017) | 344 (2015) 344 (2016) **344** (2017) | 96 (2015) 96 (2016) **96** (2017) | 336 (2015) 336 (2016) **324** (2017) | 900 (2015) 900 (2016) **900** (2017) |
| Iraq | 1.75 (2012) 1.98 (2014) **2.01** (2016) | 2017: 179 ◀ 2016: 179 | 69 (2015) 69 (2016) **69** (2017) | 504 (2015) 504 (2016) **504** (2017) | 1800 (2015) 1800 (2016) **1800** (2017) | 131 (2015) 131 (2016) **131** (2017) | 176 (2015) 176 (2016) **176** (2017) | 900 (2015) 900 (2016) **900** (2017) |
| Turkmenistan | 2.31 (2014) **2.00** (2016) | 2017: N/A 2016: N/A | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) |
| Tunisia | 3.12 (2012) 2.02 (2014) **1.96** (2016) | 2017: 92 ▼ 2016: 91 | 98 (2015) 50 (2016) **50** (2017) | 3 (2015) 3 (2016) **3** (2017) | 200 (2015) 200 (2016) **200** (2017) | 128 (2015) 80 (2016) **80** (2017) | 27 (2015) 27 (2016) **27** (2017) | 144 (2015) 144 (2016) **144** (2017) |
| Tajikistan | 2.43 (2012) 2.35 (2014) **1.93** (2016) | 2017: 144 ▼ 2016: 142 | 144 (2015) 75 (2016) **75** (2017) | 135 (2015) 66 (2016) **66** (2017) | 330 (2015) 330 (2016) **330** (2017) | 177 (2015) 108 (2016) **108** (2017) | 123 (2015) 126 (2016) **126** (2017) | 260 (2015) 260 (2016) **260** (2017) |
| Sierra Leone | 1.73 (2012) **1.91** (2014, 2016) | 2017: 169 ◀ 2016: 169 | 55 (2015) 55 (2016) **55** (2017) | 134 (2015) 134 (2016) **134** (2017) | 227 (2015) 227 (2016) **227** (2017) | 182 (2015) 182 (2016) **182** (2017) | 137 (2015) 137 (2016) **137** (2017) | 387 (2015) 387 (2016) **387** (2017) |
| Libya | 2.08 (2012) 2.41 (2014) **1.88** (2016) | 2017: 114 ▼ 2016: 112 | 72 (2015) 72 (2016) **72** (2017) | 72 (2015) 72 (2016) **72** (2017) | 50 (2015) 50 (2016) **50** (2017) | 79 (2015) 79 (2016) **79** (2017) | 96 (2015) 96 (2016) **96** (2017) | 60 (2015) 60 (2016) **60** (2017) |
| Kyrgyzstan | 2.45 (2012) 2.03 (2014) **1.80** (2016) | 2017: 79 ▲ 2016: 81 | 27 (2015) 27 (2016) **20** (2017) | 24 (2015) 24 (2016) **21** (2017) | 190 (2015) 190 (2016) **145** (2017) | 37 (2015) 37 (2016) **37** (2017) | 36 (2015) 36 (2016) **36** (2017) | 200 (2015) 200 (2016) **200** (2017) |
| Somalia | 2.00 (2012) 2.00 (2014) **1.29** (2016) | 2017: 156 ◀ 2016: 156 | 44 (2015) 44 (2016) **44** (2017) | 73 (2015) 73 (2016) **73** (2017) | 350 (2015) 350 (2016) **350** (2017) | 85 (2015) 85 (2016) **85** (2017) | 76 (2015) 76 (2016) **76** (2017) | 300 (2015) 300 (2016) **300** (2017) |
| Syria | 2.33 (2012) 2.07 (2014) **111** (2016) | 2017: 176 ▼ 2016: 175 | 84 (2015) 84 (2016) **84** (2017) | 48 (2015) 48 (2016) **48** (2017) | 725 (2015) 725 (2016) **725** (2017) | 141 (2015) 141 (2016) **141** (2017) | 149 (2015) 149 (2016) **149** (2017) | 742 (2015) 742 (2016) **742** (2017) |
| Azerbaijan | 1.92 (2012) 2.57 (2014) (2016) | 2017: 83 ▲ 2016: 85 | 34 (2015) 34 (2016) **29** (2017) | 35 (2015) 35 (2016) **33** (2017) | 300 (2015) 300 (2016) **300** (2017) | 32 (2015) 32 (2016) **30** (2017) | 41 (2015) 41 (2016) **38** (2017) | 200 (2015) 200 (2016) **200** (2017) |
| Gambia | 2.29 (2012) 2.06 (2014) (2016) | 2017: 112 ▼ 2016: 109 | 109 (2015) 109 (2016) **109** (2017) | 61 (2015) 61 (2016) **61** (2017) | 183 (2015) 183 (2016) **183** (2017) | 87 (2015) 87 (2016) **87** (2017) | 32 (2015) 32 (2016) **32** (2017) | 152 (2015) 152 (2016) **152** (2017) |
| Suriname | (2012) (2014) (2016) | 2017: 78 ▼ 2016: 75 | 108 (2015) 84 (2016) **84** (2017) | 36 (2015) 12 (2016) **12** (2017) | 40 (2015) 40 (2016) **40** (2017) | 72 (2015) 48 (2016) **48** (2017) | 48 (2015) 24 (2016) **24** (2017) | 40 (2015) 40 (2016) **40** (2017) |
| Yemen | 2.29 (2012) 1.63 (2014) (2016) | 2017: 189 ◀ 2016: 189 | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) | N/A (2015) N/A (2016) N/A (2017) |


Total costs to import and export in USD
Country
Iraq
Cameroon
Syrian Arab Republic
Gabon
Sudan
Nigeria
Pakistan
Afghanistan
Djibouti
Bangladesh
Guinea-Bissau
Somalia
Maldives
Guinea
Sierra Leone
Egypt, Arab Rep
Qatar
Senegal
Algeria
Mauritania
Kuwait
Benin
Chad
Comoros
United Arab Emirates
Iran, Islamic Rep
Saudi Arabia
Niger
Tunisia
Mozambique
Lebanon
Libya
Kyrgyz Republic
Turkey
Cote d'Ivoire
Suriname
Uganda
Uzbekistan
Azerbaijan
Tajikistan
Togo
Gambia, The
Mali
Indonesia
Kazakhstan
Brunei Darussalam
Burkina Faso
Bahrain
Guyana
Malaysia
Oman
Palestina
Morocco
Jordan
Albania
Cost to Export
Cost to Import
Average
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Costs in USD

## 7.2 ANNEX II

### 7.2.1

The information on the CRM efforts of 20 OIC MS is presented in this chapter. 16 OIC MS responded to on the CRM Survey, namely Banglaesh, Malaysia, Cameroon, Ivory Coast, Jordan, Morocco, Nigeria, Palestine, Suriname, Indonesia, Turkey, Senegal, Albania, Togo, Oman, and Bahrain and the 3 OIC MS Case Study Albania, Turkey and Senegal. CRM efforts are presented in Chapter 5.

The other 9 CRM MS profiles as addition to the 9 that responded to the survey are presented below, only a few are covered in detail due to insufficient information available. The data was collected from the OIC MS Customs websites, information available on internet and WCO web site.

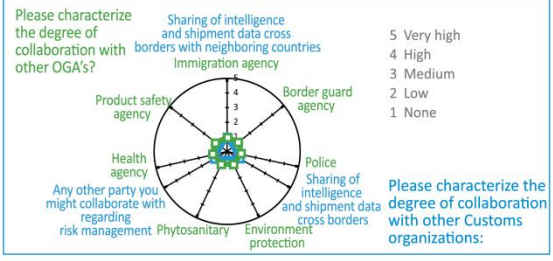
# Cameroon

Volume of Transport on entry on the customs territory:
Approximately 144000 Customs Declaration is processed in the port of Douala.

## Legal Aspects of CRM

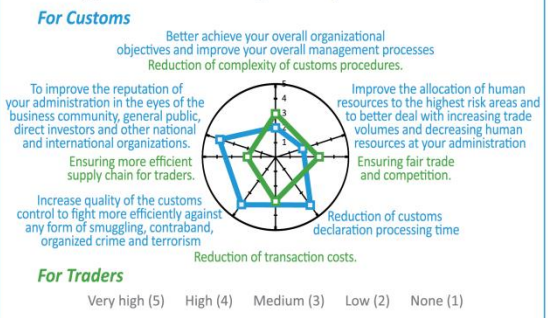
The Government of Cameroon changed the Customs Code - Modification of Customs Code of Cameroon Customs (CC) at the beginning of 2017 (previous Loi N ° 2006 018), that defines the customs role, procedures and customs powers. The CRM Department has adopted the Implementing Regulations in 2007. According to the new Customs Code, it is mandatory for the traders to submit advance cargo information to the Customs Administration through e-GUCE SW portal. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people.

## Risk Management Organization and Management

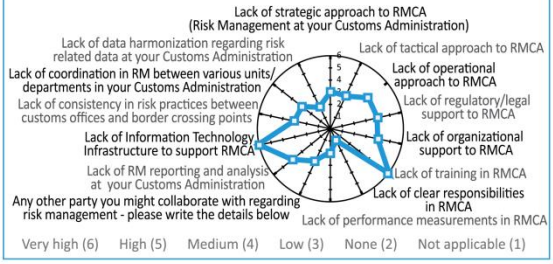



## Impact and Challenges

Rank of the benefits for the Customs administraton and traders when considering priorites for risk management at your administraton




Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management



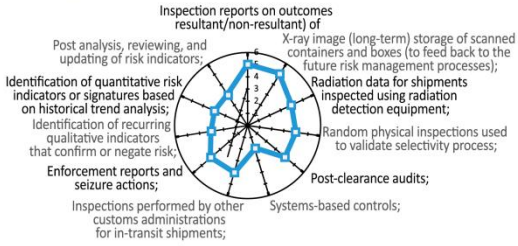

## Administrative Agreements

Cameroon Customs has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, Port Authorities, Airlines Companies and Courier Services.

## Equipment and Infrastructure

The CC has adequate tools and equipment for the inspection and examination of goods/means of transport available in Port of Douala. Non-intrusive inspection (NII) equipment is available on few BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

In 2002 the government of Cameroon decided to implement ASY++ to replace the former Customs system PAGODE, and a project document was signed with UNCTAD in January 2003.
Since its deployment in 2007, the e-GUCE Single Window is a customs centric Single Window for regulatory services excluding customs clearance. The use of the e-GUCE platform is obligatory by statutory act (Decree 2014). The customs clearance is still processed in ASY++. The e-GUCE platform also provides for integration of data with external systems, such as the Customs Management System ASY++, the CARGO system of the Port Authority of Douala (PAD), and the System of the National Shippers Council. The e-GUCE enables traders and their representatives to request government approvals and documents for general and specific trade transactions at the import, export and transit of goods. The use of the e-GUCE platform is obligatory as it is directly related to the Customs clearance process. Due to the limitation of ASY++, the Cameroon Customs is still struggling to implement the CRM Framework. As well, there is a still a lot of paper-based work (permits and certificates, feedback from customs control, offenses).

## Risk Management Implementation Status

In total, 10 customs officers are engaged in CRM. The CRM covers the following CRM stages: collection, applying risk profiles/indicators (selectivity module of ASY++), and feedback from control is paper based. The responsibilities defined by the CRM Implementing Regulation as follow:

- *Targeting, continuous selectivity;*
- *Analysis of fraud and control performed by customs officers;*
- *Management of AEO*

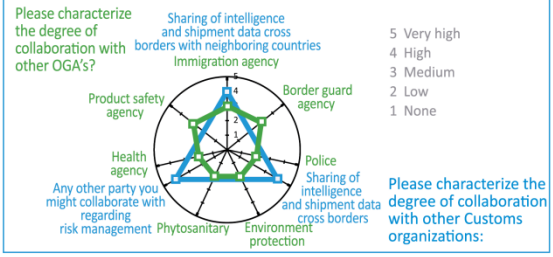
TC has an NCP for the WCO RILO, access to the WCOs Central Enforcement Network (CEN) and is using nCEN for management of LE, seizures and Intelligence information and data.
The CRM Department is preparing ad-hock report based on data available in ASY++. The MC is using Data Warehouse, Business Intelligence for reporting and Data mining for advanced analysis. Recently, CC developed a system for performance monitoring called "Coup d'œil dans le miroir". This module is generating periodic reports in the form of indicators on the CRM activities.

# Ivory Coast

## Legal Aspects of CRM

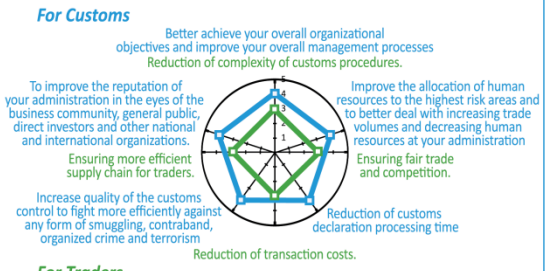
The Law governing the Ivory Coast Customs (ICC) is contained in the Customs Code (Law No. 64-291 - August 1964), and sub-regional initiative (ECOWAS, West African Economic and Monetary Union - UEMOA); Regulation No. 02/97 / CM / adopting the WAEMU Common External Tariff in force in UEMOA MS; Regulation No. 09/98 and Regulation No. 05/99 / CM / UEMOA on the customs value of goods on import. The National Legislation confers power for Customs to detain and seize the goods and seizure of means of transport subject to smuggling and detention of people. The Customs has adopted the Administrative Instructions as statutory instruments related to CRM. The CRM Policy is a part of the Customs Strategy.

## Risk Management Organization and Management

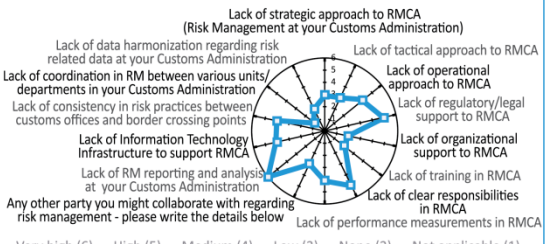



## Impact and Challenges

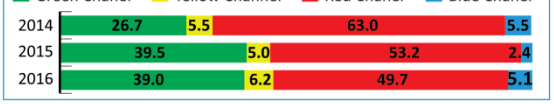
Rank of the benefits for the Customs administraton and traders when considering priorites for risk management at your administraton




Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




**Ivory Coast selectivity rate (in %)**



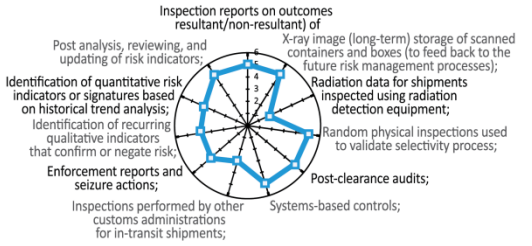

## Administrative Agreements

Ivory Coast Customs has concluded administrative agreements/MoU with OGAs, other customs administrations and port authorities. According to the legislation, the traders are obliged to submit advance cargo information to the Customs for import, export and transit procedures.

