THE NEW COMPUTERIZED TRANSIT SYSTEM AND E-CUSTOMS INFLUENCE ON SAVINGS IN TRANSIT TIME AND COSTS

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Abstract

E-customs is dramatically changing the role of customs offices and international forwarders. E-customs comprises from different activities which are used for a safe exchange of goods, services and information using computers and modern information and communication technologies. New e-Customs system is based on new customs procedures and tax system as well as new commerce and statistics regulation in Croatia. The New Computerized Transit System (NCTS) is one of the first e-Customs tools which is implemented in Croatian customs service during Croatian preparations to enter the European Union.

Implementation of New Computerized Transit System is step into new way of doing customs procedure which represents continuation of common work of customs offices, international forwarders and entrepreneurs in order to create condition for better, faster and more efficient flow of goods. The NCTS has several advantages for customs office, entrepreneurs and especially for forwarders, authorized importers and exporters, transporters and all other members of transportation.

Usage of the NCTS helps entrepreneurs to shorten the transit time from Croatian border to the final destination; it shortens waiting at the border and therefore creates savings in transit time; saves money for preparation of customs documentation at the border; enables better, faster and more professional work related to the procedure of transportation of goods.

Keywords: e-Custom, NCTS - New Computerized Transit System, transit time, savings

1. INTRODUCTION

Customs was always part of country’s history and custom’s history is identified in special way through political, economic, social and cultural events. It is also a reflection of country’s development with influences deriving from economical, legal and social development. In its traditional role, Custom is seen as a keeper of the gates on country’s borders. Horvat (2011) noted that, in this way, customs was always country service for collecting customs excise duties. The traditional role of customs is changing recently, due to developments in the international supply chain processes which, among other, include (Gordhan, 2007):

- The growth of international trade,
- Reduced tariff and non-tariff barriers,
• New models of logistics and the supply chain,
• Increasing use of the information and communication technology (ICT) in international trade operations.

Previously mentioned developments are pressuring customs administration to update their models of operation (Gordhan, 2007; Widdowson, 2007). Today’s customs administration is in the middle of globalization process. Therefore customs is the key factor for competitiveness of companies and countries in relation to its duties in controlling international trade. Wilmott (2007) stated that the use of an information and communication technology will enable more automated processes, which will increase the efficiency and reduce the need for manual re-entries and validation of the same data. Raus et al (2009) concluded that a public sector can have an advantage of faster delivery of its services to companies and can achieve a financial savings related to the time savings.

Development of new relationships in a society and changes in the way of conducting business will increase the importance of customs authorities as a country service which has to ensure the highest quality and easily accessible services. Horvat (2011) noted that this is particularly outlined today because customs and excise operations are almost unthinkable without the use of ICT.

2. E-CUSTOMS AND NEW COMPUTERIZED TRANSIT SYSTEM

The European Parliament has defined competence of Customs in European Union in a following way: "Customs authorities shall be primarily responsible for the supervision of the Union’s international trade, thereby contributing to fair and open trade, to the implementation of the external aspects of the internal market, of the common trade policy and of the other common Union policies having a bearing on trade, and to overall supply chain security. Customs authorities shall put in place measures aimed, in particular, at the following: protecting the financial interests of the Union and its Member States; protecting the Union from unfair and illegal trade while supporting legitimate business activity; Ensuring the security and safety of the Union and its residents, and the protection of the environment, where appropriate in close cooperation with other authorities; maintaining a proper balance between customs controls and facilitation of legitimate trade."8

The European Union (EU) administration is investing efforts and placing initiatives in order to facilitate legitimate trade using IT, and to improve and simplify the laws and regulations, which are not sufficiently, clear, precise and therefore difficult to be successfully implemented. Therefore the EU administration has increased a demand for faster and more efficient customs clearance. Traditionally the most important customs task is the collection of customs duties, part of the value added tax (VAT) and excise taxes, as well as the implementation of legislation for implementation of customs procedures.

With the e-Customs EU is trying to create and enable faster and more efficient customs clearance. Granqvist, Hintsa and Mannisto define e-Customs as “an application of IT technologies in public administration. It is connected with the organizational changes and new abilities of public services, which aim to improve quality of provided services by the government.” (Granqvist et al., 2012, p. 50).

