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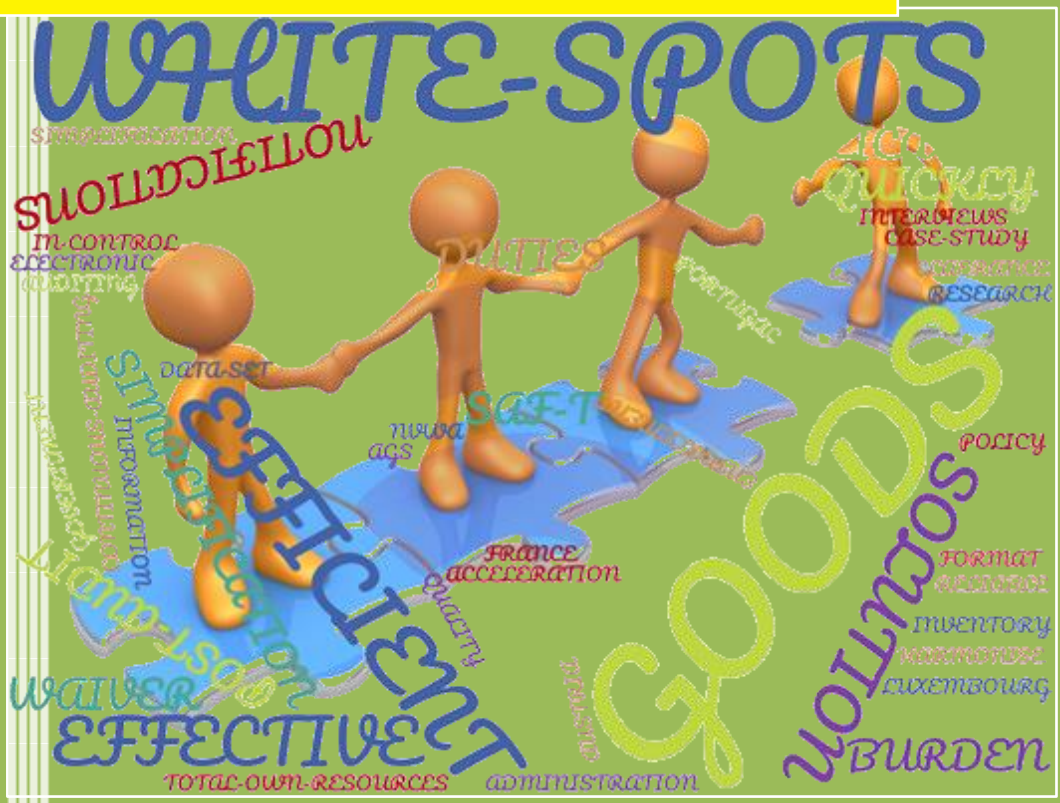
2017

Conceptual model customs transactions



Executive Master in Customs and Supply Chain Compliance

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Belastingdienst Douane

1-7-2017

Master Thesis Customs, Supply Chain and Compliance

A conceptual model for customs transactions (as part of the Audit File)

The basics of optimal use of an audit file

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Version:	final
Date:	July 1th , 2017

Acknowledgements

First and foremost, I have to thank my research supervisors, Dr. Hulstijn Joris and Ph.D. Dr. Tan Yao-Hua. Without their assistance and dedicated involvement, this paper would never have been accomplished. I would like to thank you very much for your support and understanding over these past two and a half years.

In March 2015, I went to Rotterdam School Management Erasmus University and started with the Executive Master Customs and Supply Chain Compliance. With 26 other students with different backgrounds, and with many different speakers telling about their specialty, the 2 years flew by and it brought me a lot of new knowledge. I thank all students and speakers.

I would also like to show gratitude to my supervisors at the Dutch Customs, including Mr. Alewijnse Leo and Mr. Visscher Wim. Without their support, I could never finished this research. Especially Mr. Alewijnse I have to thank Mr. Alewijnse because of sharing his time and knowledge and his willingness to support me.

I also want to thank my colleagues at my office for taking over my work. Also, they were willing to think about the content of the thesis occasionally. The colleagues who filled in the questionnaire, thank you. Without you the research could not be validated.

I owe a special thanks to my family, my wife Monique, daughter Manon and son Romar who supported me and helped me during this study. I dedicate this work to you all. I love you so much.

Further, I hope you enjoy reading the thesis,

Richard van ‘t Hof

Vlaardingen, July 1th, 2017

Executive summary

For efficient and effective law enforcement, customs depends on data from business administrations. Businesses experiences retrieval of data as an administrative burden. From a customs perspective, the many differences in business administrations have an adverse impact on efficient and effective supervision. Standardization and harmonization of data exchange solve this problem (OECD, 2010a; OECD, 2010b; Bharosa, Wijk, Winne, & Janssen, 2015; Grainger. 2008). Dutch Customs (Customs Administration of the Netherlands, 2017). As well as companies (Customs Administration of the Netherlands, 2013; Hof, Kondrashova, Palacios Miras, & Speelman, 2016) confirm the benefits of an audit file as implementation for standardization and harmonization.

Standardization and harmonization imply more than "data exchange". Reference data or a classification scheme is a key to data integration and interoperability. It also facilitates the sharing and reporting of information. It can be used for further development of customs supervision, for example by (sharing) standard data analysis. This report is about a classification scheme*, a conceptual model of the transaction codes for activities related to (the movements of) goods*. This as part of the audit file, to reduce the administrative burden (OECD, 2013) for companies, to improve efficiency and effectiveness of customs supervision and to build a foundation for further innovation of customs supervision.

This research is design-oriented (Hevner, 2004). The environment consists of the application domain. Theories of standardization, auditing, and customs supervision are the considered knowledge areas. This knowledge is obtained through literature study, internal documents of Dutch Customs, desk research, experience and knowledge of the author, observation of the author during presentations at the Nederlands Normalisatie Instituut, and an interview with an expert. Analyses of the audit file used in the Netherlands, customs legislation for customs warehouses and the inventory process provide a proposal of the conceptual model for the transaction codes. Validation of the proposal takes place by comparing the customs warehouse concept with the terms used by the World Customs Organization, by testing the completeness of the codes with two audit files, by questionnaires to experts in the fields of auditing, customs supervision and standardizing. The validation process ends with an interview with an expert who is involved in the development of the Audit Data Collection Standard of the International Organization for Standardization.

The first conclusion of this research is that an audit file has added value for customs warehouses. The second conclusion is that the conceptual model for customs transaction codes for a customs warehouse is validated. The concepts/terms used are compatible with the terms used by the World Customs Organization. The test leads to the conclusion that all transactions in the two audit files match with a transaction code from the conceptual model. From the questionnaire and the interview the conceptual model for transaction codes is complete and useful. Further, the proposed model is easily extensible, not only for customs but also for other supervisors.

This research has some limitations. Firstly, the research focuses only on the customs procedure 'customs warehousing'. Secondly, only employees of the Dutch Tax and Customs Authorities validated the model. It is recommended to present the model to other stakeholders: businesses, audit firms, advisory firms, software vendors, other supervisors for further development of the model and for adding codes for their purposes. A second recommendation is to announce/present the model at the Nederlands Normalisatie Instituut Audit Data Collection for further development of the Audit Data Collection Standard of the International Organization for Standardization. In the latter group Dutch Tax and Customs authorities, software vendors and audit firms are present. This is the means/way for standardization, harmonization, and development of the conceptual model worldwide.

JUST DO IT NOW.

Table of Contents

List of figures:

List of tables:

List of boxes:

Conceptual model customs transactions

Chapter 1 Introduction

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1 INTRODUCTION

Customs ensures that the customs duties are as complete as possible, to protect society against unsafe and unwanted products and contribute to strengthening the competitiveness of the European Union and the Netherlands. The customs administration focuses its enforcement on goods (movements), and the supervision is based on a system of declarations. The axiom is that customs provides the reconciliation between all customs procedures. Declarations (accepted) are expected to cover transactions that are subject to customs supervision. However, is the system of declarations a well-functioning closed system?

Businesses see customs as a cost item only, an administrative burden. According to (Veiga, Janowski, & Barbosa, 2016: 1) administrative burden represents: "the costs to business, citizens and the administration itself of complying with government regulations and procedures". In fact, the costs, related to customs clearance are high for businesses. Due to the changing role of customs, these clearance costs are an increasing proportion of the total transaction costs. These costs can be as high as 15% of the total value of the traded goods (Butter, & Scheltinga, 2008). It is suggested, for example, that three-quarters of all trade delays result from administrative hurdles such as customs and other clearance procedures. Further, OECD claims that a 1% reduction in costs would trigger worldwide gains of over US$40 billion (Willmott, 2007).

Trade facilitation aims to reduce trade costs. "Trade facilitation is the simplification, *harmonization*, *standardization*, and modernisation of *trade procedures*. The concept of trade facilitation is receiving unprecedented attention and is at the heart of numerous initiatives within the customs world. Trade facilitation has become a substantive item within WTO trade round negotiations, it is frequently referred to in supply chain security initiatives, and is a feature within many customs modernization programs" (Grainger, 2008). Within the European Union, trade facilitation is an important item in the modernisation of the customs code[1] also. In the Netherlands, trade facilitation is reflected by action point 5 for customs "(Wijk, Hagdorn, Versteijnen, & Dierikx, 2011: 13) that addresses aligning and simplifying interactions between government and business.

Customs have various simplifications in the form of submitting a declaration. To obtain clearance, the customs declarant may choose the common customs procedure or a simplified procedure (Dechaume, & Venturelli, 2014). In recent years, a growing number of businesses from the EU has resorted to simplified customs procedures so that in the case of imports, these procedures accounted for 77% (Popa, Belu, Paraschiv, & Marinoiu., 2015: 1099).

One of the simplified customs procedures in the European Union is Local Clearance Procedure (LCP). With the replacement of the Community Customs Code by the Union Customs Code, this procedure has been renamed into Entry In the Declarant's Records (EIDR). These procedures entail briefly that the declarant does not present the goods to customs (if waiver applies) and make the declaration by means of registration in the declarant's own administration. In that situation, the axiom that customs provides the reconciliation between declarations is not valid, and there is no well-functioning closed supervision system.