## Equipment and Infrastructure

The ICC doesn't have adequate tools and equipment for the inspection and examination of goods/means of transport. The non-intrusive equipment for the inspection and examination of goods/means of transport is not available on the most of the border crossing points.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

The AW project began on June 2005. The latest upgrade of the AW was performed in April 2014. The customs declarations are submitted are processed in the GUCE SW. ICC is still using the AW database structure and functionalities for processing of the customs declarations.

## Risk Management Implementation Status

The Risk Analysis, Intelligence and Value Directorate (DARRV) is responsible for: the implementation of the risk management; the development and management of risks; advance control of imports; issuance of audit and value certificates; valuation control of the advance customs declarations for importation (DAI) and processing and dissemination of information and intelligence within the ICC.

The AW is currently covering the identification of risks, analyze, assess and prioritize the risk. The CRM Department is responsible for collection, evaluation/analysis and applying risk profiles/indicators. ICC is performing the risk assessment on the pre-arrival/pre-departure information. The post-clearance controls are performed by post-clearance unit, but the selectivity is not risk based. In the area of CRM, Cote d'Ivoire had numerous technical assistance projects from AFRITAC;

- In 2013 Risk-based analysis in Customs;
- In 2014 Modernize customs administration;
- In 2014 Risk management for control purpose;
- In 2014 Risk-based management and intelligence;
- In 2015 Risk-based management. 1

In 2016, AFRITAC made assessment of the Cote d'Ivoire customs Risk-based management system and made proposal for further improvements of the CRM and measures to improve tax and customs administration efficiency.

Data warehouse and business intelligence are used as reporting and analysis services. The risk indicators/profiles performances can be check on AW historical data.

The AEO concept is in experimental phase, started 2 nd quarter 2017 with 10 pilot companies.

# Morocco

Number of border crossing points (BCP): 33

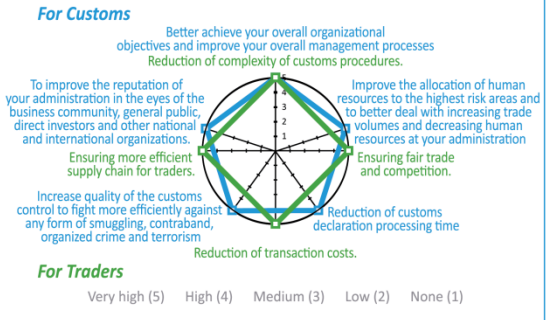
## Administrative Agreements

Morocco Customs Service has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, Port Authorities, Airlines Companies and Courier Services.

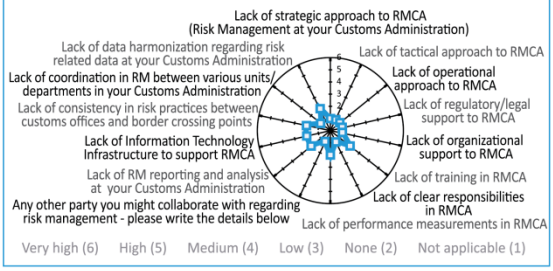
## Risk Management Organization and Management


## Impact and Challenges

Rank of the benefits for the Customs administraton and traders when considering priorites for risk management at your administraton




Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management



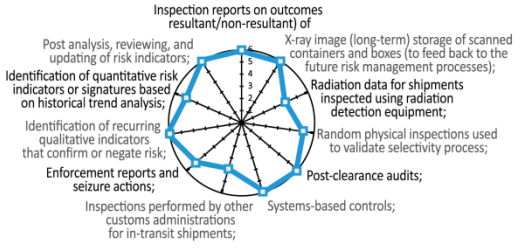

## Legal Aspects of CRM

The Government of Morocco changed the Custom (n° 1-77-339, 1977), adopting the new Customs Code in 2000 (n° 1-00-222) that defines the customs role, procedures, and powers. The Risk Management Department has adopted the CRM Strategy/Policy, Administrative Instruction, Implementing Regulations and SOP in 1998. According to the new Customs Code, it is mandatory for the traders to submit advance cargo information to the Customs Administration. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people. The CRM Department has Centralized organization, and risk management tasks are carried out in a decentralized manner (Customs Regions). The AEO concept was introduced in 2007.

## Equipment and Infrastructure

The MC has adequate tools, equipment and infrastructure for the inspection and examination of goods/means of transport available. Non-intrusive inspection (NII) equipment is available on all BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

The CRM Department was established in 1998. The CDPS "ADIL" (Assistance au Dédouanement des Marchandises à l'Importation en Ligne) is operational since 2008 and is continuously upgraded. In total, 10 customs officers are engaged in CRM. The MC is using Data Warehouse, Business Intelligence for reporting and Data mining for advanced analysis.

## Risk Management Implementation Status

The CRM covers the following CRM stages: collection, applying risk profiles/indicators (selectivity module of ADIL), and feedback from control in the ADIL (a textual description of the irregularities). The responsibilities defined by the CRM Implementing Regulation as follow:

- *Conduct global or sectoral risk analysis;*
- *Manage all aspects related to Selectivity;*
- *Development of passengers control mechanisms;*
- *Develop targeting methodologies for the control of commercial operations and passengers;*
- *Management of data – entry the data in the RM modules for automatic selectivity of controls;*
- *Develop the Operational Action Plan corresponding to the strategic orientations adopted and definition of the objectives;*
- *Design and implement tools and indicators for the management, monitoring and evaluation of the Customs Service's activities.*

MC has an NCP for the WCO RILO, access to the WCOs Central Enforcement Network (CEN) and is using in house developed IT system for management of LE and Intelligence information and data.
The CRM Department is preparing a quarterly report based on data available in ADIL.

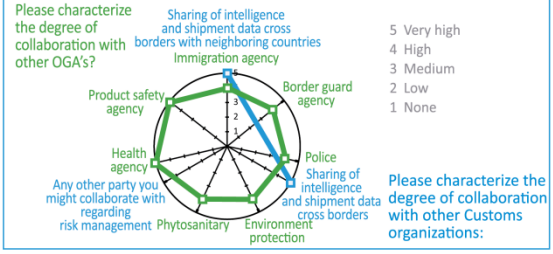
# Nigeria

Number of Border Crossing Points: 109

## Legal Aspects of CRM

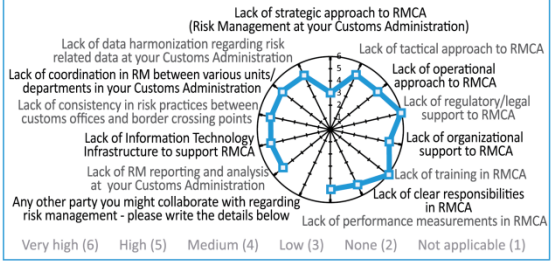
The Law governing the Nigeria Customs Service is contained in the CEMA No 55 from 1958, now cited as Cap C45 of 2004, Laws of the Federation of Nigeria [LFN]. The National Legislation confers power for Customs to detain and seize the goods, seizure of means of transport subject to smuggling and detention of people. The Customs has adopted the CRM Policy, Administrative Instructions and Standard Operational Procedures as statutory instruments related to CRM. The CRM Policy is a part of the NCS Strategy. NCS applies the simplified procedures and AEO concept controlled by post-clearance audit department.

## Risk Management Organization and Management




## Impact and Challenges

Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management



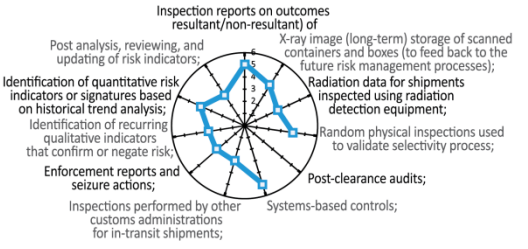

## Administrative Agreements

NCS has concluded administrative agreements/MoU with traders, OGAs, other customs administrations, port authorities, airlines and courier services. According to the legislation, the traders are obliged to submit advance cargo information to the Customs for import, export and transit procedures.

## Equipment and Infrastructure

The NCS has adequate tools and non-intrusive equipment for the inspection and examination of goods/means of transport in the most of the border crossing points.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

NCS was using ASYCUDA ++ from 1999 until October 2017. In October 2017, the NCS has deployed in the seaport of Lagos a virtual single window framework and Integrated Customs Information System.

## Risk Management Implementation Status

The Nigeria Integrated Customs Information System Federal Ministry of Finance m II (NICIS II) to facilitate, secure and enhance the management of trade. The NICIS II is interconnected with Federal Ministry of Finance (FMF), Central Bank of Nigeria (CBN), Nigeria's National Statistical Agency (NBS), National Agency for Food and Drug Administration and Control (NAFDAC), Scanning Service Providers, Terminal Operators, etc. The NICIS II CRM module is covering the profiling and targeting of the customs declarations.
The NCS CRM adopted a centralized CRM structure, the risk management tasks are carried out in a centralized manner. The CRM Department is responsible for targeting, selectivity and managing risks of OGAs.
Prior the implementation of the NICIS II, the 100% of the consignments was physically inspected. Currently, approximately 60 % of the consignments are physically inspected.
NCS is using data warehousing and business intelligence to monitor the CRM performances. The DW and BI allow CRM to test the risk profiles based on historical data. The CRM is producing reports and analysis on the annual and quarterly basis.

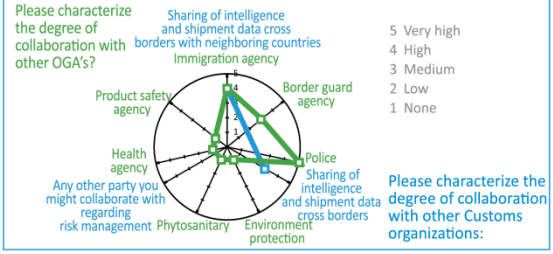
# Palestine

Number of Border Crossing Points (BCP): 7
- Road: 2
- Sea / River: 4
- Air Cargo: 1

## Administrative Agreements

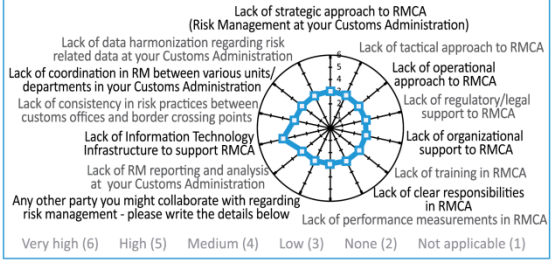
Palestinian Customs has concluded administrative agreements/MoU with traders, OGAs, and other
customs administrations. For export of goods from Palestine, the export customs declaration must be delivered to the Israeli Customs Service at least one day in advance PLO signed preferential trade agreements with both Jordan and Egypt in order to strengthen the Palestinian economy by exercising rights granted under the Paris Protocol. The signed agreements by PLO include the Interim Association Agreements with the EU, EFTA, Turkey, and free trade arrangements with the US and Canada.

## Risk Management Organization and Management

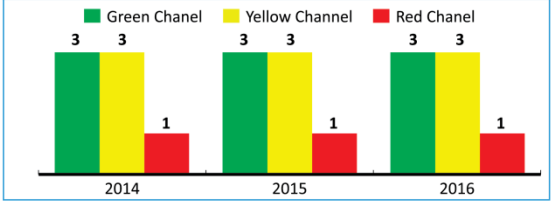



## Impact and Challenges

Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Palestine CRMS efficiency (in %)




## Legal Aspects of CRM

Customs regulations and procedures pertaining to importations into the Palestine and Israel are determined within the framework of Israeli customs laws, international customs agreements, and the Paris Protocol signed between the Government of the State of Israel (GoI) and the P.L.O. (1994). The valuation of commodities for customs purposes is based upon the GATT (1994) agreement whereby the classification of goods is based upon the principles of the "Harmonized Commodity Description and Coding System".
The Paris Protocol outlines the modus operandi of economic cooperation between the Israel and the P.L.O. and authorizes a degree of autonomy for the Palestinian Authority to set customs policies and procedure for imports of certain commodities from Jordan and Egypt. According to the Paris Protocol, the PNA is also entitled to exempt duties and taxes for donations destined to institutions within the PNA (West Bank and Gaza).

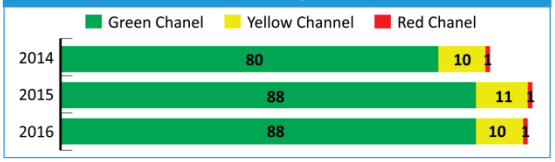
## Customs Declaration Processing System

The UNCTAD and the European Union (EU) provided technical assistance activities to help Palestinian Customs to implement ASYCUDA in July 2001. The project was successful; the ASYCUDA was installed in the customs headquarters in Ramallah, and in five West Bank district offices. The customs declaration must be delivered to the Israeli Customs Service at least one day in advance.

## Risk Management Implementation Status

The Palestinian Customs have established the CRM in 2016 and adopted the CRM policy, part of overall Customs Strategy. CRM policy is oriented more towards: detecting irregularities, preventing noncompliance, trade facilitation and revenue collection. Traders can apply for customs simplify procedures; the AEO concept is not yet implemented. The CRM is applied on tactical level – operationalization and allocation of the resources – human and technical. The responsibilities of the CRM is to analysis of information and customs reports, evaluation and identification of risk, transfer and avoid risk, and monitor and follow the efficiency of the CRM. Currently, 13 customs officers are assigned to the CRM Department. CRM policy on overriding selectivity and/or examination instructions is not yet implemented by Palestinian Customs.
The customs declaration must be delivered to the Israeli Customs Service at least one day in advance.
The customs officer enters the information into the AW. If the information shows the green light - the goods are cleared immediately, the yellow color - the documents need to be verified, while the red color - the goods must be subject to manual inspection - a separate set of indicators for post-clearance controls. Random selectivity for the inspection of consignments is based on targeted selectivity through risk analysis.
The post clearance audit is also applied. After the post clearance audit process, the company is notified of the control of compliance for a period of not less than six months.

## Palestine selectivity rate (in %)



# Jordan

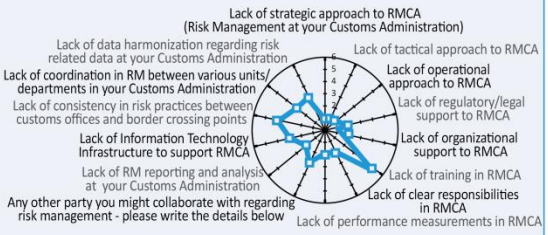
## Legal Aspects of CRM

The Government of Jordan adopted the Customs Law No 20 in 1998 that defines the customs role, procedures and customs powers. The CRM Department has adopted the CRM Policy, Administrative Instruction, Implementing Regulations and Standard Operational Procedure. According to the new Customs Code, it is mandatory for the traders to submit advance cargo information to the Customs Administration. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people.

