SECTION 3 – YOUNG RESEARCHES' PAGE

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THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON TRADE FACILITATION: A CASE STUDY OF EAST AND SOUTHERN AFRICA

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Abstract

The main points of this paper were presented at the first Global Conference of the International Network of Customs Universities on May 21-23, 2014 in Baku, the Azerbaijan Republic.

Customs administrations need a vibrant use of information and communication technology (ICT) to buttress their effectiveness and efficiency. The goal is to use electronic data instead of paper documents and to connect different computer systems of government agencies and business to create a robust supply chain. This paper discusses the use of ICT in East and Southern Africa (ESA) Customs which has resulted in the improvement of trade facilitation. In so doing valuable benefits are reaped by stakeholders in the international business supply chain. The stakeholders include government agencies, intermediaries and traders. All the stakeholders also play a key role in trade facilitation which is driven by their distinct interests and needs in the trade supply chain. The paper identifies some of the significant benefits from trade facilitation as the reduction in the burden and costs associated with international trade transactions. There are further benefits which are related to a good trade facilitation environment such as the creation of greater opportunities to attract foreign direct investment (FDI). There are many other positive multiple linkages which are linked to good border clearance and trade facilitation systems which can accrue to an economy and hence contributing to economic progress as well as driving regional integration and international trade.

The paper also outlines that ICT plays a significant and critical role in various border clearance functions such as one stop border posts (OSBPs), goods release or clearance times (as measured by the Time Release Study), the single window concept and coordinated border management. Whilst ICT is not short of its challenges it provides a lot of future opportunities in customs administration. The paper concludes that ICT drives a robust customs administration system and thereafter recommends that it is important to prioritise the full automation of all customs processes chief among them being having a complete single window system in order to realize all the gains of automation.

Key words: customs, customs automation, modernization, trade facilitation, ICT.

Introduction

"While Customs administrations have to discharge the mission of revenue collection, protection of society and safeguarding security of the trade supply chain, they also have to strive for increased trade facilitation (TF) to promote investment and reduce poverty" (WCO Council, 2003). In most countries the lead border agency is customs and other government agencies. These include immigration, border guards, police, veterinarians, plant inspectors, food inspectors, trading standards

bodies, safety agencies and vehicle inspectors. These agencies impose a barrage of regulations and require separate excessive documentation which are frequently described as non-tariff barriers (UNECE, 2003a; UNECE, 2003b). The excessive documentation requirements has led to frequent complaints from business actors including on other issues such as lack of automation and ICT, lack of transparency in requirements, and objectives, inadequate procedures and operating practices, and an overal lack of modernization (Staples, 1998; Grainger, 2003). These issues pose a challenge to trade facilitation and are evident in most developing and least-developed countries (LDCs). Buyonge & Kireeva (2008) postulated that customs administrations, other government agencies and the private sector are capable of controlling up to 75% of the cross border delays faced by business.

This paper uses trade facilitation as defined by the WTO (1998) to mean: "the simplification and harmonisation of trade procedures' where trade procedures are the 'activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade". Whist this paper mentions other instruments which are used by customs and other border agencies in trade facilitation, it pays particular attention to the significant role and impact that the use of ICT has on trade facilitation.

Trade Facilitation dates back to the 1960s when the United Nations Economic Corporation for Europe (UNECE) formed Working Party Number 4 for the facilitation of international trade procedures and began to draft trade facilitation recommendations (Grainger, 2007). In the past trade facilitation used to be supported by the requirements under the multilateral trade facilitation disciplines of articles V, VIII and X of the GATT. However the WTO's 9th Ministerial Conference held in Bali, Indonesia in December 2013 gave birth to the Agreement on Trade Facilitation (ATF) which will now be the legal document on which worldwide trade facilitation work will be based. On December 11, 2013, the ATF was accepted in draft form and is expected to be ratified and to come into effect in July 2014 (Glancy, 2014). Articles 6-12 of the ATF are particularly important and relevant to the subject of this paper. This group of articles expand on GATT Articles V and VIII and focus on fees, charges and formalities for import, export and transit of goods. These articles require governments to develop new methodologies and business practices, introduce and expand the use of automation to enhance trade facilitation, and build a modernized border clearance service approach (Glancy, 2014). The use of ICT is paramount in this case and fully supports and enhances the implementation of the ATF.