Customs fix this by issuing authorizations based on an initial audit and by performing post audits. For post audits customs request information electronically. Which information is asked depends on the country, the supervisor, the auditor, the assignment and the auditee for which data are available. Further, the syntax differs often for each supervisory authority. These are dependencies that increase business costs. The data received not only differs per company, but also the interpretation (semantics) of the data differs (Tianyang, 2015). Converting the data and analyzing the data is not only time-consuming but also expensive for customs. In short, a lack of a standard means of

[1] See http://ec.europa.eu/taxation_customs/customs/policy_issues/trade_falicitation/index_en.htm

communication and with that of correct data in the correct format from the accounts has adverse effects for customs (and other supervisors) and businesses. A place or gap where both parties have opportunities to improve on data provision is called a white spot[2].

According to (Grainger, 2008) standardization and harmonization two of the pillars of trade facilitation and have unprecedented attention. Standardization of the communication as (Bharosa, van Wijk, de Winne, & Janssen, 2015) indicates, is crucial and, if used at a large scale, this may create permanent, substantial reduction in transaction costs. In the field of standardization for collecting relevant and reliable data for supervision, there are national and international developments. The Organization for Economic Cooperation and Development (OECD) with Standard Audit File – Tax (SAF-T) and the International Organization for Standardization (ISO) with Audit Data Collection Standard (ADCS) are two important developments whereby harmonization is an objective also. At the same time, the field of auditing moves to position the assurance towards the beginning of the accountability process where business management has an important influence on process design and control (Swart, Wille, & Majoor, 2013; Elfrink, 2016). Moreover, data analytics provides many opportunities to realize this and for innovation of the work of internal auditors (Swart, Wille & Zuur, 2016).

Standardization and harmonization are aspects of trade facilitation. They stimulate the movement to position the assurance at the beginning of the accountability process (compliance by the business) instead of at the end of the process (inspection by the regulator). This movement comes together in the development of the audit files of OECD (SAF-T) and ISO (ADCS). Unfortunately, these standards are primarily financially focused. Customs aspects, aspects focused on the movements and treatment of goods, are missing. However, both audit files already have a lot of data – such as accounts receivable and accounts payable - that is also important for customs or other supervisors that focus on goods. It is therefore interesting for companies and customs to join this development.

For customs to be part of these international developments, it is important to map and standardize those transactions in which customs are interested. Using the codes of the software products or the tailor made transaction codes by companies limits the possibilities of an audit file, such as the understanding of the codes, benchmarking, standard data analysis, sharing that analysis. Therefore, use of unified transaction codes for collecting data is essential. Also, it is an incentive for embedding the push left principle (Elfrink, 2016; Swart, Wille, & Majoor,2013; Swart, Wille, & Zuur, 2016)

At this moment Dutch Customs participate in the ISO project for ADCS. Also, the audit file has special attention in the future vision of supervision (Customs Administration of the Netherlands, 2017). Recently, Dutch Customs started with formulating a policy on audit files. According to (Customs Administration of the Netherlands, 2017) businesses asks Dutch Customs to take the lead in the development of an audit file. This research fits into these developments. Firstly, it describes the place of an audit file within customs supervision. Because the success of an audit file depends mostly on one aspect, that is the coding of the transactions on the movement of goods. That is why that this research is about the development of a conceptual model for the transaction codes for customs transactions.

[2] Places / gaps in the system of supervision where customs supervision may be strengthened and where opportunities are to lower the burden for businesses.

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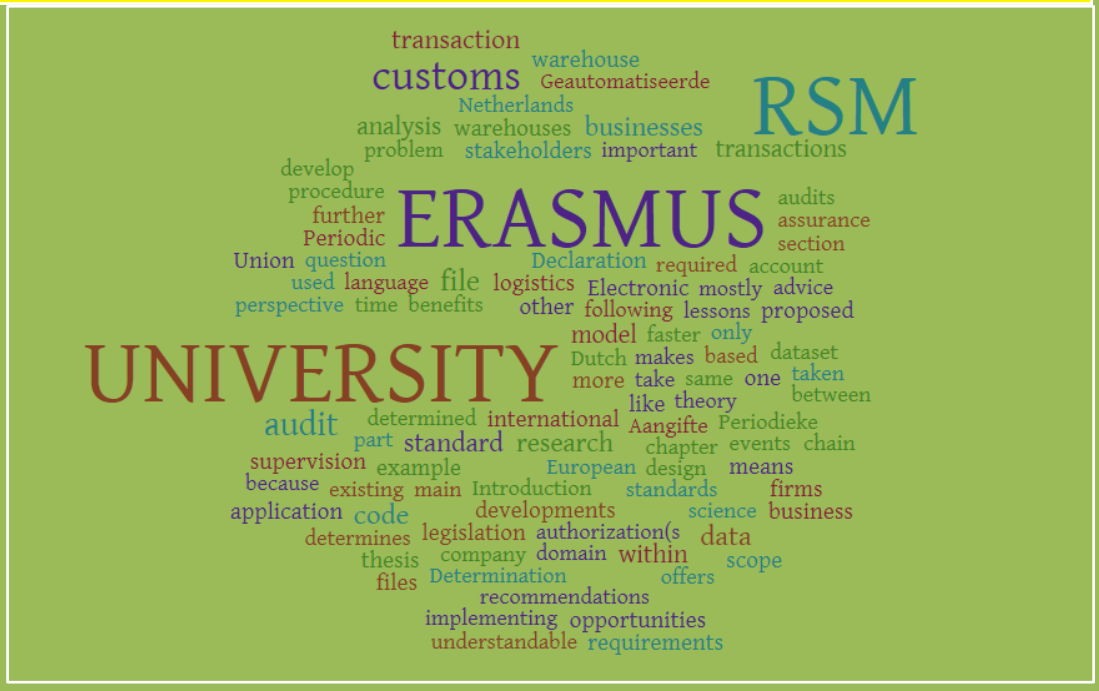
Conceptual model customs transactions



Chapter 2 Research problem

2 RESEARCH PROBLEM

For customs supervision businesses exchange data with customs authorities electronically. For the exchange of data in general, standards exist or are in development. These standards are heavily focused on finance, while customs focuses on goods. This problem also applies to other regulators focusing on goods, like the Netherlands Food and Consumer Product Safety Authority (NVWA).

As a consequence, the various supervisors request their data set from the companies. These exchange of data (audit files) are often different per company, supervisor, auditor, and assignment. For all parties, the collecting of and the analyses of the data is not efficient and effective, for businesses it is an administrative burden.

Concluding, the main problem of this thesis is:

> ***Companies and supervisors incur a lot of costs for gathering reliable data for customs supervision.***

2.1 Research Objective

An audit file is a standard to allow auditors access to data in an easily readable format (OECD, 2010a) and reduces compliance costs for businesses (OECD, 2010b). A standard for the exchange of data about the goods movements (inventory) solves this problem and offers the possibility to further mature supervision and lower the administrative burden for companies. Standardization is therefore crucial and, if used at a large scale, this may create permanent, substantial reduction in transaction costs (Bharosa et al., 2015; Grainger, 2008).

The latest national and international developments in the field of audit files focus mainly on the financial side. Dutch Customs describes in (Customs Administration of the Netherlands, 2017) the first contours of the future vision of holders of authorizations, the shift from post-hoc supervision to continuous supervision. The subject of audit files has a certain place in that document. From a business perspective, in previous unpublished studies (Customs Administration of the Netherlands, 2013; Hof, Kondrashova, Palacios Miras, & Speelman. 2016) related to audit files shows that business asks customs to take the lead in the development of the audit file for customs purposes.

Recently Dutch Customs participate in the development of the Audit Data Collection Standard of the International Organization for Standardization. The purpose of the Dutch Customs is also to make the audit file suitable for customs purposes, taking into account the extensibility to other regulators on goods. One of the most important aspects of the success of the audit file concern the standardization of those transactions customs (or another supervisor on goods) are interested. A good standard for transaction codes makes it possible to define the data requirements, to compare data between companies (benchmark), the use or share of standard data analysis and to innovate customs supervision.

This study describes first for which customs procedure the audit file has particular added value, a so-called white spot. Based on the findings the research builds a conceptual model for the transaction codes in which customs are interested, such that other parties, like the NVWA, can easily connect. This code determines the data requirements and offers opportunities like standard data analysis. This code is the translation of a business event into a clear, understandable code for customs and other stakeholders. Following this, the research objective is:

> ***The research objective is to obtain a conceptual model for the translation of business events into customs transactions to achieve optimal benefits from implementing a standard audit file.***

2.2 Research Question

To develop a conceptual model for transaction codes a number of questions needs to be answered. The main research question is divided into the following sub-questions:

1. What is an audit file, what are the developments concerning the audit file?
2. What is the policy of customs towards audit file, what is the place of an audit file in customs supervision?
3. At which place in customs supervision provides an audit file absolute added value and what is the importance of that so-called white spot?
4. How do the businesses experience an audit file? In other words: what are the expected benefits?
5. What are the main transactions, related to the white spot, customs are interested in for supervision purposes?
6. How can these transactions be modeled in a conceptual model for transaction codes?
7. Is the proposed conceptual model for the transaction codes valid?

2.3 Research Approach

First, an exploratory research has been carried out. This part consists of desk research (internal customs documents, customs legislation and two former surveys), experience of the researcher, participation of researcher in the project 'Audit File Logistiek' of the Dutch Customs, observation in the project ISO/PC 295 about ADCS at the Nederlands Normalisatie-Instituut (NEN) and interview with an expert in the field of auditing and standards. This part leads to answering the questions what an audit file is, the place of an audit file in a tax audit and eventually the identification of where the audit file has the most added value – the white spot – and its significance for businesses and customs.

Secondly, for covering the white spot an analysis takes place based on the recent audit file used by Dutch Customs to determine how and which transactions customs interested are classified. Also, a study on the European customs legislation related to the white spot provides an overview of transactions in which customs are interested also. These analyses lead to a proposal for the customs terms and a part of the classification of the transactions. Then, an analysis of the business process inventory provides an overview of the classification of these transactions. This classification combined with the proposal mentioned above leads to a conceptual model for transaction codes.

The last phase involves the verification and validation of the conceptual model. The terms used for the customs procedures in the conceptual model are compared with the terms used internationally. Further, a questionnaire has been carried out by some experts in both auditing and audit files. The verification and validation end with an interview with an expert, who is involved in the developments around the Audit Data Collection Standard of the ISO.

