BEST PRACTICES IN DIGITAL CUSTOMS IN EAST AND SOUTHERN AFRICA

A Case Study of the Mauritius Revenue Authority (MRA) Customs

by
Ms Nassika. A. Sonnagee
Ms Késhika. G. Quédou

Customs Department
Mauritius Revenue Authority

24 November 2017
ABSTRACT

Digitalization plays an important role in Customs. When put in its true perspective it provides the basis for the changing role of Customs and opens up unparalleled new opportunities for connectivity and interaction.

This paper examines some of the major milestones that MRA Customs met/achieved in its quest of digitalization. The milestones were put under scrutiny in light of the World Customs Organization's blueprints related to digital Customs, namely the Revised Kyoto Convention (RKC) and the World Trade Organization’s Trade Facilitation Agreement (WTO TFA), the Mercator programme, the IMF among others.

This paper reveals that in its aim of digitalization, the MRA Customs Department has successfully overcome certain landmark challenges such as Paperless Customs, trade facilitation, optimum collection of customs duties and taxes, to name a few.

In the same vein, this research paper also points out some shortcomings which MRA Customs must tackle to increase its efficiency and these include, inter alia, the challenge of striking the right balance between trade facilitation and border protection, the training of its staff and the simultaneous education of its stakeholders.

Last but not least, research carried out in the context of this paper conclusively confirms that the MRA Customs Department has made significant progress in terms of digitalization and is looked-up to as a model in the ESA region. However the hybridity of digitalization makes reform a sine qua non criterion that Custom Administrations must continually pursue.
# Table of Contents

LIST OF FIGURES .................................................................................................................. 4

LIST OF TABLES ..................................................................................................................... 5

LIST OF ABBREVIATIONS ........................................................................................................ 6

1.0 INTRODUCTION ................................................................................................................ 8

2.0 THE PROBLEM STATEMENT ............................................................................................ 9

3.0 RESEARCH OBJECTIVES ............................................................................................... 10

4.0 LITERATURE REVIEW ..................................................................................................... 10

4.1 THE DIGITAL CUSTOMS – THE INFORMATION AGE .................................................... 11

4.2 DRIVERS TOWARDS DIGITAL CUSTOMS .................................................................. 12

4.2.1 World customs organization (WCO) ......................................................................... 13

4.2.2 World trade organization (WTO) ............................................................................... 18

4.2.3 World bank (WB) ..................................................................................................... 19

4.2.4 United nations conference on trade and development (UNCTAD) ......................... 19

4.2.5 International monetary fund (IMF) ............................................................................ 20

5.0 RESEARCH METHODOLOGY ......................................................................................... 20

5.1 RESEARCH APPROACH ............................................................................................... 20

5.1.1 Collection of data .................................................................................................... 20

6.0 LIMITATIONS OF THE STUDY .................................................................................... 21

7.0 DIGITALIZATION IN MRA CUSTOMS ......................................................................... 21

7.1 TRADE FACILITATION ..................................................................................................... 22

7.1.1 Electronic data interchange (EDI) ............................................................................. 22

7.1.2 Setting up of a cargo community system (CCS) ....................................................... 24

7.1.3 Single window system (SWS) ................................................................................... 26

7.1.4 Automatic clearance for green channel declarations ................................................. 27

7.1.5 Electronic submission of EUR1, SADC and IOC certificate of origin ..................... 27

7.1.6 Fast-track cargo initiative (blue channel) ................................................................. 28

7.1.7 On-line tracking system in freeport ........................................................................ 29

7.1.8 E-payment .............................................................................................................. 29

7.1.9 Warehouse management system (WMS) ................................................................. 30

7.1.10 Reduction in the number of customs inspections ..................................................... 31

7.2 FAIR AND EFFECTIVE REVENUE COLLECTION ................................................... 31

7.2.1 Passenger assessment and clearance system (PACS) ............................................... 31

7.2.2 Customs debt management system (CDMS) ............................................................. 32

7.2.3 Revenue collection .................................................................................................. 33

7.3 PROTECTION OF SOCIETY ......................................................................................... 34

7.3.1 National customs enforcement network (NCEN) ...................................................... 34

7.3.2 Use of non-intrusive inspection equipment .............................................................. 34

7.3.3 CCTV monitoring of inspection of goods ................................................................. 36

7.3.4 Risk management .................................................................................................... 36

8.0 BENEFITS OF DIGITAL CUSTOMS TO MRA CUSTOMS .............................................. 38
LIST OF FIGURES

Figure 1: WCO ESA Members .................................................................................................................. 9

Figure 2: The Digital Customs Maturity Model ....................................................................................... 12

Figure 3: The Mercator Programme......................................................................................................... 17

Figure 4: Electronic Data Interchange (EDI) .......................................................................................... 22

Figure 5: Electronic Submission of Certificate of Origin .......................................................................... 28

Figure 6: Fast-Track Cargo Initiative (Blue Channel) ............................................................................. 29

Figure 7: E-Payment at MRA Customs ..................................................................................................... 30

Figure 8: Percentage of import declarations selected for physical inspection ......................................... 31

Figure 9: Results from PACS Module ....................................................................................................... 32

Figure 10: Mobile X-ray Container Scanner ........................................................................................... 35

Figure 11: Risk Management in the CMS .................................................................................................. 38

Figure 12: ESA Ease of Doing Business 2017 ................................................................................. 39
LIST OF TABLES

Table 1: General Annex- application of Information and Communication Technology .......... 14

Table 2: SAFE Framework of Standards and application of information Technology .......... 15

Table 3: Benefits of Customs Management System to MRA Customs .................................. 24

Table 4: List of OGAs – Single Window ............................................................................. 26

Table 5: Automatic Clearance for Green Channel ............................................................... 27

Table 6: Warehouse Management System (WMS) – Bond Operators ............................... 30

Table 7: Customs Debt Management – Claims and revenue raised ....................................... 32

Table 8: Evolution of Revenue Collection at MRA Customs from 2006 to 2015 ...................... 33

Table 9: National Customs Enforcement Network (NCEN) .................................................. 34

Table 10: X-Ray Scanning of Containers/Consignments (Number) ..................................... 35

Table 11: CCTV Camera Systems ....................................................................................... 36

Table 12: Import Declarations selected for Physical Examination ....................................... 38
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO</td>
<td>Authorised Economic Operators</td>
</tr>
<tr>
<td>BOEs</td>
<td>Bill of Entries</td>
</tr>
<tr>
<td>BOI</td>
<td>Board Of Investment</td>
</tr>
<tr>
<td>CCC</td>
<td>Customs Cooperation Council</td>
</tr>
<tr>
<td>CCTV</td>
<td>Closed-Circuit Television</td>
</tr>
<tr>
<td>CDMS</td>
<td>Customs Debt Management System</td>
</tr>
<tr>
<td>CENMAT</td>
<td>Customs Enforcement Network Management Team</td>
</tr>
<tr>
<td>DCMM</td>
<td>Digital Customs Maturity Model</td>
</tr>
<tr>
<td>ESA</td>
<td>East and Southern Africa</td>
</tr>
<tr>
<td>ESEL</td>
<td>Entry Selection</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EUR I</td>
<td>European Union Certificate of Origin</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IOC</td>
<td>Indian Ocean Commission</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>ITAS</td>
<td>Integrated Tax Administration Solutions</td>
</tr>
<tr>
<td>MOFED</td>
<td>Ministry of Finance and Economic Development</td>
</tr>
<tr>
<td>MRA</td>
<td>Mauritius Revenue Authority</td>
</tr>
<tr>
<td>NCEN</td>
<td>National Customs Enforcement Network</td>
</tr>
<tr>
<td>NII</td>
<td>Non-Intrusive Inspection</td>
</tr>
<tr>
<td>OTS</td>
<td>Online Tracking System</td>
</tr>
<tr>
<td>OLAP</td>
<td>On-Line Analytical Processing</td>
</tr>
<tr>
<td>PACS</td>
<td>Passenger Assessment and Clearance System</td>
</tr>
<tr>
<td>PMPTA</td>
<td>Pakistan Mauritius Preferential Trade Agreement</td>
</tr>
<tr>
<td>RKC</td>
<td>Revised Kyoto Convention</td>
</tr>
<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
</tr>
<tr>
<td>SALs</td>
<td>Structural Adjustment Loans</td>
</tr>
<tr>
<td>SAP</td>
<td>Systems Applications and Products</td>
</tr>
<tr>
<td>TALs</td>
<td>Technical Assistance Loans</td>
</tr>
<tr>
<td>TRS</td>
<td>Time Release Studies</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations and Conference on Trade and Development</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
<tr>
<td>WCO</td>
<td>World Customs Organization</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>WMS</td>
<td>Warehouse Management System</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
<tr>
<td>WTO TFA</td>
<td>World Trade Organization Trade Facilitation Agreement</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION

Customs administrations play a significant role in achieving national development objectives and implementing the government’s Customs and trade policy. Today, reforms and modernization has become important for Customs administrations because it is widely accepted that the efficiency and effectiveness of Customs procedures can significantly influence the economic competitiveness worldwide¹.