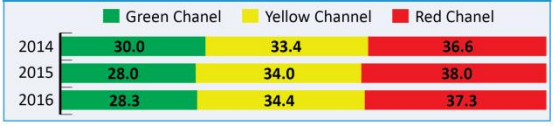
## Risk Management Organization and Management


## Impact and Challenges

Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Jordan selectivity rate (in %)



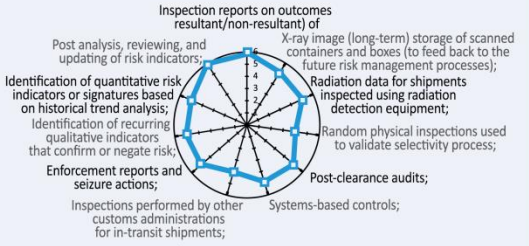

## Administrative Agreements

Jordan Customs has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, Port Authorities, Airlines Companies and Courier Services.

## Equipment and Infrastructure

The Jordan Customs has adequate tools and equipment for the inspection and examination of goods/means of transport. Non-intrusive inspection (NII) equipment is available on every BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

The implementation of ASYCUDA started in 1999. In 2007, the AW was implemented in the Jordan Customs.

## Risk Management Implementation Status

In total, 26 customs officers are engaged in CRM. The CRM covers the following CRM stages: collection, applying risk profiles/indicators and feedback from control. The organization of the CRM is centrally based and the CRM is carried out in a central manner. Before implementation of CRM, the inspection rate was 40%, currently the inspection rate is 34%. The responsibilities defined by the CRM Implementing Regulation as follow:

- Targeting, continuous selectivity;
- Analysis of fraud and control performed by customs officers;
- Management of AEO

JC has an NCP for the WCO RILO, access to the WCOs Central Enforcement Network (CEN) and is using nCEN for management of LE, seizures and Intelligence information and data. The reporting and analysis services are supported by data warehouse and data mining. To assess the performances of the CRM, the JC is producing weekly reports. The current setup allows JC to check the performances of the risk profiles on historical data. Risk assessment is performed on pre-arrival and pre-departure information.

# Suriname

Number of Border Crossing Points: 8

Total volume of import and export by sea in 2016 (gross mass): 1.489.874 tons

Total volume of import and export by air cargo in 2016 (gross mass): 2.139 tons

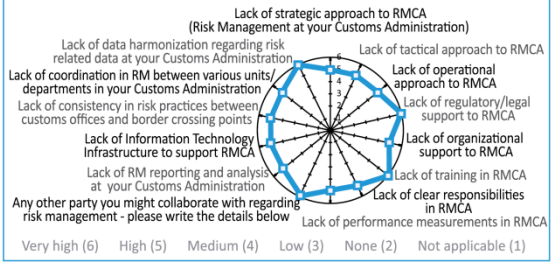
## Legal Aspects of CRM

The Suriname Customs adopted the Customs Act code (WTI) 1996 SB no. 111 in 1995, amended with Customs Act no. 79 in 2004. The CARICOM External tariff (CET) 2007 is corresponding tariff used by the Suriname Customs. The CRM Department is laying down rules to combating smuggling - Act against smuggling SB 1986 no. 3 and amendment no. 54 from 1990. The National Legislation confers power for Customs to detain and seize the goods subject to smuggling. The Customs has adopted the Standard Operational Procedures and CRM vision/policy as statutory instruments related to CRM. According the legislation, the traders are obliged to submit advance cargo information to the Customs. The CRM is applied since the implementation of ASYCUDA World in February 2015; validated declarations according to the Customs procedure are triggered by the selectivity system and channeled (green, yellow, red or blue) and assigned for control.

## Risk Management Organization and Management


## Impact and Challenges

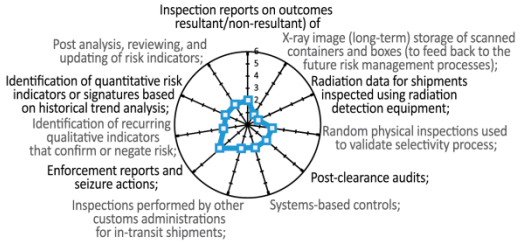
Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Equipment and Infrastructure

The Surinam Customs do not have adequate tools and equipment for the inspection and examination of goods/means of transport apart of scanner for luggage and small parcels available at the J.A.P. International Airport in Zanderij.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

ASYCUDA World becomes operational in 2014. The AW CRM module is covering the profiling and targeting of the customs declarations

## Risk Management Implementation Status

The CRM Department was established in 2014 with implementation of ASYCUDA World in 2014. The CRM is covering the collection, applying of risk profiles and targeting elements of the CRM. The random selectivity for the inspection of consignments is applied in combination with targeted selectivity through risk analysis.

In 2014, the 50% of the shipments to Suriname was physically examined. Currently, the customs management applied a 100% physical examination policy on sea container cargo at the main seaport "Dr. Jules Sedney Port in Paramaribo. Due to a lack of capacity, the post clearance audit is currently kept on hold. Currently, the CRM department is unstaffed due to the organizational issues.

Total number of Customs Declaration accepted

# Indonesia

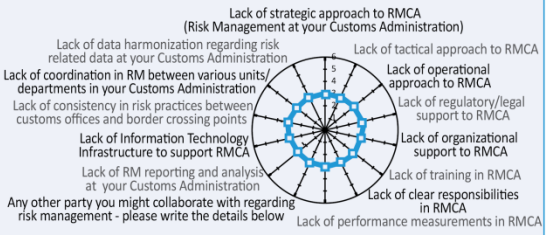
## Legal Aspects of CRM

The Law governing the Indonesian Customs is contained in the Customs Code of the Republic Of Indonesia No. 17/2006 concerning Amendment of Customs Laws No. 10/1995. The National Legislation confers power for Customs to detain and seize the goods and seizure of means of transport subject to smuggling and detention of people. The Customs has adopted the CRM Policy, Administrative Instructions and Standard Operational Procedures as statutory instruments related to CRM. The CRM Policy is a part of the overall Customs Strategy.

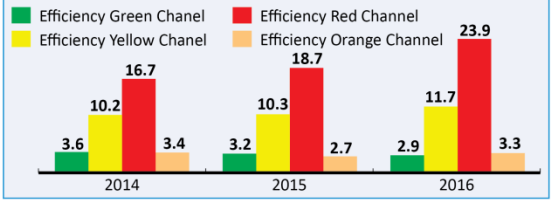
## Risk Management Organization and Management


## Impact and Challenges

Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Indonesia CRMS efficiency (in %)



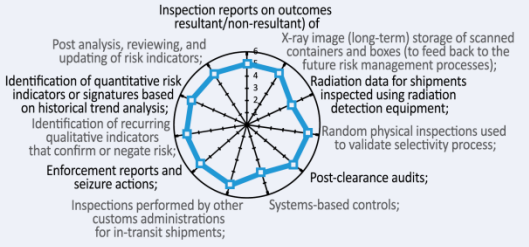

## Administrative Agreements

Indonesian Customs (IC) has concluded administrative agreements/MoU with OGAs, other customs administrations, airlines companies, courier services and port authorities. According to the legislation, the traders are obliged to submit advance cargo information to the Customs for import, export and transit procedures.

## Equipment and Infrastructure

The IC has adequate infrastructure, tools and equipment for the inspection and examination of goods/means of transport. The non-intrusive equipment for the inspection and examination of goods/means of transport is available on the most of the border crossing points.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches



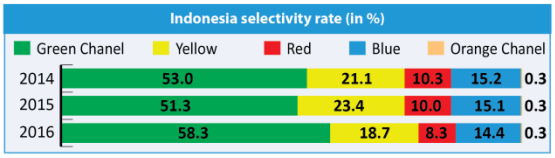

## Customs Declaration Processing System

The CDPS project began in 1996. The latest upgrade of the IC CDPS was performed in 2017. The CDPS is supporting the CRM in profiling, selectivity/targeting and feedback from controls.

## Risk Management Implementation Status

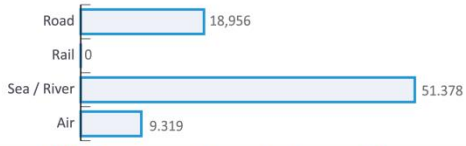
Risk management has been used by IC since 1996. The Risk Analysis Department is responsible for implementation of the CRM; the development and management of risks; collection, evaluation/analysis; applying risk profiles/indicators import pre-arrival clearance and processing of information and intelligence within the IC. As well, the IC CRM is performing research, providing technical assistance, evaluate, and implement risk management in customs and excise. It includes collecting data, risk determination process, and risk identification. The IC CRM is based on Centralized organization, and risk management tasks are carried out in a decentralized manner. In total, 9 customs officers are assigned to the CRM Department. The post-clearance controls are risk based and based on priority level: investigative, regular, and specific. IC CRM is planning to implement data mining for advances CRM in 2018. The LE Department is using CEN and nCen for managing the LE data.

## Indonesia selectivity rate (in %)



# Togo

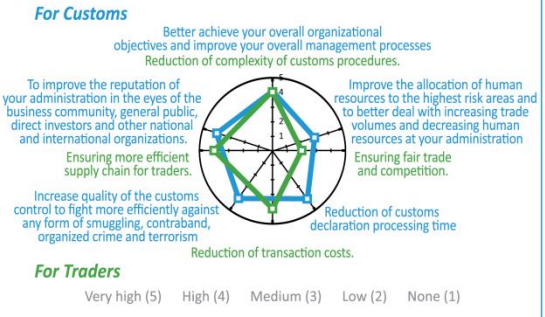
Number of border crossing points (BCP): 8
Number of Customs Declaration processed in 2016:



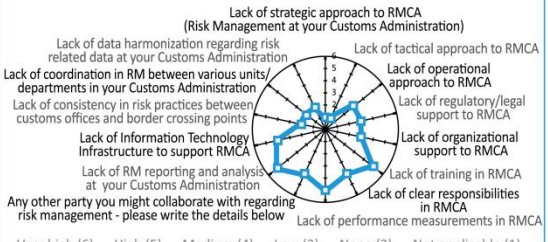

## Risk Management Organization and Management


## Impact and Challenges

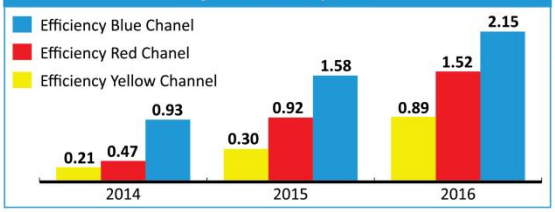
Rank of the benefits for the Customs administraton and traders when considering priorites for risk management at your administraton




Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Togo CRMS efficiency (in %)



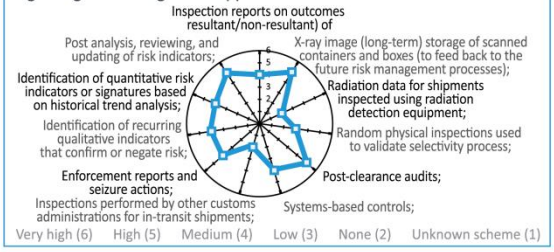

## Legal Aspects of CRM

The Government of Togolese Republic changed the Customs Code (Loi N ° 66-22 1966), adopting the new Customs Code in 2014 (Loi N ° 2014 - 003) that defines the customs role and powers. The CRM Department has adopted the Administrative Instruction, Implementing Regulations and SOP in 2015. According to the new Customs Code, it is mandatory for the traders to submit advance cargo information to the Customs Administration. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people.

## Equipment and Infrastructure

The TC doesn't have adequate tools and equipment for the inspection and examination of goods/means of transport available. Non-intrusive inspection (NII) equipment is available on few BCP's (mainly on the BCP's with Benin and Burkina Faso).

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Administrative Agreements

Togolese Customs Service has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, Port Authorities, Airlines Companies and Courier Services.

## Customs Declaration Processing System

The CRM Department was established in 2012 when the ASY++, upgraded to AW (operational since 2014). In total, 7 customs officers are engaged in CRM.

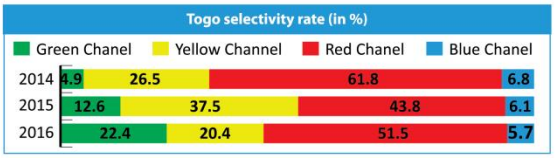
## Risk Management Implementation Status

The CRM covers the following CRM stages: collection, applying risk profiles/indicators (selectivity module of AW), and feedback from control in the AW ( a textual description of the irregularities). The responsibilities defined by the CRM Implementing Regulation as follow:

- *Collect, process, analyze and disseminate the information;;*
- *Plan, coordinate and supervise the intelligence activity;*
- *Analyze the risks of fraud and guide controls more effectively;*
- *Analyze and update the selectivity criteria;*
- *Ensure permanent contact with the Regional Liaison and Intelligence Bureau (BRLR) and analysis of data from CEN and nCEN;*
- *To collect the information on the seizures, their modus operandi, as well as statistics of the results obtained.*

TC has an NCP for the WCO RILO, access to the WCOs Central Enforcement Network (CEN) and is using nCEN for management of LE and Intelligence information and data.
The CRM Department is preparing an annual report based on data available in AW. TC is neither using nor DW/BI nor data mining due to lack of funding and IT support.
The CRM is focused to post-clearance control, before 2012, 59% of the CD was subject to control, currently 42% (1st half of 2017).

## Togo selectivity rate (in %)



# Bangladesh

Bangladesh Customs is operating on 114 BCPs. The annual basis on volume of transportation in 2016 was 273,800 Trucks, 3.112 TEUS - twenty-foot equivalent unit container (rail) and 2.357.502 TEUS by sea/ river. In total, 3.072.109 Customs Declaration was processed in 2016.

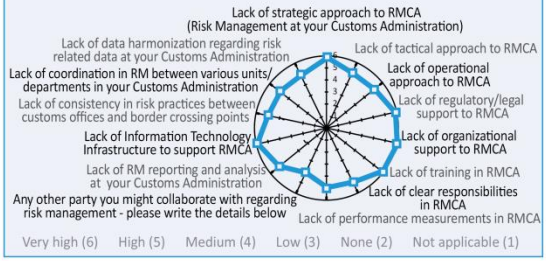
## Legal Aspects of CRM

The Government of Bangladesh changed the Customs Code - at the beginning of 2014 (previous ACT No. IV - 1969), that defines the customs role, procedures and customs powers. The CRM Department has adopted the CRM Policy and Implementing Regulation. According to the new Customs Code, it is planned for the traders to submit advance cargo information to the National Board of Revenue- Bangladesh Customs. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people. The main objectives of the CRM Department is to assist the legitimate trade, prevent smuggling import of banned products, and prevention of importation of dangerous products.