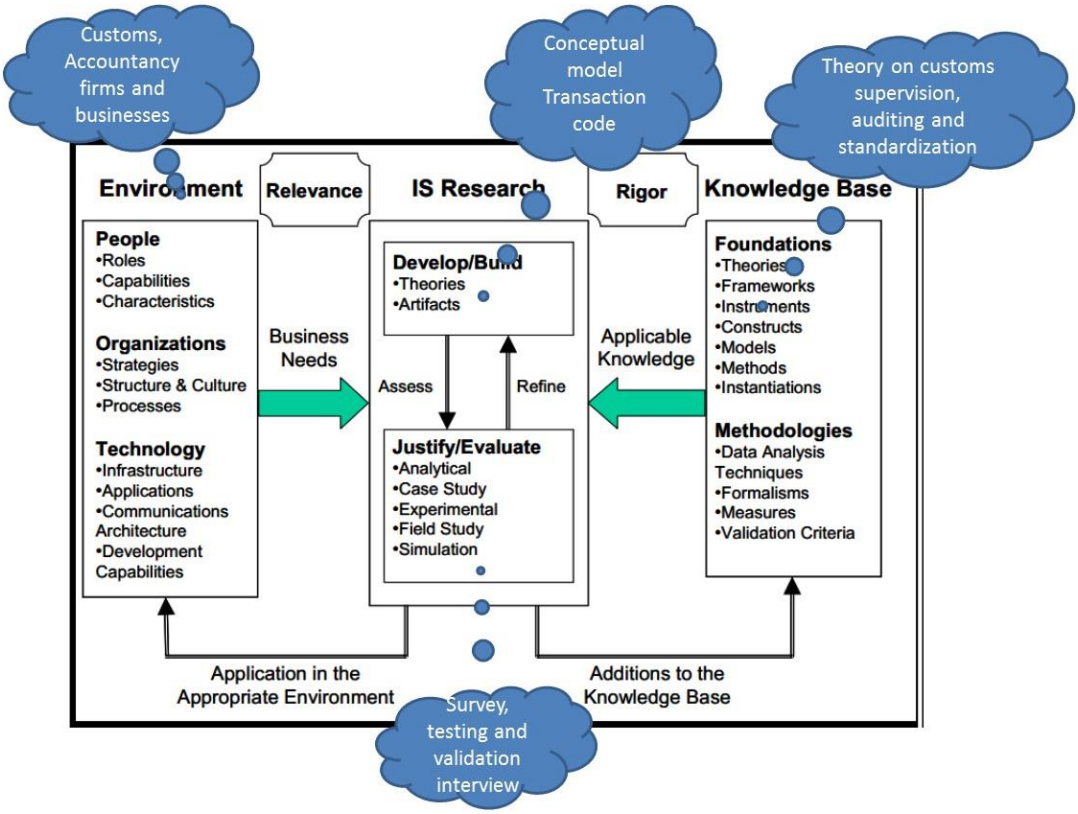
2.4 Research Design

According to (Hevner, March, Park, & Ram, 2004), two research paradigms are distinguished in the field of information systems: a behavioral and design-oriented paradigm. Figure 1 reflects the relationship between both paradigms (Hevner, et al., 2004; Figure 2). The middle column shows theories and artifacts which are being designed. The theories are based on the foundations on the right. The artifacts are designed to meet the needs of the practice left. Both theories and artifacts are analyzed (for instance, by analytical, case study, experimental, field study or simulation studies). The research leads to improvement or additions of the theory (research contribution, the arrow down to the right). The design of an artifact leads sooner or later to application in practice (practical contribution, arrow down to the left). Common is the scientifically responsible approach to research.

Previously, it is discussed that having a conceptual model for transaction codes is essential for the success of an audit file. A conceptual model is an artifact. Based on this, the research follows a design-oriented paradigm. (Hevner et al., 2004) puts seven guidelines for performing a design study and describing characteristics of a well-conducted research.

FIGURE 1

IS research framework



(Source: (Hevner et al., 2004; 80. Figure 2)

Guideline 1 states that design-oriented research must have a clear result (artifact). A conceptual model complies with this guideline because this research provides a conceptual model for transaction codes. Guideline 2 states that the problem must be important/relevant. Chapter 3 and 4 discuss the importance and relevance. Guideline 3 recommends different ways of evaluation. In this research, the evaluation consists of an expert survey on the utility/usability and an interview of the results of the survey with an expert in the field of audit files (chapter 5). Guideline 4 states that a design must contribute to existing research. This design, the conceptual model, helps to solve the problem of unambiguous transaction identification. This relates to existing research about trade facilitation, standardization and harmonization, and the role of data in regulatory supervision. Guideline 5 states that the research must be rigorous. The use of literature and the availability of internal documents and reports by the Dutch Customs has led to the creation of a workable method and compliance with this guideline. Guideline 6 concerns the design as a search process. This research has made use of available resources such as expert knowledge, and internal customs documents and research results from previous customs investigations involving companies from the target group. Guideline 7, the final step, relates to the communication of acquired knowledge and the developed artifact to all possible relevant and interested parties. This thesis is a means for communication.

2.5 Scope of Thesis

The focus of this research will be the authorizations private customs warehouses[3] and inward processing[4] in the European Union. We concentrate on the European Union because within the European Union there is one customs legislation: Union Customs Code. That makes the research interesting from a standardization point of view.

We focus on customs warehouses because customs warehouses play a major role in the logistics chain and the customs legislation (suspension of duties). The logistics chain of a container starts at a manufacturer or seller and end at a warehouse or buyer. Customs supervision starts at the border and ends mostly at a customs warehouse. Therefore this is a crucial part of the logistics chain. Also, the research focus on the customs procedure inward processing. This combination covers most business events in which customs are interested.

The scope is limited to those private customs warehouses where the holder of that authorization is also in possession of the authorizations local clearance procedure placing goods under the special procedure customs warehousing and local clearance procedure release for free circulation. In the Netherlands, the most customs warehouses have this combination.

To further limit the scope of this research and for clarity, we will only look at EU level legislation. National legislation is out of scope. For example, an excise warehouse is not taken into account in the proposed model, because excise duties are still a national matter.

2.6 Motivation of Thesis

For the Netherlands, a specific audit file exists for supplementary declarations. However, it expires at the latest in 2020. For businesses and customs, this has an adverse effect. For businesses more administrative burden and customs less efficient and effective supervision.

Recently OECD developed the standards SAF-T, and at this moment the ISO develops the standard ADCS. Unfortunately, these standards do not take customs into account. Moreover, businesses asked customs to take the lead in the development of an audit file, and recently Dutch customs participate in the development of the standard ADCS of the ISO. Further, Dutch Customs see the opportunities of an audit file, standardizing and harmonizing are keywords for further development of supervision, considering the Dutch customs future vision on supervision and the development of a policy for audit files.

In this research, the place of the audit file in customs supervision is determined, a place where the audit file has the most added value. That white spot is the basis for the development of the conceptual model for transaction codes. The transaction code is the central concept of the audit file. Standardized transaction codes make it possible to define data requirements, to develop standard data analysis, performing benchmarks, etcetera. Sharing standard data analysis stimulate cooperation between businesses and customs. A good standard audit file leads to less administrative burden for businesses and more efficient and effective supervision for customs.

[3] Customs warehouses may be available for use by any person for the customs warehousing of goods ('public customs warehouse'), or for the storage of goods by the holder of an authorisation for customs warehousing ('private customs warehouse').

[4] Non-Union goods used in the customs territory in one or more processing operations without such goods being subject to any import duty, other charges as provided for under other relevant provisions in force and commercial policy measures, insofar as they do not prohibit the entry or exit of goods into or from the customs territory of the Union.

2.7 Structure of Thesis

TABLE 1

Structure of thesis

Design Science Research Guidelines (Hevner et al., 2004)	Hevner's framework Information Systems Research (2004)	Chapters	Deliverables	Research questions
Research Problem	Introduction	Chapter 1 Chapter 2	Thesis proposal Literature study Introduction Research problem	
Design as a Search Process	Environment	Chapter 3	Literature study application domain	Sub question 1 Sub question 2 Sub question 3 Sub question 4
Design as an Artifact Research Rigor	Knowledge base: Foundations IS Research Develop	Chapter 3+4	Literature study Theorie on customs supervision Theorie on auditing Theorie on standardization	Sub question 5 Sub question 6
Design Evaluation Research Rigor Relevance	Knowledge base: Methodologies IS Research Evaluation	Chapter 5	Methodology survey and interviews applying transaction codes	Sub question 7
Research Contributions	Application in the Environment	Chapter 6 Chapter 7	For Research For Practice	
Communication of Research	Conclusions	Chapter 8	Conclusions and recommendations	Main question

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Conceptual model customs transactions

Chapter 3 Review application domain

3 REVIEW OF THE APPLICATION DOMAIN

3.1 Introduction

The core of this research is the question:

> "to obtain a conceptual model for the transaction of business events into customs transactions to achieve optimal benefits from implementing a standard audit file."

In this chapter, the application domain of an audit file is the core. First, it considers the concept of an audit file. Followed by a description, in general, of some (inter)national developments in the field of standard audit files. Also, this part gives a description of the use (place in customs supervision) of an audit file in customs supervision (audit), the possibilities/opportunities of an audit file for customs supervision and the recognition of the added value of audit file in the enforcement vision of the Dutch Customs. At the end of this part, it considers customs supervision at a very simplified level to show that customs warehouses are a place where audit files have added value for all parties (target group of this research). Further, it discusses the significance of this white spot by the number of declarations, the amount of customs duties, and the possible negative effects for businesses and customs if no audit file applies. This chapter ends with a summing up of the benefits of an audit file for businesses and customs considering two surveys performed by the Dutch Customs which includes the subject audit file. These surveys confirm the benefits of an audit file and that from a business perspective the audit file is the best solution.

The approach for this chapter consists of various conversations and an interview with the well-known expert Mr. L. Alewijnse[i]. Further, this chapter is based on experience and personal knowledge of the author, and literature. This approach is chosen because there is no scientific literature on the use of audit files within audits performed by customs. Also, Mr. L. Alewijnse is the creator of the (Dutch) Electronic Periodic Declaration[5] (EPD) and the application Geautomatiseerde Periodieke Aangifte[6] (GPA), and he was involved in the development of SAF-T. However, above all, he is auditor of Dutch Customs. It is this combination what makes him unique for elaborating the application domain. The authors' role concerns IT-auditor at the Dutch Customs and substantively co-responsible for the audit file for customs. In that capacity, the author has access to documents, data and insight knowledge. Also, the author was involved in the studies (Customs Administration of the Netherlands, 2013; Customs Administration of the Netherlands, 2013b; Hof, Kondrashova, Palacios Miras & Speelman, 2016).