The world is turning digital, faster than we could have imagined, and public administrations are also moving online just as fast. In this context, the World Customs Organization (WCO) has dedicated 2016 the “Year of Digital Customs” and by providing an extensive portfolio of instruments and tools, and is encouraging Customs administrations in their efforts to further adopt Digital Customs.

Thus, Digital Customs has become an imperative and integral part of the fast changing environment, strengthening operational effectiveness, improving transparency and globally reducing administrative burdens. The aim is to use electronic data instead of paper documents and to connect different computer systems of government agencies and business to create a robust international supply chain. This has brought many benefits to Customs administrations.

Moreover, the World Trade Organisation Trade Facilitation Agreement (WTO TFA) and the framework of the WCO Mercator Programme has been a catalyst for the process of Customs modernization across the globe and especially in the WCO East and Southern Africa (ESA) regions whereby various best practices have been shared.

The WCO ESA Region consists of twenty four (24) member countries as shown below and Mauritius has been targeted for this research paper.

<table>
<thead>
<tr>
<th>Angola</th>
<th>Botswana</th>
<th>Ethiopia</th>
<th>Kenya</th>
<th>Lesotho</th>
<th>Madagascar</th>
<th>Malawi</th>
<th>Mauritius</th>
<th>Mozambique</th>
<th>Namibia</th>
<th>Rwanda</th>
<th>Seychelles</th>
<th>Somalia</th>
<th>South Africa</th>
<th>Swaziland</th>
<th>Tanzania</th>
<th>Uganda</th>
<th>Zambia</th>
<th>Zimbabwe</th>
</tr>
</thead>
</table>

¹Nassika Sonnagee, Reforms and Modernization of Mauritius Customs to meet the challenges of the 21st Century, (MBA) University Technology, Mauritius, 06 June 2011
2.0  THE PROBLEM STATEMENT

In the past, Customs clearance of all consignments was carried out manually on documents and papers which resulted in many flaws and inefficiencies. The most obvious problem was the amount of time it took to process the Customs declarations. Every stage of the process went on manually where Customs agents would carry Bill of Entries (BOEs) documents physically getting the documents processed through the MRA Customs. Due to a lot of bureaucratic procedures and paperwork, more staffs were required for the clearance of those BOEs, including filing of same.

As a result, the process was excruciatingly slow. Delays of several weeks and often months, resulted in high overheads for both Customs administrations and traders, and were inevitably reflected in the prices of both imports and exports. This combination of high tariffs and slow movement of goods also had a harmful effect on exports and foreign investments, the main source of hard currency in many countries. By repeatedly failing to meet delivery deadlines with international buyers, local businesses were not able to build up or maintain their clientele and lose out to faster, more reliable suppliers.
Furthermore, the face-to-face interaction that characterized manual and paper-based systems coupled with excessive paper handling created opportunities for Customs officers to obtain gifts and favours which also resulted to corruption.

In the era of globalization and digitalization, Customs Administrations worldwide face the daunting challenge of 'modernization', to the extent that technology has emerged as the platform whereby services are converging. To keep abreast with 'modernization', Customs administrations are expected to digitalize their services to improve access, to better the service quality offered to its stakeholders and to contribute to an ecosystem which is conducive to national economic progress. Therefore, digitalization was the only answer to convert manual processing into automated systems.

In light of the above, this paper will objectively evaluate the existing practices in terms of 'Digital Customs' in MRA Customs. The evaluation will be conducted in line with the best practices proposed by WCO and with respect to conventions and agreements that aim to facilitate trade. This paper will also assess how far the Mauritius Revenue Authority (MRA) Customs Department has been able to implement its Digital Customs programme and how far this can be used in other ESA countries.

### 3.0 RESEARCH OBJECTIVES

Based on the above, the following research objectives have been identified:

i. To identify the international conventions and standards towards digitalization.

ii. To examine and analyse the digital Customs initiatives and best practices that have been implemented at MRA Customs.

iii. To identify the potential benefits to the current practice of digitalization to MRA Customs.

iv. To propose a model Digital Customs in broad lines for the ESA region.

### 4.0 LITERATURE REVIEW

The rationale of this section is to give an understanding of the different avenues of digitalization. This chapter comprises of an overview of digitalization, the international conventions, standards, benefits and challenges of digital Customs. It also reviews the literature of best practices in Mauritius that are under the spot-light in order to emulate the best model.
4.1 The Digital Customs – The Information Age

In the era of cloud computing, Big Data, artificial intelligence and smartphones, Information and Communication Technology (ICT) is redefining the trading landscape and business processes of the public sector, as well as of Customs and other border agencies. With the Internet economy now accounting for 6% of global GDP, businesses are fast adopting ICT for their operations. An increasing number of businesses worldwide are digitalizing their procedures to take advantage of economies of speed and efficiency, or to bring their production processes into line with the products and services of the future. In order to better respond to the fast-evolving digital economy and to enhance facilitation measures in general, Customs and other border agencies are leveraging ICT in their day-to-day operations, based on their national priorities, technological developments and resource availability.

Digitalization has been a key factor in the reform and modernization process in Customs. The Digital Customs initiative aims to replace paper-based Customs procedures with electronic operations, thus creating a more efficient and modern Customs environment in tune with global developments.

By focusing on Digitalization, Customs community are aspired to further develop digital solutions and services, making life easier for the trading community, other border agencies and Customs officers, and to further adopt enabling technologies, such as the use of big data, the Cloud among others, to help increase operational performance, and to facilitate the reinvention of the way of doing business.

Moreover, for the implementation of new developments, a Digital Customs Maturity Model (DCMM) is used which comprises of the vision, digital strategy, legal basis, governance structure, ICT infrastructure, data security and protection and business continuity plan as shown below.

With the DCMM, the MRA Customs has been able to implementing digitalization projects successfully.
4.2 Drivers Towards Digital Customs

Customs management worldwide are persistently reforming and modernizing their processes, procedures and operations to attain effectiveness and efficiency. The implementation of international conventions, standards, and best practices ensures that reforms and modernization measures applied by ESA countries have a common internationally agreed basis.

Various organizations have played a vital role in plunging Customs towards digitalization. These key bodies have acted powerfully with regards to the digitalization of Customs; in making requisite connection between developments in ICT and trade facilitation.

The key international organizations include:-

i. The World Customs Organisation (WCO)
ii. The World Trade Organisation (WTO)
iii. The World Bank (WB)
iv. The United Nations and Conference on Trade and Development (UNCTAD) among others
v. International Monetary Fund (IMF)
4.2.1 World customs organization (WCO)

The WCO, being internationally acknowledged as the global centre of Customs expertise, plays a prominent role in the digitalization of Customs by delivering tailor-made technical assistance and capacity building to support Customs digitalization for an improved trade environment.

Secondly, it helps in providing latest advances, recommendations, guidelines and conventions to its members to further encourage the use of ICT at Customs.

In this view, the WCO has particularly helped MRA Customs in areas like the simplification and harmonization of Customs procedures, trade supply chain security, and trade facilitation, the enhancement of Customs enforcement and compliance activities and digitalization among others.

i. Revised kyoto convention (RKC)

The RKC, being the main trade facilitation Customs convention, was developed by the WCO and entered into force on 03 February 2006. It is the foundation for simple and efficient Customs procedures for the 21st century and is therefore vital to Customs modernisation and reform.

The convention provides standards and recommended practices for modern Customs procedures and techniques. The table below shows the chapters of General Annex of the Convention with regards to the application of Information Technology.

Mauritius has thus acceded to the RKC on 24 September 2008. As recommended in the Revised Kyoto Convention (RKC), use of latest technology and tools has been introduced to enhance the efficiency and effectiveness of border control; example Non-intrusive tools, such as X-ray scanners and K-9 units have been implemented in order to reduce physical examination by officers. Since its accession, several benefits have been realised to MRA Customs which are as follows:-

- Expedited transaction processing resulting in considerable gain in time.
- Reduced human intervention.

The automated system validates a Customs declaration within minutes and clearance of non-risky consignments are obtained within 4 hours at Port and within 15-30 minutes at the airport for non-litigious consignments compared to 3 days and 1 day prior to the reforms and electronic processing.

Reduced contact between traders and staff thus considerably eliminating the possibility for corruption.