On the other hand articles 1-5 of the ATF deal with transparency issues which require comprehensive communications strategy. Communication promotes public awareness and public consultation, for example, on border modernization initiatives such as the National Single Window (NSW) as well as enabling access to government information, legislation, documentation and border obligation (Glancy, 2014). The use of ICT plays a significant role in supporting the communication strategy and ultimately the ATF. Jackson (2009) confirms that "it is hard to think of a customs reform or improvement project today that would not involve the use of ICT- from the complexity of a multilateral single window project to the publication of customs notices via a website to the risk management systems used for targeting cargo for inspection."

The main objective of trade facilitation is to reduce transaction costs of doing business in international trade (Glancy, 2014). The specific costs include cost of clearing goods for import, export and transit and the associated border controls. Developing and least-developed countries face the greatest trader transaction costs and the administrative burden of trader activities, especially the landlocked ones (Glancy, 2014). The "Bali born baby", the ATF, seeks to oblige member nations, specifically customs authorities and government agencies involved in international trade, to remedy this situation by using modernized business practices and processes in order to address these costs associated with international trade (Glancy, 2014). The use of ICT is expected to play a major role in this process.

Customs administration plays a pivotal and critical role in the world trading system supply chain. Customs administrations use a variety of computer software packages such as ASYCUDA and the Direct Trade Input (DTI) to manage imports and exports, customs duty assessment and calculation as well as to manage the Harmonized System (HS) of classification of traded goods. The type of computer package and the extent of use of the computer package by any customs administration has an impact on cost and turnaround time to various stakeholders in the trading system. Turnaround time, administrative and conformity costs are crucial to governments and business in the region. ICT cannot be overlooked in any serious attempt to reduce administrative and conformity costs as well as the reduction of turnaround time hence facilitating trade.

A case study of the ESA region is used in this study. The paper covers ICT as it is applied in customs administration in ESA. The challenges and successes of the ASYCUDA system are explored and the implications that the computer system has had in the facilitation of trade on issues such as customs administration costs, turnaround time, business conformity costs as well as overall flexibility in procedures and other administrative issues.

1. The Use of ICT in ESA Customs Administration

1.1. ICT Initiatives to date

Several ESA customs departments use the internet based ASYCUDA World computer software package to manage imports and exports, customs duty assessment and calculation as well as to manage the Harmonized System (HS) of classification of traded goods. ASYCUDA software was developed by UNCTAD in 1981 and is used by most developing and least-developed countries worldwide (UNCTAD, 2012a). It is also used to create temporary import permits (TIPs) for foreign motor vehicles which are temporarily imported into ESA countries or when vehicles pass through ESA countries in transit to other countries in the region. ASYCUDA is also used as a risk management tool for importations whereby consignments are chosen using a set automated risk profiling method within the ASYCUDA system.

According to UNCTAD (2012), ASYCUDA is a computerised customs management system which covers most foreign trade procedures. The system handles manifests and customs declarations, accounting procedures, transit and suspense procedures and generates trade data that can be used for statistical and economic analysis. The ASYCUDA system is perfectly able to communicate through eXtensible markup language (XML) messages with all systems that are compatible with the WCO data model (UNCTAD, 2012). The ASYCUDA world system in ESA has evolved over the years. In Zambia for example, it came into effect in December 2013 and preceded the ASYCUDA ++ and ASYCUDA 2.7 software packages which were used in earlier years. The continual upgrading of the ASYCUDA software packages over the years has resulted in flexibility and brought in more sophisticated ways for customs management. The earlier versions of ASYCUDA have limited functionality compared to contemporary versions such as ASYCUDA World. ASYCUDA World also has higher processing efficiency and electronic data interchange as compared to the earlier versions of ASYCUDA.