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E-Customs will replace paper-based customs procedures with European-wide electronic operations, thus creating a more efficient and modern customs environment. The objectives of the e-Customs initiative are to facilitate trade and enhance security at the EU’s external borders.

The European Union (European Commission, 2012) published the “Multi-Annual Strategic Plan” (MASP) which represents the EU’s program for the creation of a simple and paperless environment for customs and trade. The MASP’s central part is the Single Window Access (SWA) concept (Figure 1.). This means that all traders will have access to a single electronic point for import, transit, excise and export transactions, irrespective of the member state in which their transaction starts or ends. The Single Window Access concept ensures a “single point of access” to existing and future computerized customs systems of the EU member states. This will be achieved by the integration of existing EU member states customs procedures and systems, such as the NCTS and future systems such as the Automated Export System (AES), the Automated Import System (AIS) and the Excise Movement and Control System (EMCS) with the ERP systems of the economic operators (Vogel, 2008).

Figure 1. Single Window Access concept

As main advantages of the e-Customs Horvat (2011) stated time and cost savings. Other researchers (Holloway, 2007; Raus et al., 2009; Raus and Boutellier, 2010) noted additional advantages of the e-Customs implementation and use:

- The service is available 24/7 – it is not dependent on a customs working hours
- Faster custom clearance since there is no need for long procedures needed for paper documentation Lower costs because there is no need for an additional
material during the customs procedure and that there is less need for keeping shipment i.e. less warehousing costs;

- The transparency of clearly described procedures and rules of doing business supported by automatic processing IT solutions have to be uniform and accessible and equally applied to all concerned;
- The customs location and the location of the merchandise do not have to be identical.

However, the electronic data transfer requires a high degree of reliability, a stable computer system, a sufficient credit rating and an appropriate know-how regarding the compliance with the customs regulations on the part of the authorized economic operators.

2.1. How does e-Customs work?

According to Holloway (2007) the potential impact of moving from paper-based procedures through the basic automation to integrated e-Customs showed huge benefits in terms of improvements in efficiency and with respect to cost savings for business and government. In addition to the actual customs clearance (import, export, transit and customs warehouse), the core of the electronic customs clearance is an automatic risk analysis module. Among others, Long (2013) states that implementation of the e-customs increases automation, especially in the reception and inspection of the customs declaration by using of red, yellow and green channels:

- Red channel - "STOP" - the goods must be inspected by the customs authority at the location of the merchandise or the forwarding agent. Until the final clarification, the merchandise remains under a customs supervision. After a positive examination, the economic operator receives the appropriate customs receipts or documents in electronic form.
- Yellow channel - "DOCUMENTATION" - with regard to the yellow channel, if enterprises submit and produce dossiers and documents according to the regulations, they can export and import goods.
- Green channel - "RELEASE OF GOODS", which will be effective within ten minutes. The shipments may then be conveniently transported to their destination.

On the import side, the responsibility concerning all aspects of a foreign trade and the customs law is shifted to the companies. Improperly declared merchandise or the lack of permissions and licenses may result in legal sanctions and a withdrawal of the permission to act as an authorized economic operator. The special software is needed to process customs declarations as a part of the e-Customs. Although the investment costs for the software and training is substantial, it is lower than the total cost of the individual and/or collective merchandise declarations.
2.2. The New Computerized Transit System

The NCTS is an electronic system of the paper-based Community Transit regime which enables a transit system for shipment from starting to delivery point no matter if the starting or delivery point are one of the EU member states or one of the countries which signed the Common transit system convention. The European Union (2001) and The Croatian Customs administration (2010) stated that main goals of NCTS implementation are as follows:

- The increase of the efficiency and effectiveness in a transit procedure;
- The improvement of prevention and fraud detection;
- The acceleration and security of carried transactions in a transit procedure.

The NCTS's main task is a control of goods movements within the EU that are not in free circulation (import duties and taxes not paid). With the usage of modern IT systems and electronic data interchange, the NCTS should deliver a more efficient system management than the current one which is based on a paper procedures.