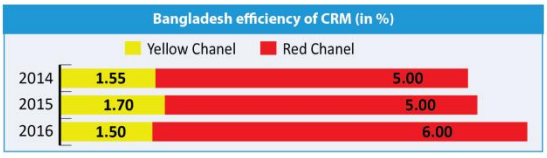
## Risk Management Organization and Management


## Impact and Challenges

Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Bangladesh efficiency of CRM (in %)



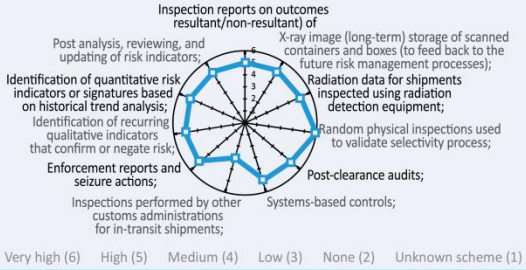

## Administrative Agreements

Bangladesh Customs has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, regional/international organizations, port Authorities, airlines companies and courier services.

## Equipment and Infrastructure

The Bangladesh Customs (BC) has adequate tools and equipment for the inspection and examination of goods/means of transport available. Non-intrusive inspection (NII) equipment is available on few BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Customs Declaration Processing System

BC had the first implementation of ASY++ in 1991. BC is currently using ASYCUDA World, the major upgrade was in 2015.

## Risk Management Implementation Status

The CRM Department was established in 2000. The CRM is organized in centralized organizational structure, and risk management tasks are carried out in a centralized manner. There is a 10 customs officers are engaged in CRM in each customs office. The BC has authority to exchange risk indicators / information / intelligence with national law enforcement agencies, other customs services/administrations and with regional / international organizations. BC is using CEN and nCEN for intelligence purpose. The random selectivity is applied in combination with targeted selectivity through risk analysis.

The CRM covers the following CRM stages: evaluation / analysis, applying risk profiles / indicators, and feedback from controls (paper based). AW is covering the following CRM processes: identify risks, analyze risks, assess and prioritize risks, and address risks.

## Bangladesh selectivity rate (in %)

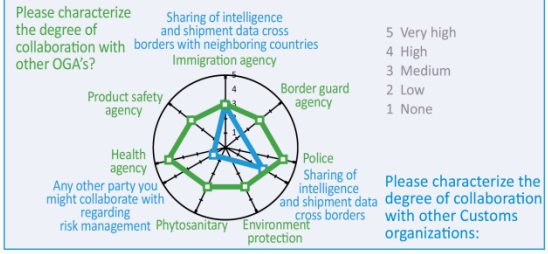
# Malaysia

Royal Malaysian Customs Department is operating on 114 BCPs.

## Legal Aspects of CRM

The Royal Malaysian Customs Department CRM Department has adopted the following statutory instruments: CRM Policy, Administrative Instruction, Standard Operational Procedures, and Implementing Regulation. According to the new Customs Code, it is planned for the traders to submit advance cargo information to the Customs. The Implementing Regulations defines the customs powers related to detention/seizure of goods, means of transport and people. Malaysia will be implement mandatory submission of advance cargo information after launch new customs declarations system "uCustoms" and in the process of amended Customs Act from 1967. However, administratively, Malaysian Customs is practicing temporary the submission of the advance cargo information

## Risk Management Organization and Management




## Customs Declaration Processing System

RMCD is currently using Sistem Maklumat Kastam (SMK) CDPS, the major upgrade to the new CDPS - uCustoms was in 2018. With the implementation of the uCustoms, it is expected to decrease the percentage of physical inspection for 5%.

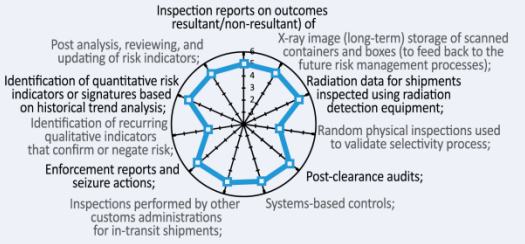
## Administrative Agreements

RMCD has signed the administrative agreements and MoU for cooperation (including the exchange of data and information) with the Trader association, OGAs, regional/international organizations, port Authorities, airlines companies and courier services. The AEO concept was implemented in 2011; currently there are 59 AEO operators.

## Equipment and Infrastructure

The Royal Malaysian Customs Department (RMCD) has adequate tools and equipment for the inspection and examination of goods/means of transport available. Non-intrusive inspection (NII) equipment is available on all BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches

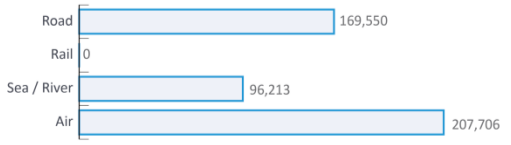



## Risk Management Implementation Status

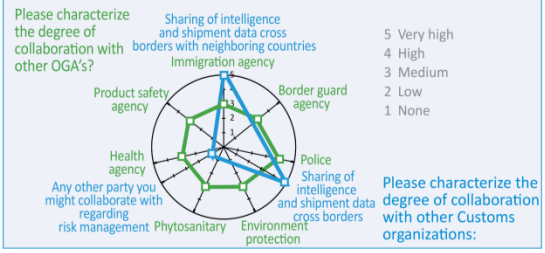
The CRM Department was established in 2007. The RMCD Customs risk management strategy oriented towards detecting and preventing noncompliance, trade facilitation, revenue collection, and safety, security and environmental protection. The CRM is currently applying the risk management on strategic, tactical, and operational levels.
The CRM is organized in centralized organizational structure, and risk management tasks are carried out in a centralized manner. The RMCD has authority to exchange risk indicators / information / intelligence with national law enforcement agencies, other customs services/administrations and with regional / international organizations. RMCD is using CEN and nCEN for intelligence purpose. The random selectivity is applied in combination with targeted selectivity through risk analysis.
The CRM covers the following CRM stages: collection, evaluation / analysis, applying risk profiles / indicators, and feedback from controls (paper based). The CDPS is covering the following CRM processes: identify risks, analyze risks, assess and prioritize risks, and address risks.

# Bahrain

Number of border crossing points (BCP): 13
Number of Customs Declaration processed in 2016:

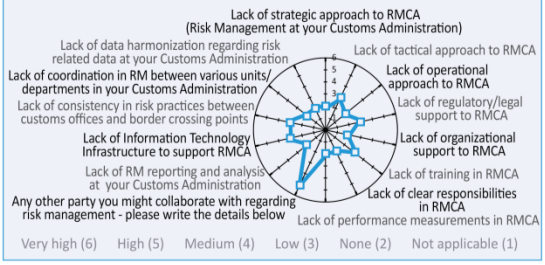



## Risk Management Organization and Management




## Impact and Challenges

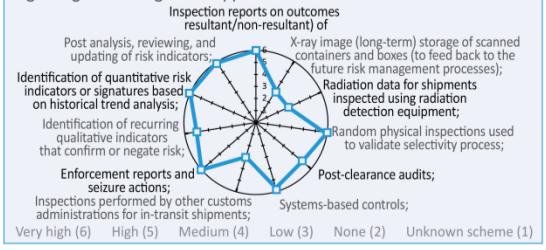
Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Equipment and Infrastructure

Non-intrusive inspection (NII) equipment is available in some areas/BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Legal Aspects of CRM

The Bahrain Customs (BC) has adopted the following statutory instruments: CRM Policy, Administrative Instruction, Standard Operational Procedures, and Implementing Regulation. BC short term plan is to enforce for the traders to submit advance cargo information to the Customs. The National Legislation confers power to Customs related to detention/seizure of goods, means of transport and people.

## Administrative Agreements

The agreements and memorandums of understanding are subject to supervisory bodies such as the Ministry of Foreign Affairs. The following MoU's are in force: trade / business community, other government agencies, other customs administrations, regional/international organizations, port authorities, airlines companies, and courier services.
The AEO concept was implemented in 2017 for import, export and transit procedures.

## Equipment and Infrastructure

The BC has adequate tools and equipment for the inspection and examination of goods/means of transport available including K9 teams. Non-intrusive inspection (NII) equipment is available on all BCP's.

## Customs Declaration Processing System

BC OFOQ (meaning Horizon in Arabic) is implemented in 2012 with continuous and ongoing updates. The BC CDPS is highly secure, electronic trade facilitation system of Bahrain Customs which provides the trading community and regulatory authorities a compliant environment.

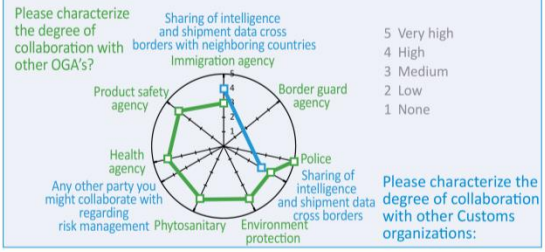
## Risk Management Implementation Status

The CRM Department was established in 2013, currently staffed with 11 customs officers. The BC Customs risk management strategy oriented towards detecting and preventing noncompliance, trade facilitation, revenue collection, and safety, security and environmental protection. The CRM is currently applying the risk management on strategic, tactical, and operational levels.
The CRM is organized in centralized organizational structure, and risk management tasks are carried out in a centralized manner. The responsibilities of the BC CRM are control and determine risk levels, control over the cross-border movement of goods and people, facilitation of customs procedures by measuring compliance, and post audit (as an separate section). The BC is cooperating with other customs departments by providing risk management with the required data.
BC is using CEN and nCEN for intelligence purpose. The random selectivity is applied in combination with targeted selectivity through risk analysis.
The CRM covers the following CRM stages: collection, evaluation / analysis, applying risk profiles / indicators, and feedback from controls (paper based). The CDPS is covering the following CRM processes: identify risks, analyze risks, assess and prioritize risks, and address risks.
The percentage of physical inspection at seaport & causeway was more than 20% red, currently less than 14%. At the Bahrain International airport, the physical inspection before implementation of CRM was 100%, currently is less than 20%.

# Oman

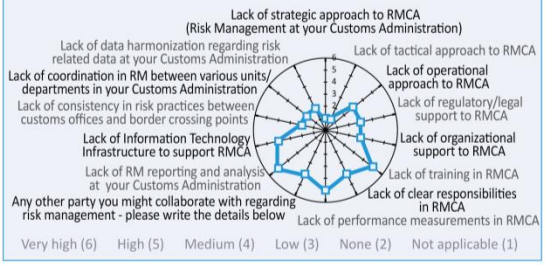
Number of border crossing points (BCP): 26

## Risk Management Organization and Management




## Impact and Challenges

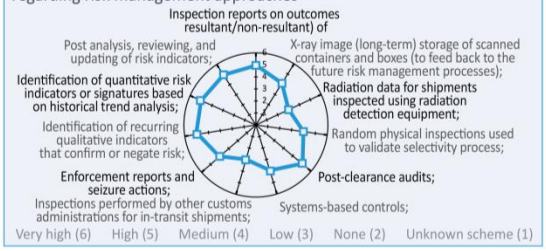
Rank of the main obstacles, barriers, and botlenecks that may hinder the further developments of risk management




## Equipment and Infrastructure

Non-intrusive inspection (NII) equipment is available in some areas/BCP's.

Rank of the relevance of various inspecton tools and techniques regarding risk management approaches




## Legal Aspects of CRM

The D.G of Customs/Royal Oman Police (OC) has adopted the Administrative Instruction and Standard Operational Procedures statutory instruments. BC short term plan is to enforce for the traders to submit advance cargo information to the Customs. The National Legislation confers power to Customs related to detention/seizure of goods, means of transport and people.

## Administrative Agreements

The agreements and memorandums of understanding are subject to supervisory bodies such as the Ministry of Foreign Affairs. The following MoU's are in force: trade / business community, other government agencies, other customs administrations, regional/international organizations, port authorities, airlines companies, and courier services.
The AEO concept was implemented in 2017.

## Equipment and Infrastructure

Non-intrusive inspection (NII) equipment is available in some areas/BCP's.

## Customs Declaration Processing System

Oman Customs CDPS is implemented in 2018, with continuous and ongoing updates. The OC CDPS is part of the eCustoms system including the single window and port community system

## Risk Management Implementation Status

The CRM Department was established in July 2016, currently staffed with 20+ customs officers. The BC Customs risk management strategy oriented towards detecting and preventing noncompliance, trade facilitation, revenue collection, and safety, security and environmental protection. The roles of OC is to analyses previous imports, detections, intelligence regional and local and create and update, activate and de-activate risk profiles based on current risk to the borders (import, export, transit and transshipment to the Sultanate of Oman; monitor all current risk profiles and re-assess lane control (green, yellow, red) if necessary; collect feedback from inspectors as an iterative part of the process for maintaining/ activating/de-activating risk profiles; and provide reports to senior management and intelligence section regarding risk profile 'hit's per declaration and manifest.
The CRM is currently applying the risk management on the operational level as centralized organizational structure, and risk management tasks are carried out in a centralized manner. The responsibilities of the OC CRM are control and determine risk levels, control over the cross-border movement of goods and people, facilitation of customs procedures by measuring compliance, and post audit (as an separate section). The OC is cooperating with other customs departments by providing risk management with the required data.
OC is using CEN and nCEN for intelligence purpose. The random selectivity is applied in combination with targeted selectivity through risk analysis.
The CRM covers the following CRM stages: collection, evaluation / analysis, applying risk profiles / indicators, and feedback from controls (IT system that support the entry of feedback from controls). The CDPS is covering the following CRM processes: identify risks, analyze risks, assess and prioritize risks, and address risks. The percentage of physical inspection was 100%, generally reduced to 35%.
OC PCA is limited to analysis/review of some previous declarations. Plans to include full audit of traders are in place, for implementation 2018/19.

# Afghanistan

The Afghanistan Customs Department (ACD) is the key revenue collection agency for the Government of the Islamic Republic of Afghanistan (GIRoA). The ACD started the implementation of ASY++ in 2011; the Roll out of AW was in June 2015. The RM Department of ACD was established in 2010 as a part of Intelligence Department.
The ACD establish a Tactical Risk Management Committee named the ACD National Risk Management Committee (NRMC). The ACD's NRMC key obligations are:
The Committee shall undertake the following tasks in fulfilment of its mandate:

- *Receive risk profile recommendation reports submitted by ACD Section Heads, and Senior ACD Management;*
- *Review the perceived risk posed to Customs of infringements against Custom law, and from a managerial viewpoint, make a balanced assessment to the identified risk taking into account administrative, logistical, financial, human resource and other constraints;*
- *Prioritise that risk as either acceptable or unacceptable to the ACD under its functional charter;*
- *Authorise an appropriate Customs compliance or enforcement response;*
- *Authorise input of risk profiles to the ASYCUDA automated customs processing system;*
- *Monitor risk profile performance reports;*
- *Authorise the amendment, extension and cancellation of risk profiles;*
- *Report operational risk profiling results to the Director General of Customs in a timely manner;*
- *Ensure that Risk management Committee decisions are implemented and adhered to throughout the ACD;*
- *Facilitate international trade;*
- *Protect industry and society.*

In doing so, the ACD strives to offer client service in a professional, transparent, effective and efficient manner to all its stakeholders.
The principles of risk management should be integrated into all areas of ACD responsibility, and by the 5 Year Strategic Plan, associated yearly work plans and any other strategic priorities identified by GIRoA.
The ACD recognizes that it needs to adopt a more systematic approach to determining which transactions present a greater risk to any of the Customs objectives and concentrate its control efforts and resources on these. The ACD is managing the CRM continuously using a step-by-step process involving the identification, analysis and evaluation, treatment, monitoring and review of CRM.
All ACD business processes, Operational Activities, and functions are adopting the Risk Management consistent with ACD Policy and Risk Management Procedures.
Risk is identified, assessed and managed by all ACD employees, through supervisors and managers, appropriate to the level, and impact, of the risk.
International donors assist the ACD and support the infrastructure for joint Customs Clearance station between Afghanistan and Iran. ACD is planning to start to exchange the customs data with neighboring countries (Tajikistan and Uzbekistan). ACD is currently exchanging the customs data with Pakistani Customs under APTTA (Afghanistan – Pakistan Trade & Transit Agreement). Due to the limitation of AW, ACD cannot include the pre-arrival data exchanged with Pakistan in CRM. The data is used for customs clearance, to compare the data exchanged and the documents presented by the trades.
Training and capacity building in risk management will become one of the key elements in implementing this policy. To this effect, the ACD may request assistance from International donors working with the ACD. Where necessary, this may include the ACD identifying and securing additional donor cooperation or assistance.