The ASYCUDA World version is internet based which means that it can be accessed from anywhere in the world where there is internet connection. It has brought in many advantages which include online lodgment of bills of entry (customs declaration) and attachment of all documents required for customs assessment of imports and exports. This has virtually eliminated the need to physically visit customs offices for customs assessment as well as removing the need for providing physical documents to ZIMRA thereby creating a virtual and paperless real time office. This has a positive effect of improving governance and reducing corruption because of the elimination of direct interface between customs officers and traders during customs clearances (Lewis, 2009). Moreover the type of computer package and the extent of use of the computer package by any customs

administration has an impact on cost and turnaround time to various stakeholders in the trading system. Turnaround time, administrative and conformity costs are crucial to governments and business in the region. ICT cannot be overlooked in any serious attempt to reduce administrative and conformity costs as well as the reduction of turnaround time hence facilitating trade.

The ASYCUDA system for countries like Zambia and Lesotho is on a wide area network (WAN) platform and hence information on the ASYCUDA database can easily be accessed by all customs offices in real time. This has really proved to be crucial and beneficial to the superb functioning of the transit management system in the ESA countries. Goods that enter through one border post can easily be released online within the ASYCUDA World system at another border of exit because of the WAN system. The WAN system has also enabled the systems based post clearance audits, enforcement and compliance management. The WAN ASYCUDA World system also allows monitoring of customs transactions from the office and this complements work being done outside the offices.

In addition, a software system called the Systems, Applications and Products (SAP) is also used in countries like Zimbabwe to support customs and tax administration. This system is used during the registration of business or traders and it works as a client database where clients' tax information is kept and can be accessed at any time, for example, the clients payments accounts or history are kept in the SAP database. Businesses are assigned business reference numbers known as Business Partner (BP) numbers which are also known as taxpayer identification numbers (TIN) in other countries. The SAP system is also used for human resources, procurement, and payroll administration. It is a robust and user friendly computer software. Various reports for statistical and other management purposes can be obtained using the SAP software package. The software package is also currently running on WAN basis which makes information on the SAP database available instantly to all Customs offices on the click of the button.

Most ESA countries have also got vibrant websites where a cocktail of domestic taxes and customs information can be accessed by both internal and external clients. Examples of vibrant customs websites include the ones for South African Revenue Services (SARS), Zambian Revenue Authority (ZRA), Kenya Revenue Authority (KRA),Tanzania Revenue Authority and Mauritius Revenue Authority just to mention but a few. The websites contain information such as exchange rates, the integrated customs tariff, a tariff rulings database, various customs and taxes legislation, customs and taxes articles and bulletins, an email link to the public relations (PR) desk and many other informative and useful forms and documents. Some of the ESA countries are on social network platforms such as facebook, twitter and you tube.

The social networks are a very important modern tool for interacting with clients and therefore enabling a two way communication system between Customs and traders. Through the social networks customs is able to avail important tax and customs information to traders throughout the globe without any need for the client to physically interface with the offices. This ICT system has managed to create a customs virtual office. The traders can also make enquiries using the social networks and be able to get feedback within a few days unlike in the past where the traders were required to write physical letters and wait for weeks for the feedback. The use of the social networks can also keep traders abreast of latest developments in customs. This is in line with the provisions of Article 2 to Section 1 of the WTO Agreement on Trade Facilitation (WTO ATF) as well as Standard 9 of the General Annex of the Revised Kyoto Convention (RKC) which requires that Customs Administrations should make information available through the internet. The social networks also enable traders to comment on the service being provided by the Customs administrations at any time. Moreover a client satisfaction survey can also be easily conducted using the social networks platform.