It provides a secure technological environment for doing business as the reliance of people on technology keeps on growing.

Increased efficiency and effectiveness of the Customs administration and more transparency in its procedures while dealing with its customers.

Overall improved compliance level from the trading community. Transparency in procedures and the way of doing business enhanced confidence level of operators.

Table 1: General Annex- application of Information and Communication Technology

<table>
<thead>
<tr>
<th>Customs Procedures &amp; Practices</th>
<th>Standards/ Transitional Standard</th>
<th>Application of Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 3 Clearance and Other Customs Formalities</td>
<td>3.11. Standard</td>
<td>International standards for electronic Goods declaration</td>
</tr>
<tr>
<td>Chapter 3 Clearance and Other Customs Formalities</td>
<td>3.18. Transitional Standard</td>
<td>Lodging of supporting documents by electronic means</td>
</tr>
<tr>
<td>Chapter 3 Clearance and Other Customs Formalities</td>
<td>3.21. Transitional Standard</td>
<td>Lodging of Goods declaration by electronic means</td>
</tr>
<tr>
<td>Chapter 6 Customs Control</td>
<td>6.9. Transitional Standard</td>
<td>Use information technology and electronic commerce to enhance Customs control</td>
</tr>
<tr>
<td>Chapter 7 Application of Information Technology</td>
<td>7.1. Standard</td>
<td>Application of information technology to support Customs operations</td>
</tr>
<tr>
<td>Chapter 7 Application of Information Technology</td>
<td>7.2. Standard</td>
<td>Internationally accepted standards for computer applications</td>
</tr>
<tr>
<td>Chapter 7 Application of Information Technology</td>
<td>7.3. Standard</td>
<td>Introduction of information technology to be carried out in consultation with all relevant parties</td>
</tr>
<tr>
<td>Chapter 7 Application of Information Technology</td>
<td>7.4. Standard</td>
<td>New or revised national legislation for the application of information technology</td>
</tr>
<tr>
<td>Chapter 9 Information, Decisions and rulings supplied by the Customs</td>
<td>9.3. Transitional Standard</td>
<td>Use information technology to enhance the provision of information</td>
</tr>
</tbody>
</table>
ii. Safe framework of standards

The SAFE Framework of Standards adopted by the WCO Council at its 2005 Session was designed to secure, facilitate the ever-growing flow of goods in international commerce and promote the use of ICT in Customs operations. Table below shows the application of Information Technology.

Table 2: SAFE Framework of Standards and application of information Technology

<table>
<thead>
<tr>
<th>Pillar of SAFE</th>
<th>Standard</th>
<th>Application of Information Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customs-to-Customs</td>
<td>Standard 3 - Modern Technology in Inspection Equipment</td>
<td>Non-intrusive inspection (NII) equipment and radiation detection equipment to be used for conducting inspections</td>
</tr>
<tr>
<td></td>
<td>Standard 4 - Risk Management Systems</td>
<td>The use of automated systems for risk management</td>
</tr>
<tr>
<td></td>
<td>Standard 6 - Advance Electronic Information</td>
<td>Advance electronic information on cargo and container shipments for adequate risk assessment</td>
</tr>
<tr>
<td></td>
<td>Standard 7 - Targeting and Communication</td>
<td>Information exchange mechanisms</td>
</tr>
<tr>
<td>Customs-to-Business</td>
<td>Standard 4 – Technology</td>
<td>Maintain cargo and container integrity by facilitating the use of modern technology</td>
</tr>
</tbody>
</table>

In compliance with the WCO Safe Framework of Standards, the MRA Customs started the process of implementation of the Authorised Economic Operators (AEO) programme and already thirty two (32) operators have applied for the certification. Additionally, the MRA Customs has adopted the concept of trade facilitation by implementing several risk management tools to strike a balance between security/Customs control and trade facilitation by allowing low risk cargo and passengers to flow freely and target the high risk ones. With the globalisation of trade, the flow of cargo and passengers across borders has increased considerably and so have the risks included therein. The AEO concept is used along other non-intrusive risk management tools for trade facilitation and at the same time minimise risks against terrorists attack and enhance security measures right from the time the cargo is exported till it reaches the country of destination through an established supply chain.
iii. World customs organization information communication and technology guidelines (WCO ICT)

The WCO ICT Guidelines was done with a view to help Customs administrations on the use of digitalization to develop and improve program delivery and services to trading partners. These guidelines illustrate the impact of emerging technologies such as internet and advanced international trade arrays (e.g. e-Commerce). It also highpoints the benefits of using ICT to Customs and assists them in identifying areas where the application of ICT can be more helpful and significant.

The MRA is considered as one of the public institutions with the most advanced online services. Almost all transactions with the MRA and Customs can be done on the net and filing of documents online, as well as payment of various fees. The MRA even holds online auction of seized, abandoned and unclaimed goods, in a fully transparent way. Another example is Cargo Community Systems in ports or airports, whereby all parties involved in the transport chain have established an electronic system by which they exchange all relevant cargo and transport-related data.

iv. Revised arusha declaration

The MRA Customs has adopted the Revised Arusha Declaration which is a comprehensive integrity and anticorruption approach of the WCO to tackle corruption at Customs. The declaration consists of ten (10) strategic factors of integrity programme, where automation is considered important as it increases the level of accountability and provides audit trails.

In this context, the introduction of computerized solutions have been put in place for processing Customs documents—and the general automation of Customs clearance—leave little to the discretion of Customs officials, thereby reducing opportunities for corruption.

v. The mercator programme

In June 2014, the WCO launched the Mercator Programme to support Customs administrations in ensuring uniform implementation of the WTO TFA, using the WCO instruments and tools.

---

In the context of technical assistance under the WCO Mercator Programme, the WCO assisted the MRA Customs in 2016 for the setting up of an Enquiry Point in accordance with Article 1.3 of the WTO TFA, which is one of the six provisions of the agreement that Mauritius has categorized under Category "C".

Additionally, in the same year, the WCO assisted the department in conducting a TRS workshop under the Mercator Programme to build capacity. As a result, a dedicated team was set up to work on the project.

![Figure 3: The Mercator Programme](image)

The WCO moves on to this tailor-made assistance for countries that need strategic advice in the following manner.

i. Provide analysis of all previous needs assessments by various organizations to consolidate a comprehensive plan and roadmap for implementing the TFA;

ii. Conduct TRS to set baseline data for the future improvement, involving Customs, other government agencies (OGA) and the private sector;

---

iii. Support the establishment of NCTF as a platform for coordination, including the planning, analysis and developing a reform plan for implementing TFA involving a range of stakeholders;

iv. Monitor and evaluate the progress of the recipient countries in implementing TFA. Performance measurement, including TRS, is employed to ensure result-oriented assistance;

v. Use the WCO forum to collect and share practices of TFA implementation in cooperation with the WTO;

vi. Organize regional/national donor conferences to match the needs of recipient countries and donor funding.

### 4.2.2 World trade organization (WTO)

The WTO oversees the policies of international trade and aims to “help trade flow smoothly, freely, fairly and predictably”. To facilitate the movement of goods across borders, WTO Members have concluded discussions on the TFA at the 2013 Bali Ministerial Conference. The TFA contains provisions for expediting the movement, release and clearance of goods, including goods in transit. It also contains many procedures to improve assistance between Customs and other authorities on trade facilitation and Customs compliance issues.

The TFA contains some provisions related to Customs digitalization and other border control agencies; some of which comprise of:

- Article 1.2: Information Available Through the Internet
- Article 7.2: Electronic Payment
- Article 10.4: Single Window

Under current border procedures, the average transaction can involve numerous steps. The TFA sets forth a series of measures for expeditiously moving goods across borders inspired by the best practices from around the world. The Agreement is ground-breaking in that, for the first time in WTO history, the commitments of developing and least-developing countries are linked to their capacity to implement the TFA. In addition, the Agreement states that assistance and support should be provided to help countries achieve that capacity.

The TFA may be used in this study to evaluate the existing framework in Mauritius whereby Digital Customs has been implemented. The Agreement specifically evaluates the processes
through which goods move across borders and it is therefore an important benchmark to firstly assess how far Customs Administrations have gone in implementing Digital Customs and secondly if same is functioning. It is worthwhile to also note that the WCO does provide the necessary assistance to developing countries to implement the TFA, be it in terms of training, financial aid or evaluation measures.

Mauritius has been a WTO member since 1 January 1995 and a member of GATT since 2 September 1970. For record, Mauritius was the first country to ratify the WTO TFA and has implemented a series of trade facilitation initiatives namely the Cargo Community System, the Electronic Certificate of Origin, the Single Window and Paperless Customs, to name a few for the release and clearance of goods in an expedite manner.