# Algeria

The Algerian Customs developed the Automated Customs Management System (SIGAD) in April 1986, operational only in the port of Algiers. Since 1986, the SIGAD had three major upgrades, in 2007 and latest in 2016. This system currently covers 98% of the customs offices and ports allowing centralized processing of the CD.
Customs Code was promulgated in 1979; the revision of the Customs Code was announced in 2002, between the emergencies of the past and the demands for modernization. The revision of the Customs Code number 15 from 2015, emphasizes that the Customs must put considerable effort for modernization such as web-based platform, electronic payment, and CRM.
In 2010, with Inter-ministerial Decision, the Algerian customs had implemented the CRM concept. The CRM scope remains limited, the percentage of checks on the red channel remains very high (80% of international trade). In April 2017, the Algerian Customs Code has been revised and strengthened, by introducing new concepts in the ethics of the Customs staff, inspired by the Arusha Declaration and the revised Kyoto Protocol in its relevant provisions adopted under the WCO.
The European Commission is funding a twinning project "Support for the General Directorate of Algerian Customs for the Establishment of a Risk Management Center," expected to start by the end of 2017. As for the specific objective, the aim is to increase the performance of the General Directorate of Customs (DGD) by improving risk management through the creation of a risk center and a quality service (including more rigorous delays) to users of customs services. The maximum duration of the project is 24 months. The expected results are:

- Setting up a Centre for Risk Management to process and improve the data of the SIGAD database by including in it the results of preliminary, immediate and post-clearance controls, as well as the ensuing legal effects;
- Accelerating the customs clearance procedure by setting up distinct control channels for each identified risk, accompanied by measures for facilitation and simplification;
- Providing training on risk management.

The general objective is to support the Algerian administration in its efforts to modernize public developing a management policy to improve customs control through appropriate management of risks, including those related to counterfeiting.

# Brunei Darussalam

Brunei Royal Customs and Excise Department (RECD) started the implementation of the E-Customs in 2006. The E-Customs system (RECD CDPS and Brunei Darussalam's National Single Window (BDNSW) becomes operational in 2013, allowing traders to submit the customs declaration, requests for permits and certificates and submit the manifest information electronically. Still, the traders must submit the invoice, AWB, and other agencies approval permits in the paper. Short term plan is to link the OGAs permits and certificates to the CD. The RECD is still developing the Customs Strategy that will include the ASEAN legal provision. RECD is performing он regular base the time release studies and based on the results the RECD determines the Customs strategic objectives and goals.
In 2006, RM Ad Hoc Committee was set up to study legal aspects and requirements for CRM techniques. The RECD RM Committee was established in 2011, finalizing the CRM policies and procedures. The CRM policies/procedures are monitoring/ensuring that risk information (e.g., RP and customs control instructions) are used in the CDPS.
Up to date, all consignments within the frame of 10 – 25 % are subject to customs examination as a result from the CRM. Another 10 % are subject to random inspection.
The BDNSW is using the same risk management approach. The OGAs are actively participating in the CRM, providing the risk indicators to the RECD and BDNSW.
The AEO programme is not implemented in Brunei Darussalam.
Brunei Darussalam is participating in the ASW project; short-term plans are to harmonizing the ASEAN customs procedures and implement the ASEAN customs declaration document (ACDD), the CoO and SPS certificates

# Burkina Faso

The first implementation of the ASY 1.18 system started 1990. In 2001, the Customs administration requested UNCTAD for a technical assistance project for the migration of the system to ASYCUDA++. In August 2003 ASY ++ became operational.
Declarations processed annually Import 32.300, No of trained ASYCUDA users in country 700
In 2003, the BF Customs established and CRM Committee, the CRM policy is integrated into the ASY++ by the IT Department. The Customs LE (Investigation Unit) is fully responsible for defining the selectivity criteria.
The RM selectivity integrated into the ASY++ is subjective and no dynamic (comparing the elements of the declaration with values defined in advance). Apart of selectivity, the CRM processes are manual, paper-based (feedback, offenses, and irregularities).
The boundaries of the CRM system are:

- Static RM profiles and criteria;
- Subjective nature of the RM criteria (by customs officers, without any analysis or defined processes);
- No periodic updating or analysis;
- Criteria are quickly shared with the operators and consequently easy to evade;

AFRITAC has provided two assistance missions related to CRM in 2010 and 2011. Two decision-making structure in BF Customs is established -Supervision and Orientation Unit (CSO) and Operational Technical Committee (CTO). The main objectives of the two bodies are to define the model of the information systems optimized to support the customs procedures and risk management, to draft the CRM strategy and policy.
IMF through the AFRITAC2 West will provide Technical Assistance to BF Customs CRM to set up a dynamic RM criteria, IT system for risk analysis and a database on customs fraud and selectivity of customs controls and interface with the risk analysis software with ASYCUDA ++.

# Chad

Customs Administration in Chad is using the ASY++ version 1.15 (one of the oldest version of ASY) since 1999. Although Chad was the first country in Africa to implement ASYCUDA++, there are severe concerns regarding the system is not operational in the Chad Customs Administration.
The latest version of ASY++ has been installed in the offices reported above. An ASYCUDA platform composed of three domains has been created in N'Djamena and operates as national support and training center.
Declarations processed Import22,000/13,000Export annually. There is a 50 trained ASY users in the Chad Customs.
ASY++ is implemented in a decentralized technical architecture in:

- Customs headquarters in N'Djamena;
- N'Djamena airport;
- N'Djamena refinery;
- Military base, Adji Kossei, and Post;

Chad Customs requested the Grant from World Bank for Value Chain Support Project (IDA/R2014-0157). The main objective of this sub-component is to:

- Technical assistance to formulate key reforms in administrative procedures and practices relating to trade;
- Capacity building and specific training of customs officers and inspectors in areas such as customs valuation, rules of origin, risk management, and post-clearance audits;
- Acquisition of modern equipment for customs administration in a dedicated warehouse, with the improvement of connectivity to the clearance system (ASYCUDA) by acquiring (amongst other things) broad band Internet equipment and services.

This need is particularly critical at N'Gueli, the main customs clearing office where 80 percent of total customs duties is collected. The implementation of these reforms and activities will prepare the country for implementing the One-Stop Shop (Single Window) for trade that the investment promotion agency (ANIE) is willing to set up in the near future .
As an output of the project, it is expected 180 customs officers and inspectors to be trained in areas of customs valuation, rules of origin, risk management, and post-clearance audits by September 2019.

# Comoros

Customs Administration in Comoros is using the ASY++ version 1.18e in a decentralized technical architecture. Declarations processed annually Import procedure 10000, Export 20.000; No of trained ASY users in country 200.
IMF Regional Technical Assistance Center for Southern Africa is developing the strategy for 2017 to increase the capacity of the Comoros Revenue administration - Tax and Customs:

- Improvement in customs controls through compliance risk management (RM) framework;
- Trade facilitation and service initiatives to support voluntary compliance;
- Post-clearance audit and anti-smuggling programs.

# Djibouti

AW is being implemented throughout the country. All import, export and transit procedures are processed through the system. The Djibouti Customs has not yet established and implemented the CRM.
In April 2017, IMF released the Country Report recommending the customs commissioner to enable customs officers to focus on inspection work; expedite customs clearance procedures by introducing a risk analysis system and adopt a code of ethics for customs personnel and an inspection charter. An absolute priority should be given to strengthening customs valuation, introducing risk analysis, and improving dispute mechanisms.

# Guinea Bissau

ASYCUDA ++, Decentralized technical architecture
Declarations processed annually Import 8.00; Export 2,000 customs declaration; there is a 21 trained ASYCUDA users.
ASYCUDA is currently implemented:

- Customs Headquarters in Bissau;
- Customs offices of the Bissau Port;
- Bissau Airport;
- Gabu;
- Bafata;

An ongoing project "Trade Facilitation Project and the Security of Borders Better Risk Management", aims to modernize the customs administration in its organization and its mode of operation, with the following objectives:

- Improvement of the business climate and the reduction of corruption;
- Security of customs revenues;
- Facilitation of procedures strengthening the fight against fraud.

It covers a five-year period the project is providing a clear vision consistent with the expected results and objectives considered. It covers several areas, including communication, simplification of procedures, trade facilitation, circulation and strengthening of customs-customs and private sector partnerships customs.
The general objective is defined in specific objectives as follows:

- Development of a risk management policy;
- Capacity-building to combat fraud through connection to the CEN network and the establishment of a nCEN database;
- Definition of a procedure for the control of movements of goods means of transport and persons, based on selection criteria and training seminars on the WCO SAFE module organized;

- Implement the selectivity function ASY++;
- Enforce intelligence and customs investigations;
- Reduction of customs clearance costs by removing non-tariff barriers;
- Reduced customs clearance times for goods;
- Digitalization of the whole chain of customs clearance.

Starting of the project is planned at the beginning of 2018 (previously planned for July 2017); end of project mid-2019.

### 7.2.2 OIC MS responses on CRM Survey

The following chapter presets the OIC MS responses on CRM Survey;

*7.2.2.1 General Information*

**1. Number of Border Crossing Points (BCP)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 7 | 1 | 6.25 | 9.1 | 9.1 |
| | 8 | 1 | 6.25 | 9.1 | 18.2 |
| | 13 | 1 | 6.25 | 9.1 | 27.3 |
| | 15 | 1 | 6.25 | 9.1 | 36.4 |
| | 26 | 1 | 6.25 | 9.1 | 45.3 |
| | 33 | 1 | 6.25 | 9.1 | 53.2 |
| | 65 | 1 | 6.25 | 9.1 | 62.1 |
| | 82 | 1 | 6.25 | 9.1 | 71.0 |
| | 109 | 1 | 6.25 | 9.1 | 80.1 |
| | 114 | 1 | 6.25 | 9.1 | 89.2 |
| | 156 | 1 | 6.25 | 9.1 | 100.0 |
| | Total | 11 | 68.75 | 100.0 | |
| Missing | System | 5 | 31.25 | | |
| Total | | 16 | 100.0 | | |

*7.2.2.2 Legal aspects and strategic approach*

**3. Did you adopt the following statutory instruments related to Customs Risk Management (including Customs Code)**

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| CRM Policy | 10 | 22.2% | 62.5% |
| Administrative Instruction | 14 | 31.1% | 87.5% |
| Implementing regulations | 9 | 20.1% | 56.2% |
| Standard Operational Procedures | 12 | 26.6% | 75.0% |
| Total | 45 | 100.0% | |

**4. Does National Legislation confer power to Customs in regard to:**

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Detention and seizure of goods | 14 | 35.9% | 87.5% |
| Detention and seizure means of transport | 13 | 33.3% | 81.2% |
| Detention of people | 12 | 30.8% | 75.0% |
| | 39 | 100.0% | |

**5. Does the Customs Service have authority to conclude administrative agreements / Memorandum of Understanding (MoU) with:**

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Trade / business community | 13 | 14.8% | 81.2% |
| Other government agencies | 14 | 15.9% | 87.5% |
| Other Customs administrations | 14 | 15.9% | 87.5% |
| Regional/international organizations | 10 | 11.4% | 62.5% |

| | | | |
|---|---|---|---|
| Port Authorities | 13 | 14.8% | 81.2% |
| Airlines Companies | 12 | 13.6% | 75.0% |
| Courier Services | 12 | 13.6% | 75.0% |
| | 88 | 100.0% | |

## 6. Is it mandatory to submit advance cargo information to the Customs Administration

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Yes (Export) | 10 | 27.9% | 62.5% |
| Yes (Import) | 10 | 27.9% | 62.5% |
| Yes (Transit) | 9 | 25.0% | 56.2% |
| No | 1 | 2.8% | 6.2% |
| No (but planned) | 4 | 11.4% | 25.0% |
| | 36 | 100.0% | |

## 7. Have you adopted the CRM vision and/or policy?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 14 | 87.5 | 87.5 | 87.5 |
| No | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

## 8. Is CRM part of the overall Customs Strategy? (select one option)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 14 | 100.0 | 100.0 | 100.0 |
| No | 0 | 0 | 0 | 100 |
| Total | 16 | 100.0 | 100.0 | |

## 9. Is the Customs risk management strategy oriented more towards

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Detecting | 15 | 20.5% | 93.7% |
| Preventing noncompliance | 15 | 20.5% | 93.7% |
| Trade Facilitation | 15 | 20.5% | 93.7% |
| Revenue Collection | 15 | 20.5% | 93.7% |
| Safety, Security and Environmental Protection | 13 | 18.0% | 81.2% |
| | 73 | 100.0% | |

## 10. Does the risk management strategy include simplifying procedures?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 16 | 100.0 | 100.0 | 100.0 |
| No | 0 | 0 | 0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

## 11. Do you apply risk analysis on AEO – Authorized Economic Operator model?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 4 | 25.0 | 26.7 | 26.7 |
| Planned | 1 | 6.2 | 6.7 | 32.4 |

| | | | | |
|---|---|---|---|---|
| Yes | 10 | 62.8 | 66.6 | 100.0 |
| Total Valid | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

**12. Is your Administration applying post clearance audit (à posteriori)?**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Planned | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 87.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

### *7.2.2.3 Risk Management Implementation Status*

**13. Does the administration use risk management for the inspection of consignments?**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 16 | 100.0 | 100.0 | 100.0 |
| No | 0 | 0 | 0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

**14. At what level do you currently apply the risk management approach:**

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Strategic | 12 | 33.3% | 75.0% |
| Tactical | 10 | 27.8% | 62.5% |
| Operational | 14 | 38.9% | 87.5% |
| | 36 | 100.0% | |

**15. Does the administration use a random selectivity for the inspection of consignments?**

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Yes | 2 | 11.1% | 12.5% |
| Yes in combination with Risk Analysis | 16 | 88.9% | 100.0% |
| Total | 18 | 100.0% | 114.3% |