3.2 What is an Audit File?

The Dutch Wikipedia[7] gives the following definition for audit file: "an open standard for storage and/or exchange of data from administrative systems". The leaflet (Customs Administration of the Netherlands, 2003a), focusing on the financial audit file (XAF), refers to "a computer file that stores the most frequently used data from the general ledger". In the manual (Customs Administration of the Netherlands, 2003b), specifically for the producers of financial software, is written that the audit file has been developed to facilitate the exchange of master and transactional data between various standard packages as simple as possible. Wikipedia emphasized more the basic (an open standard), while the tax authority accentuates more the end product (computer file) and the manual the master and transactional data. Data exchange is mentioned in the Wikipedia and the manual. On this basis, a more general definition of audit file could be a computer file based on an open standard for storage and/or exchange of data from administrative systems.

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[5] The EPD is the supplementary declaration on a periodic basis (mostly a month) for goods under Customs Supervision (Elfrink, 2016).
[6] Dutch Customs uses the application GPA for the treatment of the EPD.
[7] Source: https://nl.wikipedia.org/wiki/Auditfile

Also, this definition is too general. Is it a copy of the complete administrative system? What is the purpose of audit file? What is the added value of audit in the term audit file? As Mr. Alewijnse explained in the interview, he said to split the term in two words: audit and file. The concept of a (data) file[8] is a computer file which stores data for use by another computer application or system. If 'exchange of data' (between systems within an organization or with third parties like tax authorities and not necessarily physical) is added to this, the understanding of file is expressed in the paragraph above. So the term audit should fine-tune the concept audit file.

Audit and auditing are concepts that often used interchangeably. Article (Kocks, 2003) addressed these two concepts. With the concept of auditing, the discipline is intended. This discipline is concerned with the theory and application of its results. This theory development and application of the results focuses on the conduct of investigations (audits), which, through the collection and assessment / evaluation of evidence, review takes place on one or more aspects of a defined object to a predetermined (set of) standard(s), with the aim, on the basis of the results of that examination to deliver one or more (by an auditor or a third party) certified judgment(s) / to the principal or through the principal to third parties, which on both the audit as the auditor certain requirements are imposed. Derived from this, an audit is an investigation for the purpose of, through the collection and assessment / evaluation of evidence, testing of one or more aspects of a defined object to a predetermined (set) standard(s) with the goal to base on the results of that test to give certified judgments to the principal (or third party). The words object and purpose give substance to the various audits and the required data (for the audit file). What are the different objects to audit and purposes of these audits?

Because this research focuses on customs audits, the objects and purposes are focused on taxation. First, (Tax Administration of the Netherlands, 2016: 12) defines tax audit as follows: an investigation that allows an auditor to test/evaluate the audit object, for which another party is responsible, and of which he forms a judgment. The audit object is a set of (VAT, customs, etcetera) declarations. Its purpose is to determine (a judgment about) the completeness and correctness of these declarations.

BOX 1

Audit File Family Netherlands

Audit File Family

In the Netherlands audit files are an established standard. There is even an Audit File Family. Most famous is the Audit File Finance (XAF), an open standard with an XML-based file format, which contains data on used ledger accounts, ledger mutations, creditors and debtors relationship data and positions of sub administrations.

The standard was developed by the XML-platform. Exports to XAF is now built into many standard packages and aims to exchange financial data. It is not used by tax authorities only, but to transfer data to the external auditor or to facilitate transfer to another package also.

With this data, it is possible that the external auditor (or tax auditor) to perform efficiently and effectively – data analysis - the audit.

Besides the XAF other audit files have been developed within the Audit File Family: Audit File Salary (XAS), Audit File Cash registers (XAA), Audit File Board Computer Taxi (XAB) and Audit File Trip registration (XAR). For more information, see

[8] Source: https://en.wikipedia.org/wiki/Data_file

In the Netherlands, for some of the tax objects, XML-platform[9] developed standards for an audit file already (see box 2[10]). Because the accuracy and completeness are a responsibility of the businesses, it is even sensible that businesses (internal audit department but also audit firms) use this file also as explained by Mr. Alewijnse. Further, see box 2, the audit file contains both master data as transaction data that underlie the declaration (object) and is limited to the most used data. For example, the transactions in the general ledger – because these underlie the financial statements (object) – form the basis for the audit file financial.

A last important aspect concerns the number of files an audit file exists. It seems that audit file always concerns one file with all transactions and master data. As Mr. Alewijnse expressed, this is not necessary. When a company uses different systems, for example, an ERP (Enterprise Resource Planning), WMS (Warehouse Management System) and CMS (Customs Management System) it is quite conceivable to split the audit file into three separate files. Another possibility is to split the master data from the transaction data. Of course, the key that explains the relation between the different files is crucial. This results in an improved definition of audit file:

Audit file is a concept of one or more computer files based on an open standard for storage and/or exchange of (transaction and master) data, which underlie the audit object, from administrative systems for the benefit of internal for businesses and external regulators.

In the article (Bottemanne[11], 2013) the author draws attention to audit files with the text "pull out what's inside". He notes that the audit file financial, in addition to the audit function for tax authorities, is used in accountancy practice widely, mainly for the exchange of data between accounting and reporting software. The reporting software is used, for example, for compiling financial statements and running analyses. The audit files can be used to advise customers, and that does not apply to the audit file financial only. Not for nothing, more and more providers of advisory software (accounting firms) use one or more variants of audit files. It is this movement which makes it for accounting firms possible to realize a long-cherished desire to advise their clients better, more frequent and timely. The conclusion is that the audit file is not used for audits only, but also for advice. The question is then: cover the term audit file the use of that file?

In short, the term audit (internal audit department and external auditors) doesn't cover the scope of the standard anymore. The scope is expanded to include advice. Internal for decision making and external, for example, by benchmarking. Because of this, the term audit file seems outdated. **The essence is an open standard for the collection of data for the purpose of increasing the efficiency and effectiveness of multiple goals**. A better term, taking account with the owner of the data and the essence of the standard, is Business Data Collection.

Because this study focuses on the data file for auditors of the customs or internal audit department of the businesses for the purpose of the efficient and effective design of the audit, this study holds to the term audit file. Further, audit file must not see as only a product for auditors. As Bottemanne notes, the opportunities for the use of the audit file is large. However, the awareness is there to change the name in Business Data Collection not only to improve the support but also to increase the use of the same file.

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[9] XML-platform is a collaboration between SRA (Samenwerkende Register Accountants & Accountants Administratieconsulenten = Collaborating Chartered Accountants and Accounting Consultants) with software providers and Tax Authorities,

[10] Source: http://softwarepakket.nl/swpakketten/auditfiles/auditfile_financieel.php?bronw=1

[11] Gerard Bottemanne is the owner of research agency GBNED

3.3 International Developments

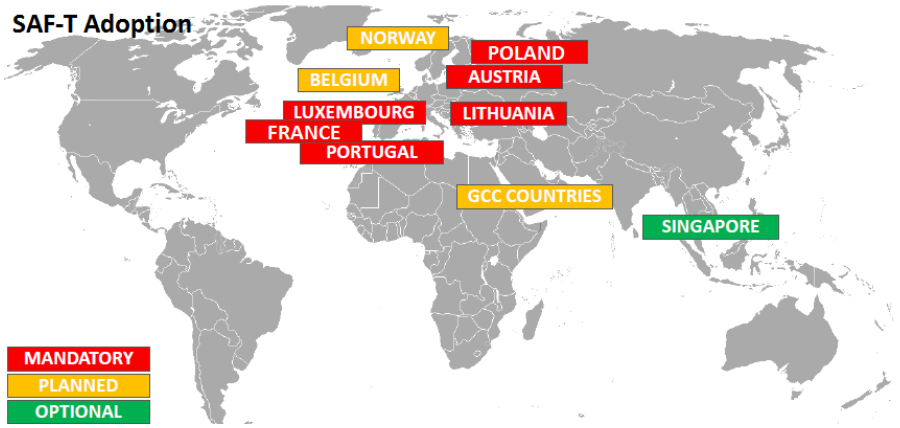
The first significant international development in the field of audit files concerns Standard Audit File for Tax (SAF-T)[12] from the Organization for Economic Cooperation and Development (OECD). According to (OECD, 2010a) the purpose of SAF-T is to allow auditors (intern and extern) access to data in an easily readable format. The SAF-T is used for substantive testing of system controls and data, using proprietary audit software, as part of a methodology that also provides increased effectivity and productivity in computer assisted audits. So standardizing data and standardizing data analytics. Governments, accountancy, audit professions and software developers together developed the SAF-T. It is recommended by the OECD and in according to (OECD, 2010b) as part of a reduction of compliance costs for businesses and reduction of administrative costs for revenue bodies. SAF-T is an international standard for electronic exchange of reliable accounting and tax data format (XML, not mandatory) for tax compliance auditing purposes on an international level.

SAF-T has been designed to capture data from some areas found in typical business accounting systems, namely general ledger, accounts receivable, accounts payable, fixed assets and inventory and includes only information which is likely to be found in most business and accounting software packages. Delivering all of the elements in the schema may not be achievable in practice. That is why the specification of SAF-T contains a certain amount of flexibility. Where a field is described as mandatory in the XML-schema it must be present for the audit file to be valid (considered as necessary to extract meaningful information from a business accounting system and otherwise incompatible with the OECD specification)). If an element is described optional, it may be omitted for the audit file. The specification includes some extension points ("any ##other"). The extension points allow countries to add their elements with the remark that any deviation from the scheme will place an extra burden on international software developers.

The OECD published the first version in May 2005 and the second version in April 2010. The scope includes Corporate Income Tax, Transfer Pricing, and VAT. The objective is clearly the tax authorities. Within the EU Austria (2009), Portugal (2013), Luxembourg (2013), France (2014), Lithuania (2014 and Poland (2016) introduced the SAF-T (for VAT) by law[13]. According to (Boy & Veldhuizen, 2017), the implementations differ:

FIGURE 2

SAF-T adoption (Source: Wagenaar, 2017: 7.)