4.2.3 World bank (WB)

The contribution of the World Bank in Customs reform and modernization as well as digitalization around the world is colossal and important. The World Bank sets up considerable financial and technical support to developing countries to facilitate them to practice the reform and modernization programmes of their Customs administrations. The World Bank supports Customs reform programmes through investment and Technical Assistance Loans (TALs) as well as in Structural Adjustment Loans and credits (SALs).

4.2.4 United nations conference on trade and development (UNCTAD)\(^5\)

Established in 1964, UNCTAD promotes the development-friendly integration of developing countries into the world economy. Electronic Data Interchange (EDI) of trade data came about when technological developments enabled new ways of handling and transmitting information. When using automatic data processing and transmission, a common —language— must be used.

UNCTAD provides assistance in the technical modernization of Customs, including the automation and clearance of goods. The objective is to facilitate trade by speeding up the clearance process through the use of information technology and the reduction and simplification of Customs documentation and procedures. This also has the effect of (i) increasing revenue through the computerization of the Customs tariff, and (ii) providing reliable and timely trade and fiscal statistics.

---

In this regard, UNCTAD has developed the Automated System for Customs Data (ASYCUDA), which is set up in more than 70 countries. Additionally, it has contributed largely to digitalization at MRA Customs in the implementation of a computerised Customs Management System (CMS).

4.2.5 International monetary fund (IMF)

The IMF works to foster global growth and economic stability. As a leading source of Technical Assistance (TA) in revenue administration, it has helped MRA Customs in providing policy advice and funds to realize projects with regards to the reforms and modernization. Thus, with its fundamental mission, the IMF has also helped the organization to ensure stability in the international system.

In 2014, a workshop was organized on ‘Implementing a Revenue Authority’ which focused to increase autonomy and in turn promote effective and efficient management while maintaining appropriate accountability and transparency. Drawing on the Mauritian experience, the IMF chose MRA as a model in terms of revenue collection and administration in the Eastern and Southern African region.

5.0 RESEARCH METHODOLOGY

This chapter highlights how the research has been undertaken. The research methodology was used in this study to obtain an intensive and comprehensive understanding of the current practices involved in the real-life context, experiences and perspectives of Customs administrations. The case study of Customs digitalization in Mauritius was chosen as the single case study. Multiple methods of data collection: documentation, interviews and internet, were used to obtain a holistic view of the current practice of digital Customs in MRA.

5.1 Research Approach

5.1.1 Collection of data

For this research, both quantitative and qualitative methods have been used. In broad terms, qualitative research methodology has been helpful to capture data relating to digital Customs, since the latter implied existing information on the selected platforms. Quantitative methods such as surveys and screen captures helped to evaluate how far the Digital Customs is a reality in MRA Customs.
Primary sources of information were obtained from in-depth interviews. The interviews were conducted with interviewees mainly from the Customs Department. Interviews involved both management and operational levels of Customs officers. The aim of the interviews was to develop a full understanding of the implementation of practices in regard to digital Customs as well as the best practices.

Moreover, a variety of methods were used to obtain relevant information that led to a better understanding of the digital Customs. Several sources have been used to obtain secondary data, such as, MRA Magazines, books, journals, internet, international guidelines and practices, academic literature, as well as reports or records from Customs administrations, international organizations and the trading community. The study examined digitalization in MRA Customs at various levels.

6.0 LIMITATIONS OF THE STUDY

During the study the following limitations were noted:-

- MRA Customs is a vast organization with a lot of composite operations, procedures and work practices. This research does not consider technical or operational matters but rather focuses on issues that have a strategic dimension.

- Due to time constraint, study has been restricted to only one ESA country that is the Mauritius.

7.0 DIGITALIZATION IN MRA CUSTOMS

Digitalization plays a key role in operating a modern Customs administration. MRA Customs has been drastically changed from a paper based organization to a modern, efficient and effective organization that has adopted automation and ICT at all levels of operations, processes and procedures. The use of ICT allows Customs to effectively manage with the sophisticated global logistics systems used by international trade and transport operators. “To meet its mission, a Customs administration must effectively integrate modern practices and processes with ICT-driven Customs management systems”. *(Luc De Wulf and Gerard McLinden, World Bank, 2005)*

This section describes some of the initiatives and projects related to digitalization that have been implemented by MRA Customs. To achieve excellence in MRA Customs, the three categories were targeted:
i. Trade Facilitation and Security
ii. Fair and Effective Revenue Collection
iii. Protection of Society

7.1. Trade Facilitation

Based on observation, information technology, automation and advanced techniques are important in the support of Customs procedures and operations in the current international trading environment. This is particularly so in the case of MRA Customs, which rely heavily on automated systems for advance and electronic submission of cargo information and Customs entry in regard to Customs formalities.

7.1.1 Electronic data interchange (EDI)\(^6\)

EDI is the direct computer to computer data exchange between two organizations of standard business transactions documents without human interventions. It uses the network system and follows standards and procedures that allow output from one system to be processed as input to other systems. This is the central concept of e-commerce and changing the way business is done.
I. Introduction of ASYCUDA

The rapid expansion of international trade and industrial development greatly increased the challenges of the department. Efficient management based on old organisational system was difficult. In 1993 Mauritius Customs implemented the Automated System for Customs Data (ASYCUDA) developed by UNCTAD which provided functions for the management of a declaration process (import and export), direct trader input, accounting, warehousing, temporary admission/importation and statistics.

II. Customs management system I (CMS I)

During the 1990’s Mauritius Customs began to develop a data system for electronic submission of Customs declarations, which brought large benefits both to Customs and the private sector. Following the recommendations of the World Trade Organisation (WTO) that Customs should act more as a facilitator than as a barrier to trade, the Mauritius Customs embarked, in 1994, on a Customs Reform and Modernization Programme undertaken by the Ministry of Finance. With the creation of the Mauritius Network services, it was decided to make optimum use of Information Technology to computerise the key commercial operations in an EDI environment.

ASYCUDA, for its lack of interoperability between trade operators, was found inadequate for the TradeNet Project.

III. Customs management system II (CMS II)

The CMS II has been upgraded and is operated on an Oracle 11g platform enabling the reception of attached documents and graphical user interface which allow the shift to paperless in the near future. This new version of the CMS has space for further enhancement. CMS II which was operational since 20 July 2009 provides better reports and interface with Cargo Community System (CCS).

The benefits of the Customs Management System to MRA Customs are illustrated in table 3.
Table 3: Benefits of Customs Management System to MRA Customs

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th>MANAGEMENT</th>
<th>ORGANISATION</th>
<th>INFORMATION SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A tool for management to trade facilitation through the use of risk management to assess the compliance and the non-compliance level.</td>
<td>A flatter organizational structure and a fewer level of hierarchies</td>
<td>System available on a 24/7 basis and reducing clearance time from days to fifteen (15) minutes for non-litigious declarations</td>
<td></td>
</tr>
<tr>
<td>Streamline paper-based procedures and reduction in paperwork</td>
<td>Lower risk of corruption with lesser face to face contact between officers and stakeholders</td>
<td>Goods cleared faster and in a more transparent mode thus benefiting in terms of cost and time</td>
<td></td>
</tr>
<tr>
<td>Change in the Customs legislations with the introduction of the ‘Use of Computer Act’</td>
<td>A better communication process through the use of the intranet and e-mails</td>
<td>A better control on the collection of duty, excise duty and taxes with the introduction of e-payment through commercial banks</td>
<td></td>
</tr>
<tr>
<td>Harmonisation and better control on deadlines and information framework</td>
<td>Conclusive public/private sector collaboration</td>
<td>Reduction of errors through the use of standard software</td>
<td></td>
</tr>
<tr>
<td>Enhancement of transparency, accountability and productivity</td>
<td>One-stop shop through the use of a single window for the clearance of goods</td>
<td>Selling of secured serially numbered digitalized forms to traders</td>
<td></td>
</tr>
<tr>
<td>A better post control through the auditing system and risk management</td>
<td>Better coordination among automated Customs offices</td>
<td>Improvement in the quality of record keeping</td>
<td></td>
</tr>
<tr>
<td>Improved management information on finance and accounting, human resource and trade statistics</td>
<td></td>
<td>Download Customs forms and guides instantly over the internet thus saving cost and time</td>
<td></td>
</tr>
<tr>
<td>More effective enforcement through faster processing of data and matching of information</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Customs Management System, MRA Customs

7.1.2 Setting up of a cargo community system (CCS)

The Cargo Community System (CCS) came into legislation in Mauritius as per the regulations made by the Minister of Finance under Section 163 of the Customs Act in 2008 and is known by the Customs (Cargo Community System) Regulations 2008. This system is being implemented with the technical expertise of a French firm, SOGET\(^7\), will enable timely exchange of manifest data between various stakeholders and simplify, streamline and rationalise cargo logistic processes.