### *7.2.2.4 Organization and Management*

17. Which organizational structure for CRM have you adopted at your administration?

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| Centralized organization, and risk management tasks are carried out in a centralized manner | 10 | 62.5 | 62.5 |
| Centralized organization, and risk management tasks are carried out in a decentralized manner | 5 | 31.2 | 93.7 |
| De-centralized organization, and risk management tasks are carried out in a decentralized manner | 1 | 6.3 | 100.0 |
| No formal organization yet | 0 | 0.0 | 100.0 |
| No structure at all | 0 | 0.0 | 100.0 |
| Total | 16 | 100.0 | |

| 19. Does your administration have a strategic management or board-level responsible person(s) to look after the overall risk management portfolio? | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| No, there is no main responsible person for risk management nominated at your administration. | 2 | 13.3 | 13.3 |
| Yes, the main responsible person for risk management exists in your administration | 13 | 86.7 | 100.0 |
| Total | 15 | 100.0 | |

| 20. How many staff members are assigned to the risk management function | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less or equal to 10 | 5 | 31.2 | 41.7 | 41.7 |
| from 11 to 50 | 6 | 37.5 | 50.0 | 91.7 |
| More than 50 | 1 | 6.3 | 8.3 | 100.0 |
| Total | 12 | 75.0 | 100.0 | |
| Missing | 4 | 25.0 | | |
| | 16 | 100.0 | | |

| 21. Have they received specialized CRM trainings? | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| No | 4 | 25.0 | 25.0 |
| Not yet, but planned | 1 | 6.2 | 31.2 |
| Yes | 11 | 68.8 | 100.0 |
| Total | 16 | 100.0 | |

| 22. Do you collaborate with other governmental agencies/bodies and law enforcement agencies? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 15 | 93.7 | 100.0 | 100.0 |
| No | 0 | 0.0 | 0.0 | 100.0 |
| Missing | 1 | 6.3 | | |
| | 16 | 100.0 | | |

| 23. Please characterize the degree of collaboration with other OGA's (5 - Very High, 1 - None) | N | Mean |
|---|---|---|
| Immigration | 16 | 3.32 |
| Border Guard | 13 | 2.06 |
| Police | 16 | 3.38 |
| Environment protection | 16 | 3.25 |
| Phytosanitary | 14 | 2.95 |
| Health | 16 | 3.25 |
| Product Safety | 14 | 3.30 |

| 24. Do your administration exchange information and cooperate with other Customs administrations on a regular base? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.4 | 93.3 | 100.0 |
| Total | 15 | 93.7 | 100.0 | |
| Missing | 1 | 6.3 | | |
| Total | 16 | 100.0 | | |

| 25. Please characterize the degree of collaboration with other Customs organizations (5 - Very High, 1 - None) | N | Mean |
|---|---|---|
| Customs administrations in your neighboring countries - e.g., sharing of intelligence and shipment data cross borders | 16 | 3.63 |
| Customs administrations in overseas countries - e.g., sharing of intelligence and shipment data cross borders | 15 | 3.47 |

| | | |
|---|---|---|
| Any other party you might collaborate with regarding risk management - please write the details below | 13 | 2.53 |

26. Does your Customs Service have authority to exchange risk indicators / information / intelligence with:

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| National Law Enforcement Agencies | 12 | 26.7% | 75.0% |
| International Law Enforcement Agencies | 11 | 24.4% | 68.7% |
| Other Customs Services | 13 | 28.9% | 81.2% |
| Key Regional/International Organizations | 9 | 20.0% | 56.2% |
| | 45 | 100.0% | |

27. Does your administration have access to the WCOs Central Enforcement Network (CEN) application?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.3 | 6.3 |
| Not yet, but planned | 1 | 6.3 | 6.3 | 12.6 |
| Yes | 14 | 87.4 | 87.4 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

28. Has your administration designated a WCOs National Contact Point of Regional Intelligence Liaison Offices (RILO) – Central Enforcement Network?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 85.7 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

29. Does your administration use the WCOs nCEN application to collect and store law-enforcement information (including seizures and offences and suspected persons or business entities) at the national level?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 2 | 12.5 | 12.5 | 12.5 |
| Not yet, but planned | 1 | 6.3 | 6.3 | 18.8 |
| Yes | 13 | 81.2 | 81.2 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

### *7.2.2.5 CRM Monitoring, review and Operational Aspects*

30. Is the trade related data and information accurate for performing reporting and analysis services?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 4 | 25.0 | 25.0 | 25.0 |
| Yes | 12 | 75.0 | 75.0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

31. Did the Customs administration implement data mining tools for targeting purposes?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 3 | 18.7 | 18.7 | 18.7 |
| Planned | 5 | 31.3 | 31.3 | 50.0 |
| Yes | 8 | 50.0 | 50.0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

32. Are your officers are authorized to use intuition for targeting and selective?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 87.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

33. Do you have specific examination notes that are made available to inspection officers

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| No | 4 | 25.0 | 25.0 | 25.2 |
| Yes | 12 | 75.0 | 75.0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

35. How often you are performing reporting and analysis services against the CRM targets? (Select all that applies)

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Annually | 7 | 28.0% | 43.7% |
| Quarterly | 8 | 32.0% | 50.0% |
| Monthly | 6 | 24.0% | 37.5% |
| Weekly | 2 | 8.0% | 12.5% |
| Not at all | 1 | 4.0% | 6.3% |
| Sometimes | 1 | 4.0% | 6.3% |
| Total | 25 | 100.0% | |

36. Do you use intelligence as a bases for CRM?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

37. Do you review and update your risk profiles in order to keep up with the changing environment?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

### *7.2.2.6 Equipment and Infrastructure*

38. Are there adequate tools and equipment for the inspection and examination of goods/means of transport available in most or all border posts and/or customs offices?

| | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Vehicle lifts | 9 | 21.9% | 56.2% |
| Forklifts | 10 | 24.4% | 62.5% |
| Portal monitor | 8 | 19.5% | 50.0% |
| Radiation pagers | 8 | 19.5% | 50.0% |
| No | 6 | 14.7% | 37.5% |
| Total | 41 | 100.0% | |

39. Are you are using the non-intrusive inspection (NII) equipment?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.3 | 6.3 |
| Yes | 15 | 93.7 | 93.7 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

40. Is the non-intrusive inspection (NII) equipment available on most of the BCP's?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 7 | 43.7 | 43.7 | 43.7 |
| Yes | 9 | 56.3 | 56.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

| 41. Please rank the relevance of various inspection tools and techniques regarding risk management approaches at your administration (5 - Very High, 1 - None): | N | Mean |
|---|---|---|
| Inspection reports on outcomes (resultant/non-resultant) of physical inspections used to validate the selectivity process | 15 | 4.07 |
| X-ray image (long-term) storage of scanned containers and boxes (to feed back to the future risk management processes) | 15 | 3.13 |
| Radiation data for shipments inspected using radiation detection equipment | 13 | 2.30 |
| Random physical inspections used to validate selectivity process | 15 | 3.00 |
| Post-clearance audits | 14 | 3.85 |
| Systems-based controls | 14 | 3.43 |
| Inspections performed by other customs administrations for in-transit shipments | 15 | 2.46 |
| Enforcement reports and seizure actions | 15 | 3.40 |
| Identification of recurring qualitative indicators that confirm or negate risk | 15 | 3.46 |
| Identification of quantitative risk indicators or signatures based on historical trend analysis; | 15 | 3.66 |
| Post analysis, reviewing, and updating of risk indicators | 13 | 3.94 |

### *7.2.2.7 Support of CRM through CDPS*

| 42. Does the administration have an automated clearance system – Customs Declaration Processing System (CDPS)? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 16 | 100.0 | 100.0 | 100.0 |
| No | 0 | 0 | 0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

| 44. Does the CDPS support Customs Risk Management? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Yes | 16 | 100.0 | 100.0 | 100.0 |
| No | 0 | 0 | 0 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

| 45. The Customs Risk Analysis Cycle consists of four main elements. Which elements are covered in the CDPS CRM module? | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Collection | 13 | 22.8% | 81.2% |
| Evaluation/Analysis | 13 | 22.8% | 81.2% |
| Applying RP/Indicators | 16 | 28.1% | 100.0% |
| Paper Feedback | 6 | 10.3% | 37.5% |
| IT Based Feedback | 12 | 21.0% | 75.0% |
| Total | 57 | 100.0% | |

| 46. Which of the following five main steps in the standard Customs risk management process are covered in the CDPS? | Responses | | Percent of Cases |
|---|---|---|---|
| | N | Percent | |
| Establish Context | 8 | 13.8% | 50.0% |
| Identify Risk | 12 | 20.6% | 75.0% |
| Analyse Risks | 13 | 22.5% | 81.2% |
| Assess and Prioritize Risks | 13 | 22.5% | 81.2% |
| Address Risks | 12 | 20.6% | 75% |
| Total | 58 | 100.0% | |

| 47. Are you using reporting and analysis services – data warehouse and business intelligence? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 3 | 18.7 | 18.7 | 18.7 |
| Planned | 4 | 25.0 | 25.0 | 43.7 |
| Yes | 9 | 56.3 | 56.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

| 48. Do you have possibility to check the performances of the risk indicators / risk profiles on CDPS historical data? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total Valid | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

| 49. Do you use pre-arrival/pre-departure information for risk assessment? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 3 | 18.7 | 18.7 | 18.7 |
| Planned | 4 | 25.0 | 18.7 | 37.4 |
| Yes | 9 | 56.3 | 56.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

### *7.2.2.8 Impact and Challenges*

| 50. Please rank the benefits for your administration and traders in your country when considering priorities for risk management at your administration | | | |
|---|---|---|---|
| | Responses | | Percent of Cases |
| | N | Percent | |
| For Customs: Processing Time Reduction | 16 | 21.0% | 100.0% |
| For Customs: Increase Quality of Control | 14 | 18.6% | 87.5% |
| For Trade: Gain of Time | 16 | 21.0% | 100.0% |
| For Trade: Complexity Reduction | 15 | 19.7% | 93.7% |
| For Trade: Transaction Costs Reduction | 15 | 19.7% | 93.7% |
| Total | 76 | 100.0% | |

| 51. Do you monitor these benefits regularly? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| No | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 87.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

| 52. Please rank the main obstacles, barriers, and bottlenecks that may hinder the further developments of risk management at your administration (5 - Very High, 1 - None) | | |
|---|---|---|
| | N | Mean |
| Lack of strategic approach to Risk Management | 15 | 1.93 |
| Lack of tactical approach to Risk Management | 15 | 1.99 |
| Lack of operational approach to Risk Management | 15 | 2.60 |
| Lack of regulatory/legal support to Risk Management | 15 | 2.40 |
| Lack of organizational support to Risk Management | 15 | 2.26 |
| Lack of training in Risk Management | 15 | 3.13 |
| Lack of clear responsibilities in Risk Management | 15 | 2.33 |
| Lack of performance measurements in Risk Management | 15 | 2.53 |
| Lack of RM reporting and analysis at your Customs Administration | 15 | 2.53 |
| Lack of Information Technology Infrastructure to support RM at your Customs Administration | 15 | 2.66 |
| Lack of consistency in risk practices between various customs offices and border crossing points | 15 | 2.87 |
| Lack of coordination in RM between various units/departments in your Customs Administration | 15 | 2.27 |

| 53. Has the CRM reduced the physically the volume of physically inspect consignments? | | | | |
|---|---|---|---|---|
| | Frequency | Percent | Valid Percent | Cumulative Percent |

| | | | | |
|---|---|---|---|---|
| No | 2 | 12.5 | 12.5 | 12.5 |
| Yes | 14 | 87.5 | 87.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

54. Do your administration have specific post-clearance control unit to monitor and report on both customs partners (e.g., trusted traders as green and blue channel selection) and customs administration itself?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 1 | 6.3 | 6.7 | 6.7 |
| Yes | 14 | 87.5 | 93.3 | 100.0 |
| Total Valid | 15 | 93.8 | 100.0 | |
| Missing | 1 | 6.2 | | |
| Total | 16 | 100.0 | | |

56. If post-clearance controls are performed by post-clearance unit or department, does that unit or department report its findings to the risk management department? In all cases? If so, how does it make its report?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 2 | 13.3 | 13.3 | 13.3 |
| Not yet, but planned | 2 | 13.3 | 13.3 | 26.6 |
| Yes | 11 | 73.4 | 73.6 | 100.0 |
| Total | 15 | 100.0 | 100.0 | |

57. Are there separate set of indicators for post-clearance controls?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| No | 3 | 18.7 | 18.7 | 18.7 |
| Not yet, but planned | 4 | 25.0 | 25.0 | 43.7 |
| Yes | 9 | 56.3 | 58.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 | |

## 7.3 ANNEX III

### 7.3.1 OIC Survey of Customs Risk Management in their Member States

Tell us more about your Customs Risk Management performances. We are interested in knowing your Risk Management performances, what are the RM core services and IT architecture, and how you got there.

When finished kindly return the questionnaire by email to Andreja.Zivkovic@gmail.com and dragan.sutevski@gmail.com

| General Information |
|---|

Country: Click here to enter text.

Date: Click here to enter a date.

Department: Click here to enter text.

Unit: Click here to enter text.

Phone: Click here to enter text. Email: Click here to enter text.

Name, Surname: Click here to enter text.

Position: Click here to enter text.

Customs Service website: Click here to enter text.

*Number of Border Crossing Points (BCP):* Click here to enter text.
*Volume of Transport on entry on the customs territory:*

| Total volume of Transport (annual basis - 2016) | | | | |
|---|---|---|---|---|
| Road | Rail | Sea / River | Air Cargo | Air |
| | | | | |

| Legal Aspects of CRM |
|---|

*Did you adopt the following statutory instruments related to Customs Risk Management (including Customs Code) - select all that apply?*

☐CRM Policy;

☐Administrative Instruction;

☐Implementing regulations;

☐Standard Operational Procedures;

☐Other: Click here to enter text.

*Does National Legislation confer power to Customs in regard to:*

☐Detention and seizure of goods;

☐Detention and seizure means of transport;

☐Detention of people;

☐Other (please specify): Click here to enter text.

*Does the Customs Service have authority to conclude administrative agreements / Memorandum of Understanding (MoU) with (select all that apply):*

☐Trade / business community;

☐Other government agencies;

☐Other Customs administrations;

☐ Regional/international organizations;

☐Port Authorities;

☐Airlines Companies;

☐Courier Services:

☐Other (please name the agreements): Click here to enter text.

*Is it mandatory to submit advance cargo information to the Customs Administration*

☐Yes;

☐For exit

☐For entry

☐Transit

☐No;

☐Not yet, but planned: Click here to enter text.

| Strategic Approach |
|---|

*Have you adopted the CRM vision and/or policy?*

☐Yes;

☐No;

☐Not yet, but planned please specify: Click here to enter text.

*Is CRM part of the overall Customs Strategy? (select one option)*

☐Yes;

☐No;

*Is the Customs risk management strategy oriented more towards:*

☐Detecting;

☐Preventing noncompliance;

☐Trade Facilitation;

☐Revenue Collection;

☐Safety, Security and environmental protection;

☐Other, please specify:Click here to enter text.