Some ESA Customs administrations also use the intranet and electronic newsletter platforms which act as an internal system for information or communication and any other internal updates

within the office are done through these platforms. The electronic newsletters are published on intervals during the course of the year, for example, on a quarterly basis. More internal communication systems are also available in the form of the email software systems such as Microsoft Outlook. This allows for an efficient communication internally as well as with external stakeholders.

There also exist electronic payment systems which use both the internal (e.g. SAP) software package as well as the banks' online network system which allows traders to make payments using plastic money. This system uses banks' electronic point of sale (POS) devices which entails that an agreement would have been reached between Customs and the banking sector. Most ESA Customs administrations also use modern internet systems which are on both network points and wireless (WIFI) platforms, for example in South Africa, Kenya, Tanzania, Rwanda, Botswana and Zambia.

1.2. ICT Opportunities

Opportunities in the ICT sector in ESA are vast because of the deliberate policy by the governments to stimulate growth in the ICT sector by making imports of most ICT equipment duty free. This has seen significant importations of ICT equipment and in recent years this has seen huge investment in ICT projects such as the implementation of the fibre network system across ESA. The fibre network is being connected to several countries in the ESA region. Fibre network is a faster and cheaper system as compared to the satellite system. The fibre system is expected to be fully rolled out in ESA in the near future. The fibre network is expected to support Customs administrations' internet based systems and is also expected to spread internet coverage to all parts of the countries and this will connect remote ESA Customs administrations offices such as border posts. It is also expected to reduce the cost of administration of the computer systems.

1.3. ICT Challenges

Customs connectivity is still a major challenge in developing and least-developed countries. In Southern Africa, there is no automated system to share customs information between countries (SATH, 2014). This is actually the same in the whole of the ESA region. The current system requires manual re-entry of all information when most of similar data is required to prepare export documentation in one country as well as import documentation in another country for cross border shipments.This results in delays in preparing and processing clearance documentation, delays caused by data errors, an increase in human error and trade costs (SATH, 2014). The use of ICT plays an important role in eradicating these challenges which have been in existence for many years.

An indirect challenge arises when implementation of new customs IT systems is often done without adequate internal and external consultation. Buyonge & Kireeva (2008) cited Kenya's experience with the implementation of 'SIMBA 2005' (a customs ICT system) in July 2005. In this case a significant segment of the private sector was found unprepared with resultant disruption of business and profits. A number of customs clearing agents had not paid the requisite fees for training and internet access by July 2005. One company representing 790 others unsuccessfully took the Kenya Revenue Authority to court intending to reverse the migration to a new system (Buyonge & Kireeva, 2008).

In Zambia some resistance was faced from the side of customs clearing agents who appeared not ready for the implementation of the ASYCUDA World system. Migrating to the new system had its own challenges like delays in clearances as all stakeholders got used to the system with time. The major challenge linked to the resistance to change is a result of the other organisations' lack of skilled personnel to efficiently use the new systems and the financial costs associated with training and the investment in IT equipment in some cases. Buyonge & Kireeva (2008) concurred that in Kenya such a skills gap also existed within the other organisations involved in cross border trade when the new customs ICT system (SIMBA 2005) was introduced.

1.4. The Impact of New ICT initiatives

New customs initiatives in ESA customs over the years have had a variety of benefits to Customs administrations and other stakeholders who are involved in international trade. Like in any system, there have also been some costs associated with the initiatives on both the customs operations as well as the other stakeholders especially costs associated with some investment in capital required to be able to use the new ICT system. However in the long term, experiences in Ghana and Senegal have shown that benefits of new ICT initiatives outweigh the cost of implementing the system and this enhances customs contribution to economic competitiveness.