The CCS has been described as the ‘electronic network system for the submission of advance information relating to cargo before the cargo is either imported into, or exported from, Mauritius by any mode of commercial transportation’.

\(^7\)This system has been implemented in Le Havre Port by SOGET. A delegation of Mauritian stakeholders including two Customs officers travelled to Le Havre Port in May 2007 to take cognizance of the first hand operations of the CCS.
The general principle of the CCS is to register any real or forecasted data concerning a shipment with its features like description of cargoes, means of transport, documents, statuses etc. The CCS shall manage the notification of arrival and departure of shipments as early as possible to allow professionals to anticipate as much as possible. The CCS shall also allow users to react quickly in order to provide any data to the next stakeholder in the logistic chain.

This system promotes the WCO’s SAFE Framework of Standards to secure international Supply Chain. The CCS will considerably help in cutting down delays and improve cargo dwell-time. The implementation of the CCS is being carried out phase-wise. At present, the manifest and the transhipment module have already been implemented and the import and export modules will follow.

Maritime E-manifest has been implemented in October 2009. Shipping agents can send their manifest directly after receipt in their system to MRA Customs through CCS. Also amendment of manifest is being done electronically.

With the setting up of the CCS, Mauritius benefits the following:-

- Elimination of inefficient manual processes with significant productivity gains to logistics service providers.
- Streamlined Customs procedures in compliance with the World Customs Organization SAFE framework of standards for trade facilitation.
- Implementation of the Authorized Economic Operator concept to allow improved US and EU market access by providing advanced electronic cargo information to Foreign Customs services.
- Increased competitiveness for manufacturers and exporters.
- Facilitation of transhipment cargo.

The implementation of this community information system allows to:

- Optimize the processes of the logistic chain
- Comply with the WCO SAFE Framework of Standard
- Manage cargo in just and real time
- Track and trace cargo
Link all the different parties involved in the logistic chain

7.1.3 Single window system (SWS)

MRA, in collaboration with the Ministry of Finance and Economic Development (MoFED), is implementing a Single Window OGA (Other Government Agency) for the electronic submission and approval of agency import/export permits, required for Customs clearance. Its participants are the government departments, businesses, and other agencies involved in international trade. The core part of the TradeNet Project is the Customs Management System (CMS), which allows the submission, processing and approval of Customs declarations within 15 minutes, and processing and approval of import (and export) permits and payment of duties by electronic means. This system has been designed to regroup various agencies in terms of clearing of permits to facilitate trade. The project has further reduced cargo dwell-times for the benefit of all stakeholders and has a positive impact on ease of doing business index. Presently, four government agencies have already integrated in the Single Window and two are in the development phase. (See table 4 below)

Table 4: List of OGAs – Single Window

<table>
<thead>
<tr>
<th>List of OGAs</th>
<th>Fully Operational/Testing Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1   MICCP- Import</td>
<td>Oct-16</td>
</tr>
<tr>
<td>2   Mauritius Standard Bureau</td>
<td>Oct-16</td>
</tr>
<tr>
<td>3   MICCP- Export</td>
<td>Apr-17</td>
</tr>
<tr>
<td>4   Film Classification Board</td>
<td>Aug-17</td>
</tr>
<tr>
<td>5   Radiation Protection Authority</td>
<td>In Progress- Testing phase</td>
</tr>
<tr>
<td>6   Ministry of Fisheries</td>
<td>In Progress- Testing phase</td>
</tr>
</tbody>
</table>

7.1.4 Automatic clearance for green channel declarations

In order to provide maximum facilities to importers, the CMS has been enhanced in such a way that it provides speedy delivery of goods (low level risks) through green channel whereby goods are delivered upon documentary control at compliance level. In this context, if no Customs action has been initiated, all Green channel declarations are automatically cleared after validation for delivery in 30 minutes.

Following the successful implementation of automatic clearance for sea green channel consignments and in line with the trade facilitation measures, MRA Customs has stretched this measure to expedite clearance of air import declarations with green channel status in December 2015. Nevertheless, to prevent misuse of this facility by dishonest traders, same is made active only during official working hours excluding lunch time.

Table 5: Automatic Clearance for Green Channel

<table>
<thead>
<tr>
<th>Automatic Clearance</th>
<th>Prior to 2012</th>
<th>2012 Onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Channel</td>
<td>2 hrs- 4hrs</td>
<td>30 Mins</td>
</tr>
</tbody>
</table>

Source: MRA Annual Report, 2015

7.1.5 Electronic submission of EUR1, SADC and IOC certificate of origin

Following an investigation into the fraudulent printing and issuance of fake EUR1 movement certificates by unscrupulous exporters of tuna to the EU market, MRA Customs designed and implemented an innovative electronic-EUR1 system on August 1, 2006. This e-EUR1 system allows Mauritian exporters to apply on-line for their EUR1. Once the goods are ready for export, with the export declaration filed electronically and all supporting documents made available to Customs, MRA Customs can determine the eligibility of the goods for an EUR1 certificate, and if satisfied will print the EUR1 data on a pre-printed EUR1 form containing a number of high security features. Once the EUR1 data is printed, the exporter is informed he may pick-up the completed EUR1 form at Customs. Vital data printed on the EUR1 form is then automatically uploaded onto the Mauritius Customs web-site thereby allowing any EU Customs administration or other authorities wishing to immediately check the authenticity of the Mauritius EUR1 certificate presented to them by the importer in the EU to support the claim for a duty/tax
The new e-EUR1 has proven to extremely efficient for exporters and effective in preventing fraud. Being the first administration to implement such a system, it is being hailed as an international benchmark/best practice in trader facilitation. With its implementation, queries by EU countries regarding Mauritius EUR1 certificates have been reduced to a minimum. This has also impacted positively on the overall processing time for issuance of EUR1 certificates. To date, over 25,000 EUR1 certificates have been issued to exporters using the new e-EUR1 system. The application of electronic system has been extended to SADC and IOC certificates of origin, effective as from 1st April 2010.

![Figure 5: Electronic Submission of Certificate of Origin](image)

### 7.1.6 Fast-track cargo initiative (blue channel)

In the year 2007, MRA Customs launched this initiative to encourage voluntary compliance by rewarding compliant traders with new, expedited cargo clearance processes and no physical inspection of their consignments. At present, 32 operators are granted the Blue channel for submitting their Customs Declarations.
7.1.7 On-line tracking system in freeport

Greater autonomy has been enunciated to Freeport Developers to manage their respective zones.

In this context, the MRA Customs together with the BOI, MOFED, Freeport Developers and MNS, agreed to develop an Online Tracking System (OTS) aiming at removal of Customs Officers at the Free Port Gates and proceeding with post audit controls which provide a new dynamism by enhancing trade facilitation measures and reducing cumbersome control at the Freeport sector. This will allow for the proper tracking of containers to and from Freeport Developer zones.

7.1.8 E-payment

As per the RKC, MRA Customs has introduced the e-payment and as from 15 January 2017, this facility is required for all amounts payable per bill of entry exceeding Rs. 50,000.

The E-Payment platform has helped in achieving MRA Customs goal of paperless transaction. This facility has improved convenience of paying taxes on time and without the burden of carrying hard cash and cheques around. It has also saved enormous costs in printing paper money which is usually withdrawn from circulation and destroyed with time⁹.

---

⁹Le DefiMedia Group, 30 August 2017: http://defimedia.info/online-services-e-commerce-gaining-ground
Since its implementation, it has been observed that there has been an increase in the number of E-payment and therefore a growth in the number of traders using this facility.

![Number of E-Payment at MRA Customs](image)

**Figure 7**: E-Payment at MRA Customs

### 7.1.9 Warehouse management system (WMS)

The WMS is running on a secure web portal, offering the possibilities for legitimate warehouse operators to register, log into and upload or enter their stock movement and balances on the system.

In February 2016, WMS—a web-based application has replaced the manual ledger to record goods entering and leaving the warehouse operated by private operators under the suspended duty regime (Bonded Warehouses). Additionally, in February 2017, this system has been prolonged to Duty Free Shops and shops under Deferred Duty and Tax Scheme and to Part I Licenses of Excisable goods.

**Table 6**: Warehouse Management System (WMS) – Bond Operators

<table>
<thead>
<tr>
<th>Bond Operators</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Own System</td>
<td>4</td>
</tr>
<tr>
<td>2 System set up by Customs</td>
<td>27</td>
</tr>
<tr>
<td>3 Number of Operators</td>
<td>31</td>
</tr>
</tbody>
</table>
7.1.10 Reduction in the number of customs inspections

The level of physical inspection for goods has been lowered to around 5% with the use of NII technology. In addition, approximately 30% of import cargo is cleared automatically within 30 minutes.