*Does the risk management strategy include simplifying procedures?*

☐Yes;

☐No;

☐Not yet, but planned please specify: Click here to enter text.

*Do you apply risk analysis on AEO – Authorized Economic Operator model?*

☐Yes;

☐No;

☐Planned, please specify: Click here to enter text.

*Is your Administration applying post clearance audit (à posteriori)?*

☐Yes;

☐No;

☐Planned, please specify: Click here to enter text.

| Risk Management Implementation Status |
|---|

*Does the administration use risk management for the inspection of consignments?*

☐Yes, please specify since when:Click here to enter text.

☐No;

☐Not yet, but planned, please specify: Click here to enter text.

*At what level do you currently apply the risk management approach:*

☐ Strategic level (Strategic goals defined and linked to Customs objectives);

☐ Tactical level (operationalization, including organizational, methodology and allocation of the resources – human and technical);

☐ Operational (Customs officers);

*Does the administration use a random selectivity for the inspection of consignments?*

☐Yes;

☐ Yes, in combination with targeted selectivity through risk analysis

☐No;

☐Not yet, but planned, please specify: Click here to enter text.

*Please provide statistical information related to CRM selectivity and number of offences:*

| Year | Total number of Customs Declaration accepted | No. of Customs Declaration green channel | No of offences - green channel | No. of Customs Declaration yellow (Documentary check) channel | No of offences - yellow channel | No. of Customs Declaration red (Documentary and physical check of goods) channel | No of offences - red channel | No. of Customs Declaration blue (Post Clearance Audit / Control) channel | No of offences - blue channel | No. of Customs Declaration orange (Scanner Control) channel | No of offences - orange channel |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | | | | | | | | | | | |
| 2015 | | | | | | | | | | | |
| 2016 | | | | | | | | | | | |

| Risk Management Organization and Management |
|---|

*Which organizational structure for CRM have you adopted at your administration?*

☐ Centralized organization, and risk management tasks are carried out in a centralized manner;

☐ Centralized organization, and risk management tasks are carried out in a decentralized manner;

☐ De-centralized organization, and risk management tasks are carried out in a decentralized manner;
☐ No formal organization yet;

☐ No structure at all.

*What are the responsibilities of the risk management department?*

Click here to enter text.

*Does your administration have a strategic management or board-level responsible person(s) to look after the overall risk management portfolio?*

☐ Yes, the main responsible person for risk management exists in your administration;

☐ No, there is no main responsible person for risk management nominated at your administration.

*How many staff members are assigned to the risk management function: Click here to enter text.*
*Have they received specialized CRM trainings?*

☐Yes;

☐No;

☐Not yet, but planned please specify: Click here to enter text.

*Do you collaborate with other governmental agencies/bodies and law enforcement agencies?*

☐Yes;

☐No;

☐Other, please specify: Click here to enter text.

*Please characterize the degree of collaboration with other OGA's?*

| | Very high | High | Medium | Low | None |
|---|---|---|---|---|---|
| Immigration agency | ☐ | ☐ | ☐ | ☐ | ☐ |
| Border guard agency | ☐ | ☐ | ☐ | ☐ | ☐ |
| Police | ☐ | ☐ | ☐ | ☐ | ☐ |
| Environment protection | ☐ | ☐ | ☐ | ☐ | ☐ |
| Phytosanitary | ☐ | ☐ | ☐ | ☐ | ☐ |
| Health agency | ☐ | ☐ | ☐ | ☐ | ☐ |
| Product safety agency | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other Agencies: Click here to enter text. | | | | | |

*Do your administration exchange information and cooperate with other Customs administrations on a regular base?*

☐Yes;

☐No;

☐Not yet, but planned/other, please specify: Click here to enter text.

*Please characterize the degree of collaboration with other Customs organizations:*

| | Very high | High | Medium | Low | None |
|---|---|---|---|---|---|
| Customs administrations in your neighboring countries - e.g., sharing of intelligence and shipment data cross borders | ☐ | ☐ | ☐ | ☐ | ☐ |
| Customs administrations in overseas countries - e.g., sharing of intelligence and shipment data cross borders | ☐ | ☐ | ☐ | ☐ | ☐ |
| Any other party you might collaborate with regarding risk management - please write the details below | ☐ | ☐ | ☐ | ☐ | ☐ |

*Does your Customs Service have authority to exchange risk indicators / information / intelligence with:*

☐National Law Enforcement Agencies;

☐International Law Enforcement Agencies;

☐Other Customs Services;

☐Key Regional / International organizations (example: EFTA, CEFTA, ASEAN, CAREC): Click here to enter text.

☐Other (please name the organizations): Click here to enter text.

*Does your administration have access to the WCOs Central Enforcement Network (CEN) application?*

☐Yes;

☐No;

☐Other/Not yet, but planned, please specify: Click here to enter text.

*Has your administration designated a WCOs National Contact Point of Regional Intelligence Liaison Offices (RILO) – Central Enforcement Network?*

☐Yes;

☐No;

☐Other/Not yet, but planned, please specify: Click here to enter text.

*Does your administration use the WCOs nCEN application to collect and store law-enforcement information (including seizures and offences and suspected persons or business entities) at the national level?*

☐Yes;

☐No;

☐Other/Not yet, but planned, please specify: Click here to enter text.

## CRM Monitoring, review and Operational Aspects

*Is the trade related data and information accurate for performing reporting and analysis services?*

☐Yes;

☐No;

☐Other, please specify: Click here to enter text.

*Did the Customs administration implement data mining tools for targeting purposes?*

☐Yes;

☐No;

☐Planned/other, please specify: Click here to enter text.

*Are your officers are authorized to use intuition for targeting and selective?*

☐Yes;

☐No;

☐Planned please specify: Click here to enter text.

*Do you have specific examination notes that are made available to inspection officers:*

☐Yes;

☐No;

☐Other, please specify: Click here to enter text.

*What is the RM policy on overriding selectivity and/or examination instructions? Do field managers and officers comply with this policy?*

Click here to enter text.

*How often you are performing reporting and analysis services against the CRM targets? (Select all that applies)*

☐Annually;

☐Quarterly;

☐Monthly;

☐Weekly;

☐Daily;

☐Not at all.

*Do you use intelligence as a bases for CRM?*

☐Yes;

☐No;

☐Other, please specify: Click here to enter text.

*Do you review and update your risk profiles in order to keep up with the changing environment?*

☐Yes;

☐No;

☐Other, please specify: Click here to enter text.

| Equipment and Infrastructure |
|---|

*Are there adequate tools and equipment for the inspection and examination of goods/means of transport available in most or all border posts and/or customs offices?*

☐Yes;

☐Vehicle lifts;

☐Forklifts;

☐Portal monitor;

☐Radiation pagers;

☐No;

☐Other, please explain: Click here to enter text.

*Are you are using the non-intrusive inspection (NII) equipment[91]?*

☐Yes;

☐No;

☐Other, please explain: Click here to enter text.

*Is the non-intrusive inspection (NII) equipment available on most of the BCP's?*

☐Yes;

☐No;

☐Other, please explain: Click here to enter text.

*Please rank the relevance of various inspection tools and techniques regarding risk management approaches at your administration:*

| | Very high | High | Medium | Low | None | Unknown scheme |
|---|---|---|---|---|---|---|
| Inspection reports on outcomes(resultant/non-resultant)of physical inspections used to validate the selectivity process; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| X-ray image (long-term) storage of scanned containers and boxes (to feed back to the future risk management processes); | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Radiation data for shipments inspected using radiation detection equipment; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Random physical inspections used to validate selectivity process; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Post-clearance audits; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Systems-based controls; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Inspections performed by other customs administrations for in-transit shipments; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Enforcement reports and seizure actions; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Identification of recurring qualitative indicators that confirm or negate risk; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Identification of quantitative risk indicators or signatures based on historical trend analysis; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Post analysis, reviewing, and updating of risk indicators; | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Any other inspection tools and techniques your administration finds relevant to support risk management processes - please list them below Click here to enter text. | | | | | | |

## Support of CRM through CDPS

*Does the administration have an automated clearance system – Customs Declaration Processing System (CDPS)?*

☐Yes;

☐No;

☐Planned, please specify: Click here to enter text.

*Give the year of the latest technology update of the CDPS: Click here to enter text.*
*Does the CDPS support Customs Risk Management?*

☐Yes;

☐No;

☐Planned, please specify: Click here to enter text.

[91] providing technologies to inspect and screen conveyances or cars, trucks, railcars, sea containers, as well as personal luggage, packages, parcels, and flat mail through either x-ray or gamma-ray imaging systems) available on the Border Crossing Points and Ports

*The Customs Risk Analysis Cycle consists of four main elements. Which elements are covered in the CDPS CRM module?*

☐Collection;

☐Evaluation / Analysis;

☐Applying Risk Profiles / Indicators;

☐Feedback from controls;

☐Paper based feedback from controls;

☐IT system that support the entry of feedback from controls.

☐Other (please specify)

*Which of the following five main steps in the standard Customs risk management process are covered in the CDPS?*

☐Establish Context;

☐Identify Risks;

☐Analyze Risks;

☐Assess and Prioritize Risks;

☐Address Risks.

*Are you using reporting and analysis services – data warehouse and business intelligence?*

☐Yes;

☐No;

☐Planned please specify: Click here to enter text.

*Do you have possibility to check the performances of the risk indicators / risk profiles on CDPS historical data?*

☐Yes;

☐No;

☐Planned please specify: Click here to enter text.

*Do you use pre-arrival/pre-departure information for risk assessment?*

☐Yes;

☐No;

☐Planned please specify: Click here to enter text.

## Impact and Challenges

*Please rank the benefits for your administration and traders in your country when considering priorities for risk management at your administration*

| | Very high | High | Medium | Low | None |
|---|---|---|---|---|---|
| For Customs | | | | | |
| Better achieve your overall organizational objectives and improve your overall management processes | ☐ | ☐ | ☐ | ☐ | ☐ |
| Improve the allocation of human resources to the highest risk areas and to better deal with increasing trade volumes and decreasing human resources at your administration | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| Reduction of customs declaration processing time | ☐ | ☐ | ☐ | ☐ | ☐ |
| Increase quality of the customs control to fight more efficiently against any form of smuggling, contraband, organized crime and terrorism | ☐ | ☐ | ☐ | ☐ | ☐ |
| To improve the reputation of your administration in the eyes of the business community, general public, direct investors and other national and international organizations. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Any other benefit for traders to enhance risk management your administration might have identified - please write below: Click here to enter text. | | | | | |
| For Traders | | | | | |
| Reduction of complexity of customs procedures. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Ensuring fair trade and competition. Reduction of transaction costs. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Ensuring more efficient supply chain for traders. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Reduction of the complexity of customs procedures. | ☐ | ☐ | ☐ | ☐ | ☐ |
| Any other benefit for traders to enhance risk management your administration might have identified - please write below: Click here to enter text. | | | | | |

*Do you monitor these benefits regularly?*

☐Yes;

☐No;

☐Not yet, but planned please specify: Click here to enter text.

*Please rank the main obstacles, barriers, and bottlenecks that may hinder the further developments of risk management at your administration*

| | Very high | High | Medium | Low | None | Not applicable |
|---|---|---|---|---|---|---|
| Lack of strategic approach to Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of tactical approach to Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of operational approach to Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of regulatory/legal support to Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of organizational support to Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of training in Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of clear responsibilities in Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of performance measurements in Risk Management at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Any other party you might collaborate with regarding risk management - please write the details below | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of RM reporting and analysis at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of Information Technology Infrastructure to support RM at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of consistency in risk practices between various customs offices and border crossing points | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of coordination in RM between various units/departments in your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Lack of data harmonization regarding risk related data at your Customs Administration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| In case you have more obstacles, barriers, and bottlenecks, etc. please describe below Click here to enter text. | | | | | | |

*Has the CRM reduced the physically the volume of physically inspect consignments?*

☐Yes

Can you please provide percentage of physical inspection before and after: Click here to enter text.

☐No;

*Do your administration have specific post-clearance control unit to monitor and report on both customs partners (e.g., trusted traders as green and blue channel selection) and customs administration itself?*

☐Yes;

☐No;

☐Other/Not yet, but planned, please specify: Click here to enter text.

*Describe how the post clearance controls process works in your administration. If possible, a step-by-step explanation of what happens between Customs and the company being audited, for each type of audit.*

Click here to enter text.

*If post-clearance controls are performed by post-clearance unit or department, does that unit or department report its findings to the risk management department? In all cases? If so, how does it make its report?*

☐Yes;

☐No;

☐Other/Not yet, but planned, please specify: Click here to enter text.

Click here to enter text.

*Are there separate set of indicators for post-clearance controls?*

☐Yes;

☐No;

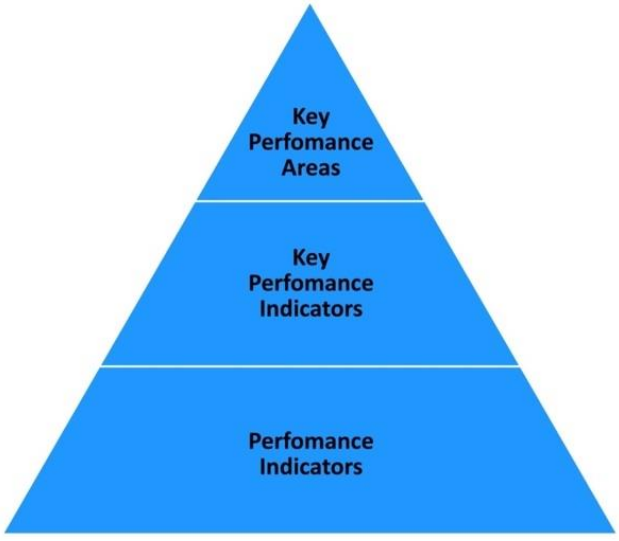
☐Other/Not yet, but planned, please specify: Click here to enter text.

## 7.4 ANNEX IV

### 7.4.1 Monitoring and Review Tools

*Key Performance Areas - KPAs* are areas for business success factors and improved performance of an organization, in this case, Customs in general and CRM. A KPA can be assessed by assessing one or more concrete KPIs related to a specific area. This hierarchy enables a transparent and aggregated view of a large number of KPIs especially for customs, with complex structures and heterogeneous business processes. For CAs strategic organization's planning, the first step is to define goal areas and success factors on KPA level. Afterward, goals and factors can be defined and refined by different KPIs. The KPA can be using selectivity/targeting approach based on automated compliance measurement and risk-assessment and profiling systems, to target suspect consignments and minimize the incidence of physical examinations. The measurement methodology will verify that the risk assessment system is working and is based on assessment and profiling, for at least some of the import or export operations. The existence of an approved annual audit plan based on a risk-assessment system, and its subsequent implementation should be verified. A good practice should be the quality of feedback provided by the evaluation of the risk management system over the profiling system performance.