[12] Another – and out of scope - is the SAF-P (Payroll)

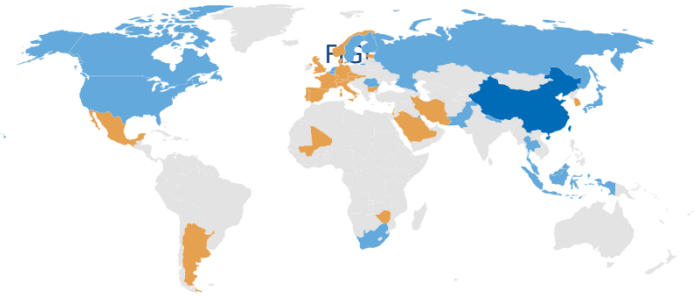
[13] Only Luxembourg and Poland uses version 2.0, other countries version 1.0. Also Norway implemented since January 2017 version 2.0 of SAF-T.

- differences in the types of information that must be supplied (for example, only data from the purchase and sales or even bank statements);
- differences in the requirement of SAF-T for single resident taxpayers or also foreign taxpayers registered for VAT in that country;
- differences in the voluntary or mandatory use of SAF-T;
- differences in the height of thresholds for the mandatory use of SAF-T;
- differences in frequency; requested or periodically mandatory of SAF-T.

As mentioned before, SAF-T includes inventory. In chapter 5 this will be more analyzed in detail, but the inventory focuses on the movements of goods especially related to purchases and sales. For customs these transactions are important, but the related customs transactions do not have to be at the same time of purchases or sales and don't have to be a purchase or sale. As Mr. L. Alewijnse explained, customs was out of scope, and they have to do with time pressure.

FIGURE 3

Secretariat, Participating countries, Observing countries



(Source: https://www.iso.org/committee/5648297.html?view=participation)

The second important international development concerns the Audit Data Collection Standard (ADCS) from the ISO. China presented a proposal for the ADCS at the end of 2014. The first meeting took place at the end of 2015. The Program Committee (ISO/PC 295) aims to resolve the common problems faced by auditors during collection of data and to improve accessibility and transparency of audit data by providing a specification for auditors to obtain accounting data, including content and format requirements for accounting data elements and data interface output files. 18 countries are participating[14], including the Netherlands and 22 countries are observers[15]. The problem, introduced by China, is briefly the number of interface programs needed (for audits). The various auditing software (10, such as ACL, IDEA, SAP Assure, etc), different versions of accounting software (125 accounting software's with 293 versions, like Oracle, SAP) and the various databases (like Oracle, SQL-Server, DB2, etc.), are the cause of the number of interface programs. Besides that, the different interpretations of the received data form a problem (Tianyang, 2015). It is the expectation that ISO publishes a final version end of 2018.

Conclusion: The ADCS is under development, and the Netherlands is one of the participants and can exert influence on the final product. The purpose of the ISO ADCS is the same as the SAF-T of the OECD. Considering the participants and the distribution of the participating / observing countries, it seems that there is sufficient support for such a (worldwide) standard.

[14] Participating countries (members) participate actively in the work and have an obligation to vote on all questions submitted to volte within the technical committee (TC) (source: www.iso.org, may 2017)

[15] Observing countries (members) follow the work as observers, they receive committee documents and have the right to submit comments and to attend meetings, but cannot vote within the committee (source: www.iso.org, may 2017)

Besides the international developments, there are some initiatives national also. Sweden (Standard Import Export), France (Fichier des écritures comptables), United States (Audit Data Standard) and the Netherlands (Auditfile Financial) are some examples, all related to financial (accounting) data. In box 2 the Dutch audit file family is explained. A recent development in the Netherlands is noteworthy: Reference Ledger Scheme (RLS). Companies often have to provide a range of reports to the public and other organizations such as financial service providers and banks. These reports are done with Standard Business Reporting (SBR). However, the own ledger schema does not use the SBR-codes. To translate this, which is error-prone, labor-intensive and costly, RLS was developed. RLS is a link (bridge) that links the own general ledger chart with the SBR codes (see Figure 4) and thereby make the reporting process easier, more efficient and less error-prone. The implementation of the SBR-code in the XAF takes place at this moment. This has the great advantage of standardization within the XAF in the coding of transactions with the result of using standard data analytics. The ultimate goal is, of course, that the RLS will take the place of the chart of accounts used by enterprises.

FIGURE 4

Example translation own accounts to SBR codes by RLS

OWN ACCOUNT CODES		GENERAL LEDGER SCHEMA		SBR CODES
010101000	.....	BivaKouVvpBeg	.....	012611
010101010	.....	BivaKouVvpInv	.....	012622
010101020	.....	BivaKouVvpAdo	.....	012625
010101030	.....	BivaKouVvpDes	.....	012623

Conclusion: More than ten years later, the use of SAF-T is not fully adopted. Luxemburg is closest to the intended standard. Others are more and more different, for example concerning the required data, levels and format. The standard is more country-specific than the intended worldwide standard and exchange of data across borders is not simplified. The flexibility gives additional problems for software manufacturers and those companies operating in multiple countries. Besides OECD, ISO also have attention for the collection of the data for audit purposes which is in development. Further, different countries have experience with a collection of data for audits. Standardization is the keyword that leads to improvement of the accessibility and transparency of audit data, will facilitate good auditing practice, improve internal and external audits (particularly the transparency and efficiency of transnational audits). In all developments, customs (or other regulators focused on goods) are outside the scope. Also, these developments hardly identify other possibilities like providing advice or benchmarking with the same data (file).

3.4 Customs and the Use of Audit File

This paragraph consists of three parts. First, it describes customs supervision in general. This part deals with the enforcement vision, the strategic goal and the audit approach of the Dutch customs. Further, it considers the customs supervision at a very simplified level to determine the white spot, a place where an audit file adds value, customs warehouse and the significance of the customs warehouse for businesses and customs.

3.4.1 From Enforcement to Audit.

The mission and ensuing goals, enforcement vision and strategy are the foundations of the customs enforcement focused on the cross-border movement of goods. The mission and mandate of the Dutch Customs have the following strategic objectives (also reflecting the goals of the European Union):

- **A** Remittance (in Dutch: **A**fdracht): Ensure that tax revenues are accurate, complete and timely as possible.
- **B** Protect (in Dutch: **B**eschermen): The best possible solution to protect the community against unsafe and unwanted goods.

- **C** Competitiveness (in Dutch: **C**oncurrentiepositie): Contribute to strengthening the competitiveness of the European Union.

A fourth objective, often referred to with the capital letter **D**, is innovative enforcement and services (in Dutch: **D**ienstverlening), that as a precondition for customs to perform its functions efficiently and effectively. According to (Customs Administration of the Netherlands, 2014; Heijmann, 2015) the enforcement vision 'pushing boundaries' (the ambition of the Dutch Customs) is more a compass and shows how the enforcement vision is being implemented. Four pillars form the vision: trust, risk-targeted approach, services, and cooperation. Also, this vision has three layers: the layered enforcement approach:

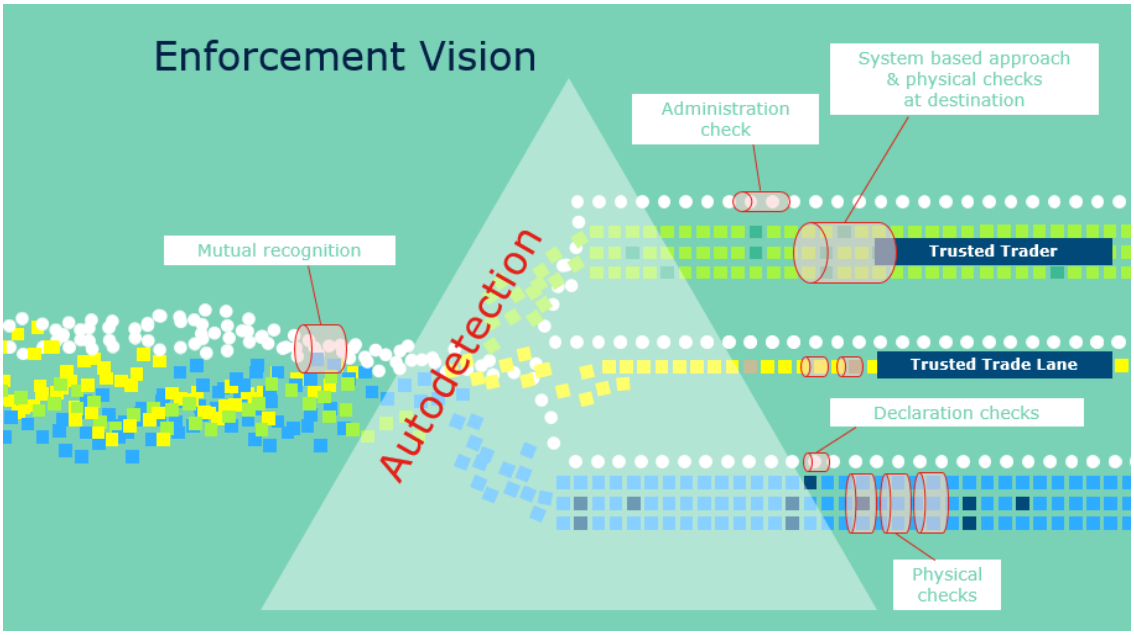
- yellow: These are reliable, secure and complete supply chains;
- green: Comprising well-known reliable companies; observations – preferably outside the logistics process – to verify the correctness of the actions;
- blue: The unknown and other companies; inspection in the logistics flow, at the border, based on risks analysis and detection.

The strategic goal of this vision is: 100% supervision[16], customs monitors the movement of goods, all three layers. To realize this, enforcement is:

- compliance-oriented (both promote compliance as prevention of non-compliance);
- information-driven (to strengthen the visibility of the goods);
- risk-oriented (efficient and targeted to address risks);
- layered (from services to investigation, (see figure 6);
- seeking minimal burdens on businesses (facilitation).