1.4.1 Impact on Customs Operations

ESA Customs administrations have had initiatives such as the use of an internet based system such as ASYCUDA World and SIMBA software packages. This has assisted in having a WAN system in the bulk of Customs offices dotted around cities and remote areas in ESA countries. This has also enabled real time access to information between inland customs offices and border posts which has facilitated faster clearance of import, export and transit goods. ESA Customs administrations also use the internet and social networks which has enhanced internal and external communication in line with the ATF.

Moreover ESA Customs administrations have over the years purchased and installed scanners which have expedited the turnaround time for examination of import, export and transit goods. It has also resulted in the reduction of smuggling cases and enhanced compliance and revenue generation. Instead of physically examining goods, trucks are just driven through scanners without hassles of unloading and reloading which has led to decongestion of border posts. The scanners include fixed, mobile and semi mobile ones which result in a flexible use environment.

The use of ICT has also enabled Customs administrations' migration to Data Processing Centres (DPCs) in recent years. An example of this system is that of Tanzania Revenue Authority. This resulted in bills of entry being processed at a few central centres across Tanzania instead of at each customs inland and border office. This removed physical interface between customs officers and clearing agents or traders and led to reduction of corruption as well as the reduction of customs clearance turnaround time. However, more still need to be done in line with customs automation, for example, the implementation of the National Single Window system (NSW).

In a nutshell, ICT initiatives have resulted in the implementation of new programs such as risk management systems for imports and exports, e-payments, e-lodgment of bills of entry (paperless), Authorized Economic Operators (AEO) (by the use of data mining to get important information and knowledge about the taxpayers) and post clearance audits just to mention but a few. Benefits such as enhanced revenue collection, precise trade statistics and efficient border administration and controls have accrued following these initiatives.

1.4.2. Impact on other Stakeholders

Other stakeholders include intermediaries, traders and other government agencies. Examples of intermediaries are the entities that provide trade and transport logistical services within the international trade supply chain such as customs brokers, freight forwarders, carriers, banks, IT service providers and so on. Intermediaries require swift exchange of information and a transparent regulatory regime for them to comply with the requirements of government agencies and their clients (traders). ICT initiatives have made communication as well as the swift access to information possible. Traders have also benefited from the use of ICT by receiving faster border clearances which also reduce transaction costs and enable them to market their goods at competitive prices. The inspection of goods and persons based on a risk management approach, simplified payment schemes,

elimination of paper documents backed declarations have also impacted positively on the direct and indirect costs of trade facilitation. Customs automation also results in increased transparency in the assessment of duties and taxes, substantial reduction in customs clearance times, and predictability, which result in direct and indirect savings for both government and traders (Buyonge & Kireeva, 2008).

2. An Overview of ICT and Trade Facilitation in ESA

In the ESA region there are various customs initiatives which have been implemented whilst some are currently being implemented, on pilot study and some are being contemplated or studied for future implementation. These initiatives are to a great extent related to trade facilitation mainly driven in the form of the use of automation or ICT. Other initiatives are in forms such as one stop border posts (OSBPs) and coordinated border management systems. A very popular and current ICT initiative and near future plan in several Southern African countries is the National Single Window (NSW) concept. Countries which have already considered implementing the NSW are Namibia, Botswana Malawi and Zambia whilst Mauritius, Kenya and Mozambique have already implemented the NSW (SATH, 2012 & 2013). Another interesting feature is the Chirundu OSBP on the border between Zimbabwe and Zambia. Time Release Studies (TRS) mainly in the COMESA member states have been undertaken in the past to evaluate the extent to which trade facilitation has impacted on border clearance times in the ESA region. The TRS project was spearheaded by the COMESA and sponsored financially and technically by the World Bank (WB) and the WCO.

2.1. One Stop Border Posts (OSBPs)

This concept supports Article 8 (1) (v) of the WTO Agreement on Trade Facilitation. This article requires WTO member states to establish one stop border post control. In ESA there is one currently functional OSBP (Chirundu OSBP between Zimbabwe and Zambia). OSBPs seem to be fast growing and to be very popular in Africa. OSBPs being contemplated in ESA include: 10 in East Africa, and 11 in Southern Africa under the auspices of the World Bank, African Development Bank, and the Japan International Cooperation Agency (Erasmus, 2013).