The NCTS includes an exchange of information in the customs declaration for the transit procedure and certain activities in relation to customs officials and entrepreneurs in standardized electronic messages. It also includes the implementation of transit procedures in shipping, delivery and transit customs office and a management of guarantees for transit operations, search procedures and collection of customs duty, when the transit procedure is not completed in a prescribed manner. Additionally, Tomašević (2011) noted that NCTS includes sending and accepting of all electronic messages that are needed to start and conclude a transit procedure and, most importantly, to have the procedure done without any paper documents. Only paper document is The Transit Accompanying Document (TAD) which represents a “picture” of an electronic message in the transit procedure and printed customs declaration of transit and Movement Reference Number (MRN). (Figure 3.)
3. THE E-CUSTOMS AND NCTS IN CROATIA

The Customs administration in Croatia offered, in 1995, a possibility of submitting customs declarations on a magnetic media in order to accelerate customs procedures (Horvat, 2011). With an introduction of The Single Customs Declaration (JCD) in 2001, the submission was allowed through the Internet. Today it is almost inconceivable that a customs declaration is submitted in any other way except through the Internet.

Currently, the Croatian customs administration is working on improvements and developments related to the preparation for Croatian EU membership. They are working on preparations for the implementation of new systems (Intrastat, Export Control System, Import Control System, and Excise Movement Control System) that will support the paperless customs procedures. Therefore it is necessary to develop an electronic communication between participants in the customs procedure - between the customs and businesses (G2B service9). In order to ensure a proper implementation of an electronic data interchange and the fundamental principles of governing the electronic exchange data and service of electronic business, the Customs administration adopted The Rules for electronic data exchange system (e-Customs). This rules define obligations of electronic data exchange users and Customs administration as a service delivery operator.

9G2B – short for Government-to-Business - include the operations of government and companies. It is a non-commercial interaction between government and business sector. According to (Horvat, 2011, p. 33)
Babić (2012) stated that NCTS is the first system of an electronic business in the Customs Administration, which was applied on a national basis in Croatia. The implementation of NCTS in Croatia started on July 1, 2011. Entrepreneurs communicate with the NCTS system and exchange the information about the specific transit procedure which enables timely information about the procedure progress. The implementation of NCTS allows the Croatian customs administration an information exchange of all transit procedures with other European customs administration and continuous movement of shipments from the starting point to the final destination (Carinska uprava RH, 2013).

4. THE E-CUSTOMS AND NCTS INFLUENCE ON COST SAVINGS AND TRANSIT TIME

Several researchers (Gordhan, 2007; Gwardzińska, 2007; Widowsson, 2007; Horvat 2011; Tomašić 2011; Babić 2012) stated that the implementation of NCTS and e-Customs have many advantages for all stakeholders in a transit procedure (transporters, forwarders, authorized importers, authorized exporters and other entrepreneurs) as well as for the government. The main advantages are: faster flow of goods, more efficient transit procedure, paperless customs clearance and shorter queues of trucks at border crossings, lower costs of a customs procedure.

Doyle and Janssens (2011) found that the implementation of NCTS brought financial benefits to both public and private users by increasing their productivity. Although there has not been real cost-benefit analysis of the NCTS, their research of the NCTS in EU showed that it has obtained a productivity gain of about 30 minutes per shipment. Based on average labor gross costs of EUR 30.00 per hour and 8.800.000 movements in 2008, the use of NCTS would achieve an annual cost saving of EUR 132.000.000. The research also showed a potential transit time savings totaling at 3000 working days. Although the labor cost may be smaller in some areas of the EU, this research shows impressive cost savings.

In Vietnam, enterprises which have participated in the e-customs during the pilot period said that in terms of the green channel, enterprises received a feedback in only three minutes. This has created savings in time needed for the customs clearance (Long, 2013).