Figure 8: Percentage of import declarations selected for physical inspection

7.2 Fair And Effective Revenue Collection

7.2.1 Passenger assessment and clearance system (PACS)\textsuperscript{10}

The PACS has been introduced in CMS and is operational at Arrival Hall, SSR International Airport as from 11 November 2014. PACS caters for the assessment, calculation and collection of appropriate duty, excise duty and taxes on goods attracting duty and taxes found in excess of the normal allowances granted to bona fide passengers. The system also enables officers to issue Detain Receipts in the most efficient and timely manner to passengers.

7.2.2 Customs debt management system (CDMS)

The CDMS came into operation as a module in the CMS in May 2012 with the objective to register, compute and monitor all claims raised by MRA Customs including the recording of cheques dishonoured and outstanding electronic payments by the Finance and Administration Department. This application is also used by the Legal Services Department of MRA for the recording of court proceedings and rulings in respect of all claims cases referred to them.

The CDMS is monitored by the Debt Monitoring Unit which was set up in November 2010. Some statistics relating to claims are shown in the table below.

Table 7: Customs Debt Management – Claims and revenue raised

<table>
<thead>
<tr>
<th>CLAIMS</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017 (Jan to Aug)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of claims raised</td>
<td>65</td>
<td>292</td>
<td>762</td>
<td>790</td>
</tr>
<tr>
<td>Amount of Revenue collected from claims raised (MUR)</td>
<td>26,589,308</td>
<td>48,570,528</td>
<td>79,522,310</td>
<td>74,810,698</td>
</tr>
</tbody>
</table>

Figure 9: Results from PACS Module
### 7.2.3 Revenue collection

The MRA has evolved over the past decade. In this respect, the evolution of some parameters is given below.

**Table 8: Evolution of Revenue Collection at MRA Customs from 2006 to 2015**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27,250</td>
<td>32,607</td>
<td>32,664</td>
<td>16,865</td>
<td>35,669</td>
<td>38,474</td>
<td>42,338</td>
<td>42,626</td>
<td>42,431</td>
<td>44,487</td>
</tr>
</tbody>
</table>

7.3 Protection Of Society

7.3.1 National customs enforcement network (NCEN)

The nCEN is a Customs enforcement tool developed by the WCO to allow proper capture of timely nominal information relating to Customs offences namely drugs, IPR, tobacco, tax and duty evasion.

Mauritius has been the pioneer country in the ESA region for the establishment of the nCEN and has been selected since as the nCEN Regional Leader and the Chairperson of the Customs Enforcement Management Team (CENMAT) for the year 2016. The pilot phase started in August 2010 and nCEN was successfully implemented in Mauritius in December 2012.  

Table 9: National Customs Enforcement Network (NCEN)

<table>
<thead>
<tr>
<th>Cases</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td>30</td>
<td>19</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>CITES</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Currency</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Drug precursor chemicals</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Drugs</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>Hazardous materials</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IPR</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Medicine &amp; Pharmaceutical Products</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other prohibitions and restrictions</td>
<td>50</td>
<td>48</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pornography/Paedophilia</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Radioactive and nuclear materials</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Strategic goods</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tax and duty evasion</td>
<td>125</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tobacco</td>
<td>40</td>
<td>31</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Weapons and explosives</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Number of cases for 2012: 307

7.3.2 Use of non-intrusive inspection equipment

Complying with the security requirements dictated by the WCO Framework of Standards, MRA Customs has employed cargo x-ray scanners to efficiently and effectively detect smuggled and

---

prohibited goods in a non-intrusive manner. The scanners have enabled the organisation to inspect an increasing number of containers and to detect drugs and contraband.

In 2015, the MRA procured a new container scanner from NucTech Ltd to replace the scanner currently being used at the port. The new scanner became fully operational in March 2016.

![Mobile X-ray Container Scanner](image)

**Figure 10: Mobile X-ray Container Scanner**

**Table 10: X-Ray Scanning of Containers/Consignments (Number)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Container / Consignment Scanned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port</td>
<td>19,176</td>
<td>38,330</td>
<td>38,849</td>
<td>22,236</td>
<td>47,856</td>
<td>40,841</td>
<td>35,813</td>
<td>35,816</td>
<td>38,277</td>
<td>30,033</td>
</tr>
<tr>
<td>Airport</td>
<td>5,207</td>
<td>13,394</td>
<td>13,172</td>
<td>6,372</td>
<td>13,965</td>
<td>14,544</td>
<td>17,227</td>
<td>18,749</td>
<td>22,162</td>
<td>118,833*</td>
</tr>
<tr>
<td>Suspected Container / Consignment</td>
<td>1,021</td>
<td>1,499</td>
<td>1,896</td>
<td>988</td>
<td>1,914</td>
<td>1,499</td>
<td>1,377</td>
<td>791</td>
<td>1,216</td>
<td>2,288</td>
</tr>
<tr>
<td>Port</td>
<td>474</td>
<td>507</td>
<td>505</td>
<td>184</td>
<td>324</td>
<td>232</td>
<td>269</td>
<td>297</td>
<td>393</td>
<td>172</td>
</tr>
<tr>
<td>Airport</td>
<td>547</td>
<td>992</td>
<td>1,391</td>
<td>804</td>
<td>1,590</td>
<td>1,267</td>
<td>1,108</td>
<td>494</td>
<td>823</td>
<td>2,116</td>
</tr>
<tr>
<td>Offences detected</td>
<td>108</td>
<td>266</td>
<td>396</td>
<td>208</td>
<td>411</td>
<td>157</td>
<td>135</td>
<td>99</td>
<td>266</td>
<td>574</td>
</tr>
<tr>
<td>Port</td>
<td>80</td>
<td>146</td>
<td>190</td>
<td>73</td>
<td>155</td>
<td>97</td>
<td>40</td>
<td>68</td>
<td>73</td>
<td>30</td>
</tr>
<tr>
<td>Airport</td>
<td>28</td>
<td>120</td>
<td>206</td>
<td>135</td>
<td>256</td>
<td>60</td>
<td>95</td>
<td>31</td>
<td>193</td>
<td>544</td>
</tr>
</tbody>
</table>
7.3.3 CCTV monitoring of inspection of goods

Advanced CCTV camera systems have become operational at SSR Airport Arrivals Hall, PATS Air Cargo Warehouse and other strategic locations. On-line camera images are viewed and monitored on a 24/7 basis. CCTV technology reduces the need to station Customs preventive officers at fixed locations. To safeguard those strategic locations, more CCTV cameras are being installed.

Table 11: CCTV Camera Systems

<table>
<thead>
<tr>
<th>Number of CCTV Cameras</th>
<th>Number of Interventions</th>
<th>Number of additional CCTV Cameras</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRA MPA CHCL</td>
<td>2015 2016 2017</td>
<td>Approximately 200</td>
</tr>
<tr>
<td>8</td>
<td>14 14 72 28 112</td>
<td></td>
</tr>
</tbody>
</table>

7.3.4 Risk management\(^\text{13}\)

Risk Management in the field of Customs emanates from the convention International Convention on the Simplification and Harmonization of Customs Procedures which was established under the auspices of the Customs Co-operation Council (CCC), at Kyoto, on 18 May 1973. The Risk management capacity has been enhanced with the creation of a Risk Management Section since January 2010. This Section enables MRA Customs to strike the right balance between the aspect of trade facilitation and enforcement.

A common characteristic of Customs work is the high volume of transactions and the impossibility of checking all of them. Customs administrations therefore face the challenge of facilitating the movement of legitimate passengers and cargo while applying controls to detect Customs fraud and other offences. Customs services find themselves increasingly under pressure

from national governments and international organisations to facilitate the clearance of legitimate passengers and cargo while also responding to increase in transactional crime and terrorism. These competing interests mean that it is necessary to find a balance between facilitation and control within the framework of laws, regulations and procedures.

Given the high number of export, import and transit transactions, MRA Customs administration use risk analysis to determine which persons and goods should be examined and to what extent (WCO RKC, Standard 6.4).

Inspection selectivity programmes make use of risk profiles, which have been established in a process of risk analysis and assessment. Risk profiles encompass various indicators, such as; type of good, compliance records of traders, value of goods and applicable duties, destination and origin countries, mode of transport and routes. These are built based on characteristics displayed by unlawful consignments.

These profiles then drive inspection selectivity programmes, through which data declared will be analysed on the basis of the identified risk parameters and consignments, and depending on the selected risk level, goods and persons are routed through different channels of Customs control.