FIGURE 5

Enforcement vision, Pushing Boundaries



(Source: (Customs Administration of the Netherlands, 2016b: 63)

[16] Supervision is one of three enforcement approaches between service and investigation. For each of the approaches the Dutch Tax Office has an extensive arsenal of methods and instruments to fulfill its mission. One of the instruments concerns audits (Tax Administration of the Netherlands, 2016: 11)

Dutch Customs aims to have companies voluntarily comply with their legal obligations (compliance). Customs is serviceable and respectful to companies. She takes corrective actions where necessary and, in extreme case, enforced by (criminal) law. The activities taken by customs authorities are based on the knowledge gained about the company's behavior (motives) and ability, the core of responsive regulation. All activities – enforcement strategies (see figure 6), from services to investigation, are aimed at stimulating, maintaining and optimizing the willingness and ability to comply. With this Dutch Customs applies responsive regulation as intended in (Ayres & Braitwaithe, 1992) in deciding whether a more or less interventionist response is required. A regulatory pyramid sets out a series of option that the Dutch Tax Authority uses to win compliance, sequenced from the least intrusive at the bottom to the most intrusive at the top.

FIGURE 6

The enforcement pyramid

(Source: (Customs Administration of the Netherlands, 2016b: 53.)

Supervision (see Figure 6), one of the enforcement approaches, has, in turn, an arsenal of methods and means. Customs distinguishes supervision in administrative and physical supervision. The physical supervision includes physical checks and scan checks (see Figure 5). Administrative supervision includes administrative checks for example on authorizations, post clearance verifications, excise checks, etcetera. (see Figure 5).

Conclusion: The audit file fits in the enforcement vision. The audit file promotes compliance; it can be used by the trader also (or sharing data analysis). Further, the audit file is information driven, it gives customs the missing data (especially the audit trail of the goods) and strengthens customs visibility of the goods. Based on the audit file a further risk-oriented approach is possible, and the audit file decreases compliance costs. The audit file in the first place relates to those companies of the green layer, the trusted traders. These are the businesses which are well known and reliable which are the holders of authorizations like Authorised Economic Operator or Customs Warehouse. It is especially this latter group where an audit file is a tool to support the administrative checks or to determine if an administrative check is needed (risk analysis). However, it is also possible in the other layers.

Also, the audit file is mentioned as a specific means in the future vision of customs supervision. (Customs Administration of the Netherlands, 2017) describes the first contours of the future vision supervision of holders of authorizations. A recurrent theme in this document is the shift from 'post-hoc-supervision' to 'continuous supervision'. Continuous supervision means ongoing, as far as possible automated analysis and comparison of (validated) customer information. In this vision, information about companies, related customs transactions and the processing thereof plays a key role. The information for continuous supervision comes from both the declaration systems (like AGS, a declaration system in the Netherlands), the Digitaal Klant Beeld Douane (an automated tool for collecting supervision information about a specific client from various sources) as the validated information from the business administrations (including audit files). Customs will then get a complete overview of the data relevant for customs supervision about the holder of the authorization. This will contribute to the vision "Pushing Boundaries": 100% of the means of transport and goods passing through the external borders are supervised (Customs Administration of the Netherlands, 2014). If the information from the successive declaration systems matches with information from the audit files, customs become more confident about the reliability of the declarations made by the company concerned. As there is more assurance about the reliability of these declarations, there is less need for (labor-intensive) administrative audits. The prerequisite is that the information from the audit files is tested by short and targeted checks against the company's

financial and logistics systems to ensure that Customs can rely on this information (validated information).

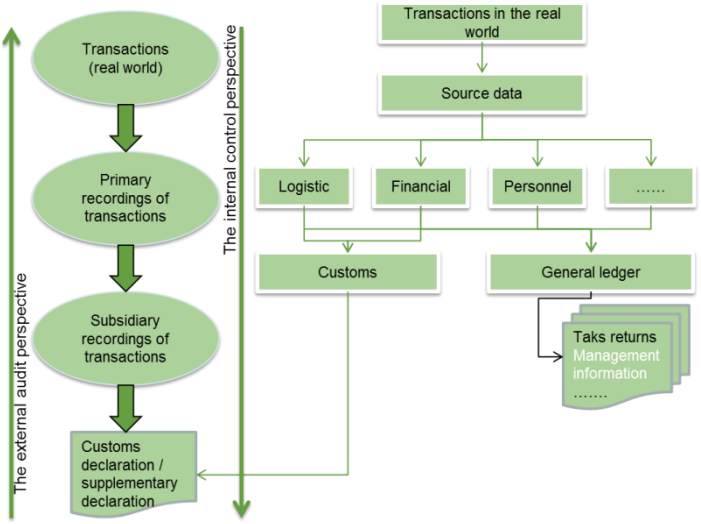
3.4.2 The Customs Audit Approach

Audit (used as a form of administrative check) is defined in the (Tax Administration of the Netherlands, 2016a: 12) as "the process where a qualified auditor on a structured, systematic manner obtains independent and documented information and evaluate objectively in order to obtain an answer to the question whether the object subject to the audit, complies with the standards that apply". A tax audit is an audit where an auditor checks the subject matter (the control object, usually a declaration) for which another party is responsible, tests or evaluates against criteria (standards, laws, and regulations, etcetera) and of which it forms an opinion (about the control objectives).

The (Netherlands Tax and Customs Administration, 2016b), a public document, is the foundation (a norm) and describes how the Tax authorities carry out the audit of a declaration or a set of declarations and support the efficiency and effectiveness of the audit. The norm 'acceptable declaration' is given to the latter interpretation. This document consists of several models that explain the audit approach. First, this section provides an explanation of the transaction model following by the workflow model that clarifies the location of an audit file in the audit process.

FIGURE 7

Transaction model



(Based on (Gultekin, Woudenberg, 2015: 153. Figure 25); Tax Administration of the Netherlands, 2016b: 12. Figure 7)

Transaction model. To indicate the place of the audit file in the audit process, I use the transaction model. The transaction model (Figure 7) describes control objectives and why a reduction of activities in supervision in general and in particular, audits, is possible. A company consists of many transactions that take place in the real world. Of these transactions, primary recordings are made and used for its information requirements such as financial statements or customs declarations (subsidiary recordings).

The transaction model has two directions/perspectives for clarification. From top to bottom it is the Administrative Organization / Internal Control (AO/IC)[17] perspective; the influence of the AO/IC on how transactions (reliable) be included in an accountability document, such as a customs declaration. Where no such measures are present or are insufficient, uncertainty remains about the reliability of information and the external audit cannot rely on this. From below to above shows the external audit

[17] The AO/IC aims to the business to function effectively and efficiently, financial reporting, including the declarations to be reliable, compliance with laws and regulations including tax and to monitor assets and values. The AO/IC is often divided into the following components: the control environment, the risk assessment process of the entity, internal controls, the information system and monitoring of the operation of the controls.

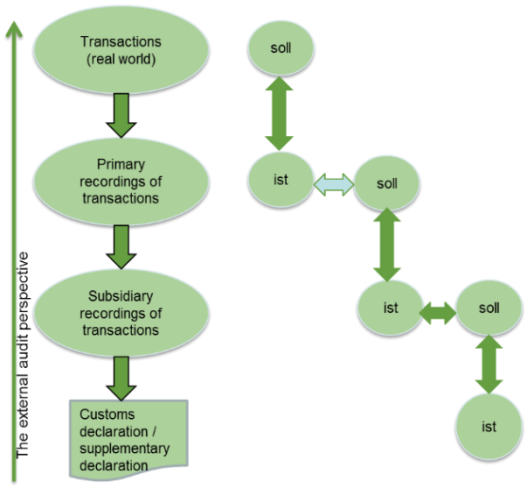
perspective. External audit is possible via subsidiary to the primary recordings, provided that the AO / IC is sufficiently reliable. This point of view also formulates the control objectives, namely:

a) the completeness of the transactions recorded;
b) the completeness of the types of data relating to the transactions recorded (for example data about the audit trail);
c) the accuracy of the recorded data about the transactions;
d) the accuracy of appraisals;
e) the correct application of and compliance with the relevant legislation and regulations.

Terms often used in connection with audits include IST and SOLL. Where IST is considered to be the factual reality ("As is") and SOL the norm ("To be "). In audit reality, IST is tested against the norm SOLL (see Figure 8). The SOLL for the audit of a set of customs declarations consists of the transactions in the real world of relevance to the customs declarations. The IST consists of the transactions recorded in the customs declarations. The audit then entails a comparison of the records in the customs declarations against the records of the actual transactions that were completed. This audit is not feasible as such, as an ex-post audit is unable to observe the transactions already carried out in the real world. For this reason, the SOLL required for the audit will need to be developed via a detour. This implies that the ex-post audits require the upgrading of the primary records from IST to SOLL. This is done by auditing irreplaceable internal control measures[18] in place. When this is possible, then an ex-post audit of the customs declarations is feasible.

FIGURE 8

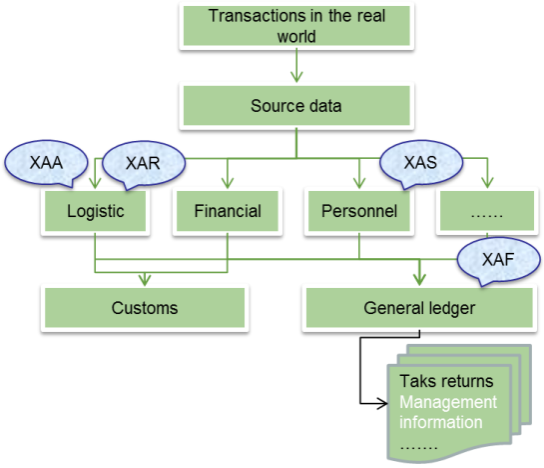
Transaction model, the comparison



(Based on: Tax Administration of the Netherlands, 2016: 49. Figure 5.2; Tax Administration of the Netherlands, 2016b: 12. Figure 8)

FIGURE 9

Transaction model with the audit files



(Based on (Source: Tax Administration of the Netherlands, 2016b: 7; Customs Administration of the Netherlands, 2013c: 26)

All companies perform administrative / business electronically; it is a digital age. The Dutch Customs Administration aims to offer companies the ability to communicate electronically. Communication within the supervision involves making arrangements regarding the communication but also the efficient and effective exchange of documentation and business data needed to monitor. For example an audit file. The audit files (see box 2) that currently exist, relate in particular to systems that record primary recordings. These audit files are ideal for automated (standard) analysis. Figure 9

[18] Irreplaceable internal control measures are measures and procedures whereby any gaps or shortcoming cannot be rectified ex post (assurances for the registration of the organization's transaction as such – in this case the primary records – in a manner such that the completeness of the accounts can be audited). Examples of these kind of measures include the segregation of duties between officers, vacancy controls, entry controls and the quality and quantity inspections at goods reception.