OSBPs make it possible to have government agencies working alongside each other hence allowing the combining of border control management of the two countries at one location. This creates an opportunity to streamline operations and procedures at border crossings by performing joint controls and sharing of resources and ultimately result in the reduction of cross border costs and waiting times for traders[1] (Erasmus, 2013). However there is currently a missing link in OSBPs being the need for "an appropriate legal framework to allow for extraterritoriality[2] and this has to be done by the relevant governments involved in the OSBP (Erasmus, 2013).

2.2. Time Release Studies (TRS)

Modern customs administrations have recognised that streamlining and simplifying clearance procedures is beneficial to their importers, their exporters and their national economies (KRA, 2004).

[1] Other advantages of OSBPs are joint technical and capacity training, improved understanding of border posts operations, improved communication between government agencies, single customs declaration, costs of border management, infrastructure and law enforcement are shared and allows exchange of intelligence and experiences.

[2] Extraterritoriality empowers control agencies and control officers of the adjoining country to undertake controls in correspondence with national legislation outside their national territory as well as to carry out border controls under its national law within the territory of the host country. "Extraterritoriality arrangements permit the extension of a government's authority to exercise national powers outside its own jurisdiction" (Erasmus, 2013). This is an inherent challenge affecting the effective functioning of OSBPs because their operation requires the application of national regulations in the territory of another state and this is not feasible where there is no extraterritoriality.

One of the methods used for the review of clearance procedures is to measure the average time taken between the arrival of goods and their release. This enables Customs administrations to identify both the problem areas and potential corrective actions to increase efficiency. The main objective of the TRS is to assess existing procedures and identify constraints affecting their implementation, and propose measures to reduce the time required for the release of goods. The TRS estimates the mean time difference between the arrival and release of imported goods. It also measures the time required for the key intervening processes in the clearance process such as the lodgement of import or export declaration, assessment of duty payable and physical examination of the goods. The study does not only involve the Customs administrations but also involve other stakeholders that are involved in the import, export and transit clearance procedures. The study is usually carried out at sea-ports, land border posts, inland container depots and international airports.

The TRS has been conducted in ESA and was spearheaded by the COMESA and technical and financial assistance was provided by the World Bank and the WCO. Various case studies were conducted in countries such as Zambia, Malawi, Swaziland and Kenya. The Kenya TRS report acknowledged the role played by the TRS in developing the skills required to periodically measure the country's performance against global benchmarks. The report further mentioned that the TRS study will have a multiplier effect on the manner in which Kenya Customs administration, as well as other Customs administrations in the region, transact their business. "For the first time, we have reliable and validated information on the time taken at various stages in the customs clearance process" (KRA, 2004). TRS is generally seen as a diagnosis tool to reveal the delays in the customs clearance processes which will enable proper solutions to be implemented and hence promoting better trade facilitation. The KRA (2004) report found out that there were delays at all customs stations and recommended the replacement of manual processes by using ICT and also recommended the implementation of the NSW concept.

The Kenya and Tanzania TRS findings point out an important role for companies and third party service providers in expediting clearance of goods, specifically through prior lodgement of documents. It has been noted that prior lodgement alone cuts down the processing by up to half (Buyonge & Kireeva, 2008). It must be admitted that many African Customs administrations do not have robust risk management systems enabling discriminatory treatment of importers and exporters on the basis of the risk they pose to loss of revenue or compliance with regulatory requirements.