The three (3) tools provided by the Customs Management System/Selectivity Module are Entry Selection (ESEL), Sensitivity and Random Physical Check. Depending on levels of risks, goods are routed through channels (see figure 11):-
The new era of Digital Customs has transformed the way Customs operates. Eventually, it ensures progression – the enhanced ability of Customs administrations to communicate process goods, receive and exchange information, coordinate border activities, collaborate on law enforcement actions, and promotes transparency and brings out numerous benefits that help Customs administrations reach their contemporary objectives.

### A. To the economy

According to the World Bank’s 2017 Doing business reports, nine of the ESA Members made the top 10 positions and 15 took honors in the top 20. Mauritius led the pack by 49 among the Sub-Saharan countries for the Ease of Doing business. This is shown in Figure 12.
The cost of doing business is reduced through faster clearance times for legitimate trade and increased transparency in regulatory processes and decision-making. Automated Customs procedures lead to reduced congestion at ports and airports, expedited release of goods and reduction in costs to Customs as well as its trading partners.

Recently, Mauritius has been ranked 25th out of 190 countries by the World Bank’s Doing Business Report 2018 and confirms its leading position in the African continent.

**B. The organization (MRA)**

i. Enhanced detection of irregularities and illicit consignments through the collection and analysis of data. Since Manifest is submitted prior to arrival of vessel at destination, Customs with use of risk management criteria can target more efficiently the consignments and proceed with verifications. Also, with the introduction of Scanner for container in the port, many anomalies were detected and cases opened.

ii. Digitalization helps in achieving the “green” concept by replacing paper-based Customs procedures with electronic operations. In terms of processing of BOE it is quicker than before since upon validation BOEs are directly assigned to the compliance officer in a from a working pool and after payment of Duties & Taxes, if any, the latter can process the BOEs. Also, there is no need to keep any document related to each BOE since all the documents are attached in with the BOEs in the system and same can be viewed in PDF format.

![Figure 12: ESA Ease of Doing Business 2017](image-url)
iii. With the introduction of WMS, Customs is able to view and monitor movement of stock pertaining to a particular warehouse 24/7. This also facilitates Customs when performing random check in warehouses for an audit on the stock of goods.

iv. PACS module has helped Customs to process the assessment of goods effectively and efficiently at airport thus, allowing quicker clearance. Also, the system has catered for report that will indicate the total revenue collected for a given period and for analysis purposes.

v. With reference to MRA’s determination to maintain integrity and solid positive corporate image within the organization, MRA was awarded the 2010 best anti-corruption award by the Independent Commission against Corruption (ICAC) and is moving towards zero tolerance as regards to corruption. In addition, it is promoting transparency and reducing discretionary powers of Customs.

C. To the declarants/ stakeholders

i. With the Web based declaration, declarants are given the facility to create a declaration anytime and anywhere with only an internet connection. They can work anywhere apart from office to create their declarations whereby before the where using a front end system which was given access to create a declaration only at one location.

ii. Faster clearance times for legitimate trade: automated risk management, intelligence systems and Non-Intrusive Inspection of cargo and other technologies allow Customs to more effectively and efficiently discharge its control function.

The introduction of automatic clearance on Green Channel declarations within 30 minutes from validation/payment has benefitted greatly on importers for obtaining their consignments.

Also, Importers can be granted BLUE Channel based on the degree of compliance to customs procedures. With this facility, BOEs are cleared automatically at time of validation or payment of Duties & Taxes as the case may be.

iii. Provision of deferred payment scheme has allowed stakeholders to get clearance of their consignments prior to payment of Duties and Taxes. Thus, an importer is granted one moth and seven days for payment of his dues to customs implying that the latter can trade and use the money received from the sales of that consignment to payback
the amount due. There is the elimination of shortcomings like bounced/dishonored cheques for ease of operation and convenience.

iv. The National Single Window allows single electronic sign-on and submission by traders/applicants for licenses/permits applications, Customs declarations and trade documents as well as the processing of same by Customs and the relevant agencies. This has reduced costs for stakeholders dealing with Customs in terms of time and transports.

v. Various facilities have been provided to stakeholders in terms of payment of duties and taxes such as
   a. On-line payment where no more queues and waiting are required
   b. Confidentiality and transparency of the transfer of funds.
   c. One can pay on behalf of the firm, company and others.
   d. Instant Cyber receipt with banks transaction number becomes available.
   e. Improved security of transactions.

9.0 CHALLENGES FACED

With the on-going digital Customs initiatives and despite the positive development of trade facilitation, MRA Customs faced several challenges which are as follows:

i. Facilitate trade without weakening Customs Control. To support the concept of facilitating trade, a Risk Management Section has become fully operational in 2009 which focuses on the departmental risks and share intelligence across the organization where informed decisions are taken thus substantially reducing clearance time and expediting legitimate consignments. Moreover, study is being carried out to monitor the trend in trade and coordinate their inclusion within the system.

ii. Several initiatives run concurrently. Inevitably officers get over stretched resulting in officers in other units being called up to participate in projects. Cases are common where an officer is found handling several projects at a time. Therefore, the effectiveness in achieving the organization’s objectives and its continued success depend largely on the people that comprise it. An organization may have the most sophisticated and the latest-of-the-art technology, updated system and processes but ultimately it is the human
resources which provide the hands and brains to do the work of the organization. To alleviate this problem, the MRA proceeded with the recruitment of more skilled officers.

iii. Inadequate awareness and education to stakeholders regarding the use of the implemented system. To solve this issue, continuous training program in all areas of customs was held by local trainers in Custom House.

iv. Resistance to reforms by some staffs and stakeholders due to lack of IT knowledge. In order to resolve this concern, conferences and workshops were prepared for Customs staffs and stakeholders. Staff representatives and trade union members were invited to provide their inputs. A dedicated training school has been set up to monitor each activity performed.

10.0 RECOMMENDATIONS

Digitalization has been carried out to smooth the progress of trade and coordinated border management, enhance Customs enforcement and build internal capacity. To enhance the concept of paperless Customs, it is recommended to keep abreast the changes with regards to digital Customs. In this context some recommendations have been identified:

- **Digital Signature**

  With the very growing number of electronic transactions and documents, the use of digital Customs will make it possible to trust and act upon transactions as if they were printed on paper and signed by a trusted source. Digital signatures will be used as a proof of authenticity of the originator as such Customs will be able to electronically identify the sender and the originator cannot deny the creation of the document, data integrity and non-reputed of communications conducted over the internet. It will also include an automatic date and time stamp which is very critical for Customs and business transactions. With this new concept in place, Customs clearance will be more convenient and speedy. Consequently, the cost of importers and exporters will be reduced considerably as there will be no need to send original documents through postal or courier services. So there will be a twofold advantage both for Customs and its stakeholders.

- **Detecting errors**

  One of the main responsibilities of the Customs authorities is the collection of duties and other taxes. Data Analytics can assist Customs in identifying errors such as valuation errors,
incorrect classification, incorrect quantity and incorrect country of origin which could lead to different preferential rates thus determining the duty amount to be paid. Where MRA Customs will detect false declarations, errors or omissions, they make the necessary adjustments and communicate these errors to the debtors. In detecting such errors MRA Customs can protect Mauritius revenue by enforcing fines and/or penalties.
• **Intelligent Enterprise: Huge data, smarter software— better outcomes (Big Data)**\(^{14}\)

To get smarter, it is imperatively for MRA Customs to master their data, which will be able to provide actionable insights to pre-emptively tackle fraud and risk, promote legitimate trade, and also create more personalized experiences for users. It is recommended to put big data at the heart of the intelligence transformation. They aim to better connect IT systems to share more classified information with trusted partners, while customs officers will use mobile technology to feedback real-time data that will help identify and defeat terrorists and organized crime networks, and defend against the illicit importation of drugs and firearms.

• **Blockchain**\(^{15}\)

Presently, Customs declarations appear on a system somewhere to be accessed later by authorized stakeholders. But with Blockchain, the moment the declaration is submitted it is visible in a non-reputable form to all the associated parties on the import side. The importer can trust the information about what is in the consignment, while also being able to check whether the related finance is legitimate, and thanks to the Internet of Things—track and trace it along the supply chain and determine if it is interfered with. In addition, finance fraud is a huge challenge for Customs agencies worldwide. For example, the fraudsters say they are shipping the same consignment to three or four places at once, and use the same documents to get finance from different parties. With Blockchain, the consignment details can already see the link to finance. So the opportunity for fraud disappears that is the criminals will have to slink off and look for someone else to rip off.

And aside from Customs, there are equally profound impacts elsewhere at the border. For example, individual travellers will be able to use Blockchain to store all their relevant travel documentation and records—passport, visas, ticketing, payment cards, personal travel history—in one secure yet easily accessible place.