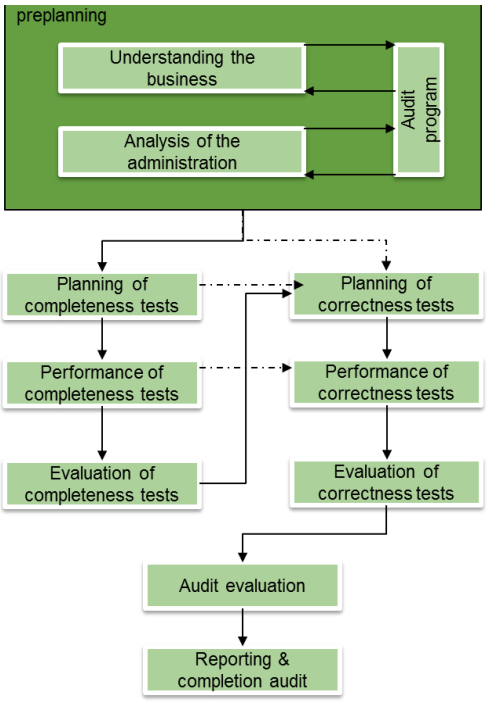
shows the existing audit files again in a part of the transaction model. This demonstrates that it is necessary to continue to have and to hold attention for checks and validations in the primary recordings. To use an audit file, it is necessary that there are some guarantees. Guarantees necessary, including (from the perspective of a customs audit) the aspects (Tax Administration of the Netherlands, 2016a: 125):

- the quality of the data;
- completeness of the primary recordings;
- all relevant properties have been accounted for and correct (e.g. value, classification, origin);
- no modification of data afterward without it is recorded and is to determine;
- the data from the customs system are correct and complete in the customs declaration, and audit file included;
- the audit file afterward has not changed.

Workflow model. (Romney & Steinbart, 2015: 339) shows an overview of the audit process. All audits follow a sequence of activities which are divided into the stages audit planning, collection of evidence, evaluation of audit evidence and communication of audit results. When looking at the tax audit process, then the workflow model (Figure 10) also shows a certain order. The rectangles represent the different audit activities. The solid arrows indicate the sequence of the decisions and the dotted arrows the regular sequence in time. The information from the preplanning reveals whether it will be feasible to make use of the quality of the (recording of the) data (system test). The preplanning (understanding the business and analysis of the administration) concludes with a decision on the adequacy of the irreplaceable internal control measures and replaceable internal control measures. If they are adequate than in the planning phase, it can be reviewed whether these measures justify a reduction of the substantive test.

FIGURE 10

Workflow model



(Source: Tax Administration of the Netherlands, 2016a: 58. Figure 5.5.))

The audit file can play a role in the audit process, certainly if the preplanning also consists the aspects that guarantee the completeness and correctness of the audit file. Then, the audit file could be matched with de declarations. So far this is a post audit. However, an audit has several forms/moments. Customs also knows initial audits and audits issuing AEO authorizations followed by field tests:

- Initial audits are audits conducted as part of an application for an authorisation, for example, an application for authorisation Local Clearance Procedure release into free circulation. In an initial audit, the control object is the design (and quality) of the AO/IC. The effectiveness and operation of the AO/IC are objects if they are implemented (often not the case). An authorisation may be issued when the auditor has determined that the AO/IC provides sufficient guarantees that all taxable transactions are fully and properly recorded in the accounting records and be included in the declarations. Following the initial audit additional work agreements be made. The initial audit is very similar to the parts understanding the business and analysis of the administration of the preplanning (workflow model). The initial audit is completed with an opinion on the issue of the authorisation. This means that in general all audits (at a later moment) can be based on

the audit file, provided that the operation of the AO/IC has been determined and approved. Another possibility is that arrangements be made to carry out analyses/audits by the holder of the authorisation.

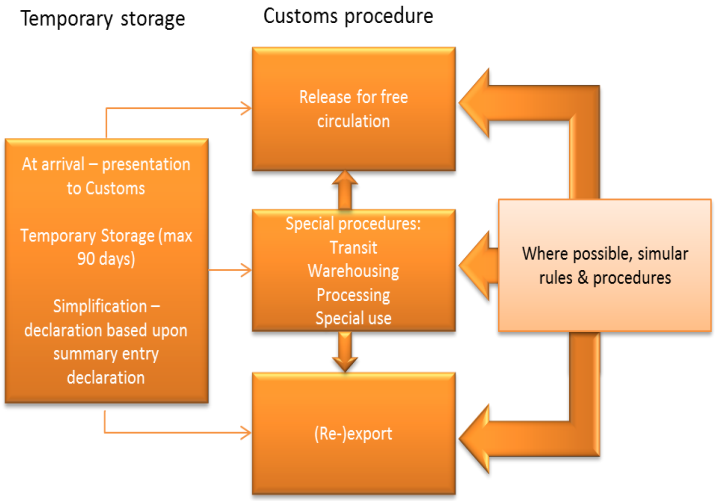
- AEO audits are audits by an auditor to get a judgment to the question whether the company (permanent) meets the AEO criteria. In this research, this concerns the Authorization Economic Operator for Customs simplifications (AEO-C). One of the conditions for AEO-C concerns: the demonstration by the applicant of a high level of control of her operations and the flow of goods, by means of a system of managing commercial and, where appropriate, transport records, which allows appropriate customs controls. Also, the AEO audit is very similar to the parts understanding the business and analysis of the administration of the preplanning (workflow model). In contrast to the initial audit, which is one-off, an AEO audit knows a form of periodic maintenance. Periodically, it is determined whether (still) the conditions of AEO are met.

Conclusion: In Figure 9 no customs audit files are filled in, although they do exist which I later explain in chapter 4. When there is evidence that the audit file is complete and correct, the auditor uses the audit file for performing substantive testing. Because customs also perform other audits, it is possible that those audits, like AEO field tests, prove that the completeness and correctness of audit files are good, with the effect that the post audits are more office checks. Besides the advantages for customs, this will also lower the administrative burdens for businesses.

3.4.3 Customs Supervision Simplified

Goods brought into the customs territory of the Union shall, from the time of their entry, be subject to customs supervision and may be subject to customs controls. Non-Union goods shall remain under customs supervision until their customs status changes in Union goods, or they are taken out of the customs territory of the Union or destroyed. "Customs supervision" means action taken in general by the customs authorities to ensure that customs legislation and, where appropriate, other provisions applicable to goods subject to such action are observed (article 5.27 UCC).

FIGURE 11
Framework under the UCC



Source: Tusveld, 2016)

This customs supervision is in the form of successive customs procedures. According to article 5.12 UCC customs procedure means any of the following procedures under which goods may be placed in accordance with the Code, the so-called framework under the UCC. Figure 11 shows the framework (elaborated with temporary storage). Figure 12 shows the same as Figure 11, but for the contribution to the formulation of ideas how to deal with supervision, the customs procedures are replaced by cottages. Figure 12 is by no means exhaustive.

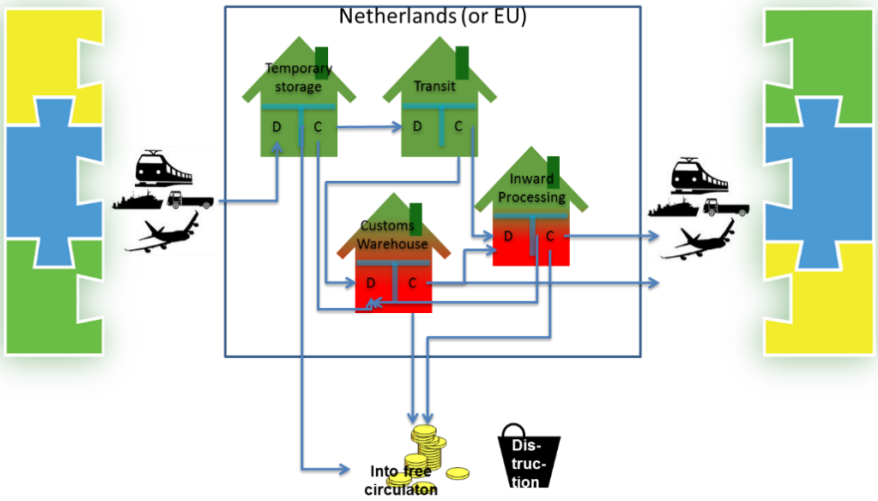
The explanation of Figure 12 is as follows:

- The goods are brought into (or exit from) the European Union or the Netherlands (the large rectangle) by truck, boat, train or airplane. The business objective of the customs concerns the safety and security and the completeness of all goods under customs supervision.

- The cottages represent customs procedures, such as customs warehouse (or inward processing or other). In the cottages, the business objective of the customs concerns monitoring of the goods under the relevant customs procedure (conclusive).
- The arrows represent the transition between the customs procedures. The transition takes place by submitting customs declarations. The business objective of the customs concerns the matching of the outgoing with the incoming goods movement.
- The stack of coins is a reference to charging customs duties. The business objective of the customs concerns the correctness and completeness of the customs duties.

FIGURE 12

Simplification of customs supervision (based on cottage model Leo Alewijnse)



For Customs the critical moments are formed by the edges of the rectangle, the entry into and exit from the European Union and the time of release into free circulation of goods. The entry and exit are more focused on safety and security. The release into free circulation more on completeness of duties. **Inside the rectangle, customs supervision consists of nothing more or less than just accounting**.

For entry of the goods – temporary storage (application DMF) Dutch Customs does the accounting. This means that the business objectives, previously mentioned, are realized. The same also applies for transit with the application NCTS. Because the Dutch Customs does the debit and credit, it is a conclusive system, and therefore the cottages are green colored.

For the customs (special) procedure customs warehouse the situation is different. In that situation, in the Netherlands, the administration from the holder of the authorization prevails. Customs depend on the administration of third parties, and that is why the cottages are also red colored.