**Figure 65: Three levels of performance measurement represented as a pyramid**




*Source: KPI Institute*

*Key Performance Indicators - KPIs* are quantitative or qualitative measurements which should reflect the business success factors and strategic performance of the CRM. For the CRM, the KPIs are qualitative, which one may not necessarily measure with a quantitative measurement (e.g., risk analysis performances). Customs operations involve different customs procedures such as import, export, inward transit processing, etc. Many customs administrations start with the implementation of CRM with one procedure and then continue to expand to other procedures. A KPI that will show the efficiency of the implementation of CRM can be % of customs procedures with implemented risk assessment that can be measured by dividing the number of customs procedures with risk assessments. This KPI is related to previously described KPA.

*Performance Indicators* **-** Often more than one KPI is related to the same success factor - Performance Indicators (PI). In this way, different areas of interest can be evaluated to achieve

a specific CRM KPI goal. The PIs are usually long-term considerations or refer to a specific period, during which their values will be collected, measured or assessed. The definition of what they are and how they are measured or assessed does not change often. It is important for CRM performance measurements to stay with the same definition of the KPI from year to year or over a particular period. Each PI must be correctly defined by a specific target, period of validation (e.g., month or year), considerations, unit of measurement (e.g., efficiency of the CRM, lower cost for traders, etc.) and a description of how to assess/measure it and where the data can be collected.

The most **important KPIs related to the CRM** that will need to be taken into considerations are following:

- *The time required for completing a physical inspection* of import, export or transit: measuring the time between the entering of the inspection results into the CDPS and the time when the system assigns the channel after registration of the declaration.
- KPIs related to the efficiency of risk profiling (% of shipments with physical inspection in a specific period of time, % of the physically examined shipments selected for inspection based on risk indicators that have successfully discovered customs non-compliance and % of seizures from the total number of examinations): measure the efficiency and effectiveness of the implementation of the CRM in decreasing the number of physically inspected consignments while increasing the success of risk indicators in the selection of high-risk consignments for inspection, display specific non-compliance results and effectiveness of targeting/selectivity process and risk profiles that require physical inspection regarding non-declared goods.
- % of physical inspections for declarations (import, export or transit) selected by a customs officer exercising discretionary power (re-routed CD): monitor the efficiency of their CRM to lower the number of physically inspected declarations based on customs officers' discretionary rights to avoid unfair targeting.
- Pre-arrival and pre-departure KPIs (% of cargo manifests that are electronically submitted to the customs in advance, before the cargo arrives, % of pre-arrival (or pre-departure) consignments selected as high-risk cargo for physical inspection, % of un-arrived transit operations, % of transit operations where the originally declared weight is different than the final weight and % of transit operations where time of arrival has exceeded the time prescribed by the Customs office): measure the progress of CRM in terms of use of pre-arrival information for risk assessment, identify potential high risks consignments, efficiency of risk profiles for high-risk consignments on pre-arrival basis, ensure control mechanisms that all transit operations arrive at their designated destination, ensure that the weight of the cargo at the beginning of the transit procedure and the weight of the cargo upon arrival is unchanged and identify risky transit consignments and economic operators included in these operations.
- % of economic operators with high, medium or low-risk profiles: decisions for selection and approval of the AOEs.
- *% of consignments targeted for physical inspection examined using non-intrusive methods*: better allocation of CA' resources for NII on the places where they are most required

## 7.5 ANNEX V

### 7.5.1 Factors that influence the CRM Efficiency

In order to determine the mutual influence between the CRM factors, CRM variables important for successful implementation of CRM system, and the interdependence between these variable and other variables (rankings by international organizations related to trade facilitation as trade costs and GDP per capita), an additional analysis was conducted joining all variables using correlation analysis method. For a measure of association between two variables, researchers rely heavily on a statistic called Pearson's r, or the correlation coefficient. The Pearson's correlation coefficient (r) is a measure of the association between two variables and is used for the measure of association between CRM variables important for successful implementation of CRM system is explained below. The results of the CRM variable correlation cross matching is presented in the Table 43

The formula for Pearson's r for two variables X and Y is:

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{[\sum(X - \bar{X})^2]\,[\sum(Y - \bar{Y})^2]}$$

Because the numerator of this formula is covariation of X and Y, statisticians think that it is awkward to use and prefer following a computational formula.

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}}$$

Pearson's coefficient has values between -1 and 1. The 0 value of this coefficient implies that there is no association between the variables, while +1 and -1 imply total positive or total negative association among variables. The positive correlation means that if one variable increase (or decrease) also the second variables with which the first one have correlation increase (or decrease). The negative correlation implies that increase in one variable will decrease the second variable and vice versa. Of course, in the reality the results of these analysis are between $0 < r < +1$ и $-1 < r < 0$ for which there is no direct implication. Different authors, present different interpretation of these values. Table 43 presents the interpretation of this coefficient grouped in few intervals used in this research.

**Table 43: Interpretation of the coefficient of correlation r**

| r > 0 | Interpretation | r < 0 | Interpretation |
|---|---|---|---|
| 0,2-0,39 | Low correlation | 0,2-0,39 | Low correlation |
| 0,4-0,49 | Medium correlation | 0,4-0,49 | Medium correlation |
| 0,5-1 | Strong correlation | 0,5-1 | Strong correlation |
| 1 | Perfect correlation | 1 | Perfect correlation |

*Source: Author's compilation*

Table 44 presents the results for CRM variable that show a correlation as a result of cross-matching of all variables with each other.

**Table 44: CRM variable correlation cross matching**

| Variable | Correlated with | Correlation | Correlation Strength |
|---|---|---|---|
| LE IT System | Average (Customs and other import duties (% of tax revenue) | -0.368 | Low |
| | CRM module embed in CDPS | -0.604 | Strong |
| | CRM Policy and Strategic Governance | 0.41 | Medium |
| | Evaluation of outcomes/feedback | 0.725 | Strong |
| | Integrated CRM System | 0.718 | Strong |
| | Logistics performance index | 0.306 | Low |
| | Risk Analysis | 0.637 | Strong |
| | Risk Identification | 0.637 | Strong |
| | Coverage CRM Cycle | 0.57 | Strong |
| | UN Trade facilitation score % | 0.471 | Medium |
| | UN Risk management | 0.3 | Low |
| | UN Pre-arrival processing | 0.378 | Low |
| | AEO | 0.333 | Low |
| | Total time to export (hours) | -.271* | Low |
| CRM Cycle Coverage | CRM Policy and Strategic Governance | 0.558 | Strong |
| | Integrated CRM System | 0.492 | Medium |
| | Time to export: Documentary compliance (hours) | -0.343 | Low |
| | Total Costs to Export (USD) | -0.327 | Low |
| | Trading Across Border Rank | -0.323 | Low |
| | Logistics performance index | 0.431 | Medium |
| | Total Time to Export (hours) | -0.327 | Low |
| | GDP per Capita | 0.371 | Low |
| Integrated CRM System | CRM Policy and Strategic Governance | 0.33 | Low |
| | CRM module embed in CDPS | -0.864 | Strong |
| | Risk Analysis | 0.551 | Strong |
| | Evaluation of outcomes/feedback | 0.626 | Strong |
| | Risk Identification | 0.551 | Strong |
| | UN Trade facilitation score % | 0.489 | Medium |
| | UN Pre-arrival processing | 0.378 | Low |
| CRM Policy and Strategic Governance | Risk Identification | 0.567 | Strong |
| | Risk Analysis | 0.491 | Medium |
| | Risk Evaluation and Prioritization | 0.426 | Medium |
| | Preparation/profiling | 0.327 | Low |
| | Targeting | 0.327 | Low |
| | Covering/treatment | 0.3 | Low |
| | Evaluation of outcomes/feedback | 0.459 | Low |
| | Logistics performance index | 0.394 | Low |
| | UN Trade facilitation score % | 0.394 | Low |
| | AEO | 0.429 | Medium |
| CRM module embed in CDPS | Evaluation of outcomes/feedback | -0.506 | Strong |
| | Risk Analysis | -0.43 | Medium |
| | Risk Identification | -0.43 | Medium |
| Pre-arrival processing | GDP per Capita | 0.331 | Low |
| | Time to export: Documentary compliance (hours) | -0.474 | Medium |
| | Time to import: Documentary compliance (hours) | -0.329 | Low |
| | AEO | 0.333 | Low |
| Post-clearance audit | Time to import: Documentary compliance (hours) | -0.378 | Low |

| | | | |
|---|---|---|---|
| Legislation framework for cooperation between border agencies | GDP per Capita | 0.357 | Low |
| Cost to export: Documentary compliance (USD) | Time to export: Documentary compliance (hours) | 0.757 | Strong |
| Cost to export: Border compliance (USD) | Cost to import: Border compliance (USD) | 0.694 | Strong |

*Source: Author's compilation*

The results from this analysis between the CRM variables and other analyzed variables are as following:

- **LE IT System**. According to the correlation analysis based on Pearson's correlation coefficient, customs administrations that have comprehensive LE IT system also use integrated CRM system and more extensive coverage of the whole CRM cycle (strong correlation between these variables). Additionally, to this, there is a strong negative correlation (-0.604) between having LE IT system and having CRM embedded into the CDPS which indicate and prove the previous results that having LE IT system require integrated CRM system. There is a negative correlation between LE IT system with total time to export (-0.271), so CAs using more comprehensive LE IT system have less time to export. This analysis also shows that having LE IT system has a low negative correlation (-0.368) with the participation of customs revenue in total tax revenue collected in the country. This is expected because of revenue oriented administrations focus more on the revenue side and less on security side (as a basis of LE IT system). CAs with strong CRM policy and strategic governance has implemented LE IT system (medium correlation of 0.410). LE IT system is also related to the higher ranking of logistics performance index. Related to UN trade facilitation score, there is a medium correlation (0.471) which means that CAs with integrated LE IT system have a better UN Trade facilitation score, associated with CRM (0.300), pre-arrival processing (0.378) and AEO (0.333).
- **CRM Cycle coverage**. Correlation analysis related to the coverage of the CRM cycle indicate that CAs with CRM policy and strategic governance have more extensive coverage of CRM cycle (0,558). Additionally, having in place integrated CRM system allows better coverage of the whole CRM cycle (0.492). There is also low, but negative correlation with: Time to export: Documentary compliance (hours), Total Costs to Export (USD), Trading Across Border Ranking, Logistics performance index and Total Time to Export (hours). Extensive coverage of CRM cycle brings fewer costs for traders and higher logistics performance index and trading across the border ranking. The analysis when it comes to GDP per capita (0.371) show that more coverage of CRM cycle is directly related to higher GDP per capita.
- **Integrated CRM system**. According to this analysis, CAs that has an integrated CRM system has a strong positive correlation with following stages of CRM cycle: Risk Identification (0,551), Risk Analysis (0,551), and Evaluation of outcomes/feedback (0,626). It is important to emphasize that the most critical feature of an integrated system CRM system is enabling CRM more effective and efficient in the evaluation of outcomes and feedback. There is a high negative correlation (-0,864) with CRM module embedded into CDPS, that is expected and logical. Integrated CRM system is correlated with CRM Policy and strategic governance (0.330), CAs with stronger CRM Policy and strategic governance are using integrated CRM system. OIC MS CAs with integrated CRM

system, have better rankings related to UN Trade facilitation score. The OIC MS CAs with integrated CRM system has a higher stage of pre-arrival processing.

- **CRM Policy and strategic governance**. The CRM Policy and Strategic Governance are correlated with all stages of CRM cycle, and according to this analysis, it is crucial to implement adequate CRM policy and strategic governance to cover all stages of the cycle. Additionally, CAs with strong CRM policy and strategic governance have better Logistics performance index and UN Trade facilitation score, with medium correlation related to the implementation of the AEO programme.
- **CRM Module embedded in CDPS**. According to this analysis, CAs that has CRM module embedded into their CDPSs has a low possibility for Risk Identification, Risk Analysis, and Evaluation of Outcomes/Feedback. When it comes to the evaluation of Outcomes and Feedback as a specific stage in CRM cycle, there is a strong negative correlation (-0,506). For most of the CAs, this stage is essential to have effective risk identification and risk analysis stages with a medium negative correlation with such CRM modules (-0,430 on both).
- **Pre-arrival information processing integrated into CRM**. Using the pre-arrival information processing integrated into the CRM is correlated with GDP per capita. The CAs that has pre-arrival processing system has less time to export and import related to documentary compliance (negative correlation of -0.474 and -0.329 respectively). According to this analysis, OIC MS CAs with implemented pre-arrival processing also has a better stage of implementation of AEO programme.
- **Other relevant results**. The correlation analysis also gives some additional relevant results such as following:
    - Better stage of post-clearance audit in CAs produce less time to import regarding documentary compliance (-0.378);
    - Countries with legislation framework for cooperation between border agencies have higher GDP per capita (0.357);
    - Documentary compliance (hours) have a strong positive correlation (0,757); if there are higher costs to export for documentary compliance, there will be higher time to export for documentary compliance.
    - The cost to export: Border compliance (USD) with Cost to import: Border compliance (USD) have a strong correlation (0,694), meaning that CAs with higher costs related to export will have higher costs related to import.

### 7.5.2 OIC MS CAs Selectivity

| | Ivory Coast | | | Jordan | | | Nigeria | | | Palestine | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 |
| Green Channel | 26.55% | 39.26% | 38.78% | 29.99% | 28.05% | 28.31% | 1.50% | 14.45% | 1.54% | 80.00% | 81.82% | 81.82% |
| Yellow Channel | 5.51% | 4.93% | 6.12% | 33.40% | 33.99% | 34.41% | 13.18% | 9.59% | 9.20% | 10.00% | 9.09% | 9.09% |
| Red Channel | 62.62% | 52.94% | 49.49% | 36.61% | 37.95% | 37.28% | 83.09% | 74.79% | 86.69% | 10.00% | 9.09% | 9.09% |
| Orange Channel | 4.76% | 2.34% | 5.09% | 0.00% | 0.00% | 0.00% | 2.23% | 1.18% | 2.58% | 0.00% | 0.00% | 0.00% |
| Blue Channel | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |

| Indonesia | | | Togo | | | Morocco | | | Albania | | | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2014 | 2015 | 2016 | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 | 2014 | 2015 | 2016 | 8 MS |
| 53.06% | 51.29% | 58.27% | 4.88% | 12.65% | 22.42% | 0.00% | 0.00% | 0.00% | 0.00% | 0.69% | 3.01% | 27.43% |
| 21.07% | 23.35% | 18.66% | 26.50% | 37.51% | 20.44% | 90.25% | 81.76% | 82.58% | 89.17% | 87.33% | 69.75% | 34.45% |
| 10.32% | 9.98% | 8.33% | 61.82% | 43.78% | 51.48% | 9.75% | 18.24% | 17.42% | 10.34% | 10.12% | 9.93% | 33.80% |
| 0.31% | 0.30% | 0.31% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 1.38% | 16.93% | 1.56% |
| 15.24% | 15.08% | 14.43% | 6.80% | 6.06% | 5.66% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 2.64% |

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