In Croatia there has been around 1,1 million MRN since the implementation of the NCTS. (Table 1.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of MRN</th>
</tr>
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<tbody>
<tr>
<td>2011 (from July 1, 2011)</td>
<td>250.000</td>
</tr>
<tr>
<td>2012</td>
<td>630.000</td>
</tr>
<tr>
<td>2013 (until May 1, 2013)</td>
<td>220.000</td>
</tr>
<tr>
<td>Total</td>
<td>1.100.000</td>
</tr>
</tbody>
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Source: Carinska uprava RH, 2013

According to the Croatian bureau of statistics (2013), an average salary in Croatia during 2011, was 5.441 HRK. During 2012, it was 5.464 HRK, and in March 2013, it was 5.516 HRK. Based on a data from the Croatian Customs administration, an average savings per MRN and a data from the Croatian bureau of statistics, it is possible to calculate the savings in a transit time and costs that come with the NCTS implementation in Croatia. (Table 2.)
Table 2. Savings in HRK in Croatia after NCTS implementation

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of MRN*</th>
<th>Total time savings (hours)**</th>
<th>Price of hour (HRK)</th>
<th>Total savings (HRK)***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 (from July 1, 2011)</td>
<td>250.000</td>
<td>62.500</td>
<td>32,38</td>
<td>2.023.750,00</td>
</tr>
<tr>
<td>2012</td>
<td>630.000</td>
<td>115.000</td>
<td>32,52</td>
<td>5.181.900,00</td>
</tr>
<tr>
<td>2013 (until May 1, 2013)</td>
<td>220.000</td>
<td>55.000</td>
<td>32,83</td>
<td>1.805.650,00</td>
</tr>
<tr>
<td>Total</td>
<td>1.100.000</td>
<td></td>
<td></td>
<td>9.011.300,00</td>
</tr>
</tbody>
</table>

Source: authors’ calculation
* based on information from Croatian Customs administration
** average 15 minutes per MRN – based on information from Croatian Customs administration
*** based on 168 working hours per month

The previous table shows a total savings of 9.011.300,00 HRK from July 1, 2011 until May 31, 2013, after the implementation of NCTS. Besides, there are time savings due to the faster creation of a customs declaration (an average of 15 min per shipment). This can result in a shorter transit time and an earlier release of truck (or any other form of transport) for the next upload and by that, a better vehicle utilization. There is also an additional saving in the logistic costs because there is no need for issuing of a paper documentation on the country border which creates a savings of an average 250 HRK per procedure. This savings only increase benefits of the NCTS implementation for entrepreneurs especially those who have several procedures per day.

5. CONCLUSION

In a today’s world, the customs administration has to be ready to quickly adapt to the needs of a trade and continue to follow the constant changes in managing and controlling the business environment. Among others, the European Union member countries are pressured towards the e-Customs initiative. On a national level, the pressure comes from the need for the efficiency and cost savings as well as an information exchange and interoperability between the national administrations. On the international level, there are directives from the European commission and the need for an interoperability and a communication on the European level. This pressure is pushing countries to create e-Customs tools, one of which is the NCTS. This tools will offer a flexibility, interoperability and what is most important, a savings in cost and time for all stakeholders included in a transit procedure.

The NCTS implementation positively effects on a reduction of the number and a duration of customs procedures, on a movement of goods, a better vehicles utilization and finally, on transporters, authorized importers and exporters. The paperless procedures as one of the NCTS implementation results means a reduction in operating costs for all the stakeholders involved.

Croatia has implemented the NCTS on July 1, 2011. Besides advantages such as more efficient transit procedure, a paperless customs clearance and shorter queues of trucks at border crossings, there are financial benefits of the NCTS implementation for private and public users. Although there has not been real cost-benefit analysis of the NCTS in Croatia, a short research in this paper shows the possible financial benefits for the entrepreneurs which are result of the NCTS.
Since Croatia entered EU on July 1, 2013 further research of NCTS influence on transport costs and time should be done in order to evaluate influence of the NCTS in new environment. New e-Customs tools will be available from the July 1, 2013 which will help Customs and entrepreneurs in conducting logistic and customs procedures. This new e-Customs tools should be also researched in order to evaluate their influence on cost and time of all activities included in logistic procedures.

6. REFERENCES AND SOURCES OF INFORMATION


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