\(^{15}\)World Customs Organization Blockchains, 28 August 2017: http://ifcba.org/sites/ifcba/files/WCO_Blockchains_IFCBA_Special_Event_28_August_2017.pdf
This not only makes things much easier for the traveller, both in transit and going through immigration. It is also very powerful from a security perspective, enabling authorized agencies to have lawful visibility into people’s documentation and travel history, including which jurisdictions they have visited and when.

- **Setting up of a Data Warehouse**

In spite of being a fully-integrated organisation, it appears aberrant that the tax operations and Customs are operating two different IT systems. In fact, tax operations use the Integrated Tax Administration Solution (ITAS) whereas Customs operates through the Customs CMS II. However, both these systems have two different IT platforms: ITAS uses the System Application and Products (SAP) Integrated Tax Revenue Management Solution whereas CMS II uses the Oracle’s latest Oracle 10g. (Purmah; 2011:16). Hence, it seems that, due to incompatibility issues, both these systems could not be fully integrated thereby potentially undermining continuous flow of crucial information on taxpayers and traders. However, to circumvent this problem the MRA may recourse to a “Data Warehouse” concept through which the extraction, transportation, transformation and loading of relevant data could be done from both the ITAS and CMS II, thus providing to the MRA staff with an On-Line Analytical Processing (OLAP) engine to better assist and improve their workloads and quality of auditing.

### 11.0 MODEL FOR DIGITAL CUSTOMS FOR ESA REGION

With regards to the analysis, findings and best practices in MRA Customs, a model for Digital Customs has been proposed in broad lines for the ESA region.

There is a very old saying which goes as follows “Rome was not built in a day”. So patience, perseverance and hard work are keys to success in digitalization of Customs. There is no “One Size fits all “, but from lessons learned and by sharing of experiences, the process can be expedited and unnecessary steps avoided. At the same there can be cost savings and implementation time considerably reduced.

Similarly, digitalization as stated previously is an ongoing process and after each reform cycle we are thrusted to constant external turbulences to embark onto a new a cycle. Various factors which force Customs administrations to take reforms is the advent of new technology, the serious risks posed by emerging threats such as radiation, unscrupulous criminals involved in
production of fake and counterfeit products and the global economic shocks, the piracy problem in the region as well as environmental issues related to climate change.

In addition to the above, other key aspects are the policy decisions taken by governments and changes in the legal framework.

Mauritius being a small vulnerable economy had to be fully armed to face all the above pressures and maintain its trade level to ensure that the economy is not seriously affected. Measures taken have strengthened the country to resist to the shocks and maintain a positive growth. The outstanding results are in fact the additional revenue yield through duty and VAT at imports despite tariff elimination in a majority of articles and drastic reductions in others. Additionally looking at taxes with a holistic approach to adjust any evasion or avoidance over the whole supply chain has contributed to increase in revenue.

There is global pressure for governments to reduce Customs duties and it is important to rethink how national budgets will be financed. Secondly, there is utmost importance that if corruption is not eradicated, we cannot guarantee security of the global supply chain, a must for trade facilitation. Hence integrity in Customs is a very critical issue and has to be enhanced. We would encourage Customs administrations to consider these very seriously in reform and modernization program.

However, every ESA country operates in its own unique environment and it is vital to identify the key factors so that ideal digitalization is implemented and hence the objective of this study and research are met.

12.0 LESSON LEARNED

Based on the above discussions, some key lessons have been identified for making faster progress on digital initiatives which are as follows:-

1. **Stakeholders Involvement**

   Stakeholders play a big role for the success. Thus, there is a need to fully involve them from the beginning, encourage the dialogue and enhance the communication among the all stakeholders to ensure that they have the same level of understanding of the problem and the solution.

2. **Financial, Human and Material Resources**
Another recurring success factor is the importance of envisaging and preparing a realistic and sustainable funding mechanism to implement the trade facilitation initiative. A good funding strategy is needed to ensure the success of digitalization. Donor support as well as domestic funding is critical for implementing the projects. Adequate human resources and organizational management, is also a critical element in enhancing the quality and integrity of staff with respect to the trade facilitation initiative.

3. **Strong Political Will and Support**

During the digitalization processes, it is imperative for Customs to benefit from strong political will and support for digital projects.

4. **Transparency and Monitoring**

It is vital to keep policy-makers and relevant stakeholders, including the private and public sectors, informed on the elaboration of a trade facilitation initiative, progress achieved, difficulties encountered and surmounted, and measures proposed to address delays and changed conditions.

**13.0 CONCLUSION**

The MRA Customs Department has embarked on major modernisation programmes, in line with the mission of the MRA "to continually reform and modernise Revenue Administration in order to manage and operate an effective and efficient Revenue organisation comprising of highly motivated and skilled staff". As evidenced in this paper, the MRA Customs Department has achieved much progress in terms of digitalisation. These were outlined in the second Chapter of this paper and the achievements were evaluated with respect to WCO instruments and tools listed in Chapter 1.

The literature review (Chapter 3) recorded existing literature regarding digitalisation and how far this has been implemented by Customs Administrations in Africa and around the world. The remaining chapter of this paper proposes recommendations with respect to research objectives outlined earlier.

Like most Customs administrations around the world, the MRA Customs faces challenges of providing increased trade facilitation, enhanced revenue collection by eradicating fraud and corruption and enhanced control to safeguard the society and secure supply chain. The key formula to achieve these objectives effectively and efficiently is the digitalization of Customs
administrations so as to cope with the changing environment and conform to standards and best practices recommended by international institutions and conventions.

This paper has demonstrated that MRA Customs has effectively achieved considerable progress in the field of digitalisation and it is one of the Customs Administration that is looked-up to in the ESA region and beyond. But such progress may quickly be obsolete, keeping in mind the ever-evolving nature of digitalisation. It is therefore imperative that MRA Customs leaves no stone unturned in its quest of being a digital department.
REFERENCES


7. Nassika Sonnagee, Reforms and Modernization of Mauritius Customs to meet the challenges of the 21st Century. (MBA). University Technology, Mauritius, 06 June 2011


49


Ms. Nassika Anandee SONNAGEE holds a Bachelor Degree in English Language from Pune University in 2002, Diploma in Information Technology from the National Institute of Information Technology (NIIT) in 2006 both in Pune, India. In addition, Ms Nassika SONNAGEE has completed a distance learning course in Intellectual Property by WIPO Academy in 2009 and an MBA general from the University of Technology, Mauritius in 2011.

She has worked for nearly nine (9) years at the Customs Department of the Mauritius Revenue Authority. Throughout her years spent at the Mauritius Revenue Authority, Ms Nassika Anandee SONNAGEE has worked in different sections at Customs department. She was based at the Capacity Building Team in Director Customs’ office for three (3) years where she was very active in coordinating workshops such as the WCO ESA meeting held in 2011 and involved in various Capacity Building projects.

Ms Nassika is currently working at the Customs Management System-IT section, working on the core modernization projects of the MRA Customs. Thus, she has a keen interest in trade facilitation and Customs reforms and modernization. In 2016, she attended three (3) weeks seminars on Customs administrations in Beijing, China.

Last but not the least; she is also Member of the International Network of Customs Universities (MINCU) since 2014.
AUTHOR 2

Name Ms. Késhika Gupta QUEDOU
Current position Customs Officer I
Organization Mauritius Revenue Authority
Country Mauritius
Email (Office) keshika.quedou@mra.mu
Phone (Office) + 230 2020500
Mobile +230 57852948

Ms. Késhika Gupta QUEDOU holds a Bachelor degree in Management (Minor: Information Systems) in 2013 and a Master in Total Quality Management and Performance Excellence from University of Mauritius in 2015.

In 2010, Késhika joined the State trading Corporation, in the department of Finance, as a trainee. In 2012, she joined Fashion and Design Institute, in the department of Finance and Student Affairs department for one year.

In 2014 she joined the Mauritius Revenue Authority and posted in the Finance and Administration department as support officer for two (2) years. She was appointed in the Customs department in 2016 as Customs Officer I and is presently posted at the Customs Management System-IT section.

Furthermore Ms Késhika has been participated actively in the Organisation for Economic Co-operation and Development (OECD) Global Forum Meetings in Mauritius organized in collaboration with the Mauritius Revenue Authority (MRA) its 5th Competent Authority Conference (CAC) in Mauritius and 8th Automatic Exchange of Information (AEOI) Working Group Meeting. Secondly, she contributed in the Second Training of Trainers Workshop as Secretary September 2016. Where the Mauritius Revenue Authority (MRA) hosted the 2nd World Customs Organisation (WCO) East and Southern Africa (ESA) Training of Trainers (ToT) Workshop at the Address Boutique Hotel, Tombeau Bay.