2.3. Single Window Concept

"The Single Window electronic portal is the single most powerful trade facilitation tool in use today: dramatically reducing duplication, delays and the cost of cross border trade" (SATH, 2013). This system allows for the coordination of multiple agencies involved in cross-border trade and it demonstrates how important the use of the ICT National Window System is in the facilitation of 21st century international trade. The ESA region currently only have three countries, Mozambique (MCNet), Mauritius and Kenya which have already got an existing NSW, (SATH, 2013). However there is a bright future ahead in ESA because several Southern African countries have already shown their interest to implement the NSW in the near future. Such countries are Namibia, Malawi, Botswana and Zambia through the support and technical expertise of USAID's Southern Africa Trade Hub (SATH, 2013).

Where a single window doesn't exist there is a requirement, for example, for traders across ESA to submit the same information to multiple border and regulatory agencies to obtain clearances for goods to enter or exit a country. This increases the time and costs required to cross borders. This has an impact of making products more expensive and it dampens trade (SATH, 2013). A NSW, instead, connects trade related stakeholders within a country via a single electronic data information exchange platform. The NSW allows the trader or clearing agent to enter all data required for a

particular shipment into a single electronic system (SATH, 2013). All the other relevant stakeholders can then access the system and use the same data for various individual purposes.

Experience from other countries indicate that NSW can to a large extent reduce the time and cost of shipping goods across borders. A SATH (2013) report indicates that the implementation of the NSW in Thailand resulted in the improvement of the country's "Trading Across Borders" ranking from number 108 to number 10 between 2007 and 2009 whilst in Ghana, there was a significant tariff revenue growth by almost 50% in the first year, and the time and cost of exporting was reduced by 65% overall. Mauritius also benefited from using a single window as reflected in its "Trading Across Borders" ranking of number 21 (SATH, 2012). According to Glancy (2013), there is an increasing number of Southern African countries which are planning to implement a NSW, since the NSW is designed to reduce the time cost and cumbersome processes traders face in clearing import, export and transit goods.

Glancy (2013) further suggests that "countries are also recognizing the NSW as a means to improve their business environment and competitiveness, reduce illegal practices and increase revenue and data collection." Moreover, SATH (2012) supports the nortion that a single electronic window is a crucial instrument for eliminating inefficiency and ineffectiveness in business and government procedures along the international supply chain. SATH (2012) further purports that a NSW improves border control, compliance and security.

2.4. Coordinated Border Management

The coordinated border management system is in line with Article 6 and 8 of the WTO Agreement on Trade Facilitation. Article 8 of the ATF requires WTO Member States to implement border agency cooperation. This entails various issues such as a member state ensuring that its authorities and agencies responsible for border controls and procedures dealing with the importation, exportation and transit of goods cooperate with one another and coordinate their activities in order to facilitate trade.

In the ESA region Customs administrations are the lead organizations in border agency cooperation. However the bulk of the countries have not yet implemented the single window system and this has resulted in fragmented border management processes. This has resulted in the duplication of processes, for example, the separate inspection of goods by border agencies as well as the requirement of separate mostly similar clearance documents as well as fees and fines by different border agencies. This has mostly created red tape, delays and transaction costs and reduced the competitiveness of business in the ESA region.

Moreover member states are required ("to the extent possible and practicable") with members which they share a common border with to cooperate on mutually agreed terms to coordinate procedures at border crossings with a view to facilitate trade. The coordination and cooperation include among others; the alignment of working days and hours, alignment of procedures and formalities, development and sharing of common facilities as well as carrying out joint controls. The coordination of procedures in ESA is still a major challenge at most border crossings. The main positive phenomenon is the alignment of working days and hours across most border crossings in ESA. However issues to do with alignment of procedures and formalities, the development and sharing of common facilities as well as carrying out joint inspections and border patrols remain work expected to be further evident as the implementation of more OSBPs in the region is expected to continue to take place.

2.5. Performance Measurement

"Performance measurement (PM) is a contributory tool for successful modernization" (Ireland, et al., 2011). This demonstrates that performannce measurement helps in strentghening and supporting

the use of ICT in the Customs administration context. PM has an underlying idea of assisting decision making using objective data (Ireland, et al., 2011). ICT enables data mining and therefore also supports or enables the performance management process. PM is being used by Customs administrations in ESA to enhance efficiency, for instance the relationship between costs and results of Customs houses or technological means. Customs administrations are therefore applying PM at the organisational level for different reasons such as to drive their strategy of deploying human and material resources on the ground, to evaluate individual work as part of the human resource management system, and to fight corruption (by developing transparency). All these PM functions are supported by the use of ICT whilst on the other hand the use of ICT enables objective support in deciding to use automated systems.

PM has four broad approaches namely (in the customs context); customs data mining, service charters, perception indexes, and monitoring mechanisms. All these approaches require the use of ICT and support the need for the use of automated systems, for example, PM's customs data mining approach "relates to the collection and analysis of quantitative data, either by observation or extracted from Customs automated systems" (Ireland, et al., 2011). This quantitative data can only be obtained where there is an ICT system hence the importance of ICT in PM. The PM approaches also enhance prioritisation of trade facilitation since the PM indicators have a link with trade facilitation issues such as the TRS; service charters require expedited customs clearance systems and good communication systems; percerption indexes lead to ranking national competitiveness based on business perception as reflected in, for example, the World Bank's Doing Busines (DoB) and Logistics Performance Index (LPI), World Economic Forum's Enabling Trade Index (ETI), and Transparency International's Corruption Perception Index (CPI). Some elements of the indexes such as the "Customs score" of the LPI, and "Burden of customs procedures" of the ETI directly relate to Customs. In this regard the use of ICT is a significant way to enhance efficient Customs administration, improve trade facilitation and hence in so doing also raise the perception indexes rankings of the ESA countries. In this way the Customs role in boosting economic competitiveness as outlined in the WCO Economic Competitiveness Package (ECP) will no doubt be supported.

In a nutshell, PM is a tool used to quantify public action and provide figures about the real functioning of Customs administrations and private sector connected to trade (Ireland, et al., 2011). The sooner the ESA Customs administrations commit themselves in order to be objects, agents and part of measurement the better for the success of good Customs administration and enhancement of economic competitiveness of the ESA region.

Summary and concluding remarks

The ESA region has had significant inroads or milestones in the use of automation or ICT to enhance trade facilitation. If experiences and initiatives in each ESA country are combined there is a total ICT initiatives package enough to comply with the WTO Agreement on Trade Facilitation. ICT initiatives such as the ASYCUDA system and other automated customs data systems are in place in most ESA countries albeit at different stages of development, Mozambique, Mauritius and Kenya have already led the pack in terms of implementing the NSW, the Chirundu OSBP is a standing example amongst various other OSBPs already at advanced stages of implementation, Botswana and Namibia will soon be on the Microsoft cloud computing radar, various coordinated border management systems and internet based systems are in place as well as case studies and results for the TRS are there for all to see and learn from.

The ESA region is therefore spoilt of case studies of ICT use initiatives from which other countries can learn and adopt from. This paper concludes that there is enough experience in ESA from which all the ESA countries can draw from in order to fully participate in best practice trade facilitation which certainly reduces direct and indirect transaction costs associated with international

trade such as reduced levels of smuggling and corruption, increased compliance levels, increased productivity in customs operations, increased government revenue, boosting world, country and regional economic outlook indicator rankings such as "ease of doing business" which attract foreign direct investment (FDI). Overall, ICT enhances trade facilitation and this is expected to have a positive impact on Customs contribution to economic competitiveness in the ESA region.

- To consider the implementation of the Microsoft cloud computing system in order to have customs connectivity across ESA.
- To consider the implementation of the NSW in all the ESA countries taking after Mozambique.
- To consider implementation of more OSBPs in the ESA region in order to harness greater benefits of trade facilitation.
- To invest more in automation of systems so that trade facilitation can be enhanced.

Endnotes

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