The core of the customs supervision is the information about the goods (declaration or administration), and that customs supervision ends at the moment when those goods have gotten a specific destination, such as release into free circulation. However, declarations can have different forms (see Appendix B) and different forms mean different interpretations/operations of the customs supervision. This results in possible white spots and these white spots are made clear, in the next examples, for the normal procedure and the entry in the declarant's records

Box 2
Explanation arrows and cottages

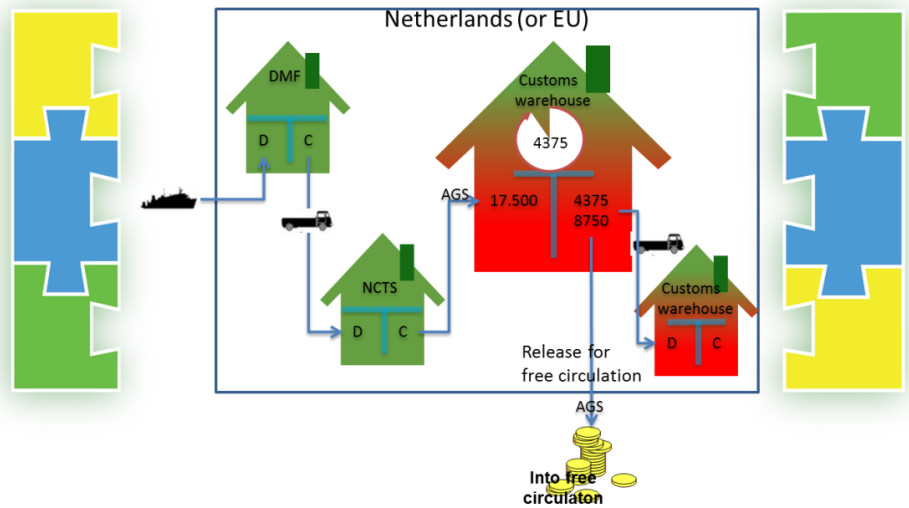
In Appendix B, on the basis of the UCC, a description on topics mentioned in Figure 11 is given, like:

- (arrows) lodging (and the differences) a declaration (normal procedure, simplified procedure and entry in the declarant's records);
- (arrows) requirements like supplementary declaration in case of simplified procedure and entry in the declarant's records;
- (arrows) supplementary declaration in the Netherlands by Electronic Periodic Declaration or Written Periodic Declaration;
- (cottages) Customs warehouse: requirements authorization, public versus private customs warehouse, required data records;
- (cottages) Transportation between locations covered by special procedure before;
- (cottages) Possibility of equivalence of goods

According to the normal procedure, one declaration is followed by a subsequent declaration. In the following example this is explained:

"A container with 17,500 kg spare parts for engines from America is unloaded at a container terminal in Rotterdam. The container is picked up and transported to a distribution center in Tilburg to a private customs warehouse. The container is stripped, and the goods stored. Then, half of the cargo is released into free circulation and a quarter is transferred to a private warehouse in Venlo. The last quarter is repackaged, meaning ready for retail: 5 boxes with different spare parts (each box 100 pieces) are repackaged in 100 little boxes with all one part out of the 5 boxes." (see Figure 13)

FIGURE 13
Example supervision normal procedure



For all containers unloaded in Rotterdam, a summary declaration is submitted, and the goods are in temporary storage. The Dutch Customs uses the application DMF to monitor these containers. When the container arrives at Tilburg, a declaration for external transit is submitted in the system NCTS.

Customs has the authority to physical check the goods (real-time). Also, this system monitors the goods, meaning following the principles of debit and credit of an accounting system. To place the goods under the customs procedure customs warehouses a declaration (done by the holder of the customs procedure and holder of the authorization customs warehouse, which is the same person in this example) is submitted in the declaration system AGS. From that moment the Dutch Customs trusts on the administration, administrative organization and internal controls of the holder of the procedure/customs warehouse. For the release into free circulation, a declaration is submitted in the declaration system AGS. In the declaration for the release into free circulation, there is no reference included to the previous declaration used for the inbound. Furthermore, there are many events outside of the actual view of the customs. The administration of the authorization holder of the customs warehouse must fill in this gap. This gap (or risks) consists of:

- the consistency of the data of the declaration on which the goods are transported to the customs warehouse and the data in the administration representing the inbound;
- the repackaging of 4,375, knowing that repackaging change the weight and number of boxes;
- the accountability of the transport of 4,375 kg to another customs warehouse (simplified procedure, so no document);
- the end inventories (are the goods still present).

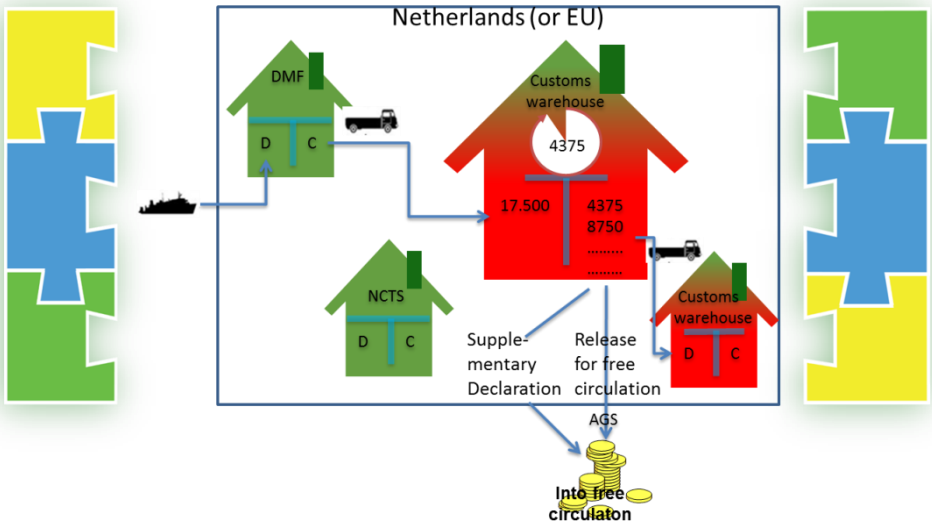
This example does not take into account many other events that make supervision more difficult, such as equivalence, shortage, surplus, loss, and export. It is clear that in this example the audit trail of the goods is missing or in any case, is difficult to reconstruct and therefore that the strategic goal of 100% supervision is impossible to achieve. However, actual supervision is still possible because submitting declarations for goods movements in and out the warehouse are still done. Besides that, most of these warehouses – in the Netherlands the number has been estimated on 600-700 – has no significant volume, both in goods and in number of declarations. So the risk is probably relatively small. On the other hand, all of the customs warehouses have their administration and own administrative systems, and that makes post audits time consuming and an administrative burden for businesses.

Conclusion: Using the normal procedure there are white spots in the customs supervision (customs warehouse). The axiom of the legislation that customs do the accounting (debit – credit) doesn't count for all procedures. If the outbound declaration has a reference to the inbound declaration (for example by a goods ID), customs can do a lot more in accounting. In these situations, customs rely on the administration of the holder of the authorization. However, all these holders of authorizations have their administrative systems, and that makes supervision time-consuming. Standardization by means of an audit file for the (standard) communication can help.

According to the same example but with the use of certain simplifications is given in Figure 14. In this situation, the goods are placed under the procedure customs warehouse while the goods are at the terminal (no NCTS). This is done by a notification to finally DMF (discharge) and an entry in the declarant's records. The transport to another customs warehouse is the same as in the previous example. To release goods into free circulation, the declaration is made by (again) entry in the declarant's records or by the normal procedure as explained in the previous example. In the case of entry in the declarant's records the entries are collected over a period (month), and after that period a supplementary declaration (the collection of those entries) are submitted in AGS (assuming that AGS will receive this declaration in the future). In this situation, administrative checks are even more important. Physical checks, certainly at entries in the declarant's records and the holder of the procedure has a waiver for notifications, are rare of even not at all. Furthermore, there are many events outside of the actual view of the customs.

FIGURE 14

Example entry in the declarant's records



The gap consists of:

- the consistency of the data of the notification, the entry in the declarant's records on which the goods are transported to the customs warehouse and the data of the inbound of the goods;
- the repackaging of 4,375 (or other events during storage);
- the accountability of the transport of 4,375 kg to another customs warehouse;
- the correctness and completeness of the supplementary declaration;
- the end inventories (are the goods still present).

In the Netherlands, approximate 240 companies use this or even more simplifications. These white spots are larger than in the previous example; the cottages are more red colored.

Conclusion: white spots are recognized, especially the customs warehouses. In these white spots, the visibility on the goods and the audit trail are less because of the missing link between declarations. Administrative audits have to solve this problem. Administrative audits are focused on the records of the holder of the authorization and so on their automated systems. Moreover, these systems differ for each holder of an authorization. Besides that, the syntax, semantics, and interpretation of data differ also.

One important point in this context is not mentioned yet. At this moment the customs receives periodic an audit file called Electronic Periodic Declaration. This audit file solves many of these problems whereby the cottage customs warehouse is far more green (As-is). Later, the recent audit file Electronic Periodic Declaration is more discussed in detail. However, this file expires shortly, and the red color of the cottage customs warehouse is real (To be).

In the next paragraph, the focus is on the size of the problem in the Netherlands. How many companies have such a customs supervision? What combinations of authorizations are in place? What are their share in customs declarations and customs duties? Aspects that make the significance these simplifications in customs supervision visible.

3.4.4 The Significance of the White Spot Customs Warehouses

BOX 3
Short explanation of Local Clearance Procedure

Local Clearance Procedure

A trader with frequent customs declarations can apply for the use of Local clearance Procedure. That means a trader submits a customs declaration by an entry in his own records and can obtain simplifications for presenting the goods to customs. The goods are released against security and any duties paid at a later moment. After a period, usually a calendar month, the trader submits a supplementary declaration. This contains the record entries (declarations) and the trader pays any duties due. The advantages for the trader are: the clearance process is accelerated (predictability) and he has the goods at his disposal more quickly.

Local Clearance procedure, as an simplified procedure, is an important (key) element of EU trade facilitation policy. In 2008 70% of all customs declarations for import (EU-wide) were submitted by using simplified procedures (European Court of Auditors, 2010).

In 2015 about 17 million import declaration lines were submitted via the normal procedure in the Netherlands with 2 billion Euro[19] of customs duties as part of the Traditional Own Resources[20]. The main supervision instrument in this situation concerns physical inspection (in 2015: 53.753). The Community Customs Code[21] opens the possibility to simplify the normal declaration procedure. One of the simplifications is Local Clearance Procedure (see box 1 for more explanation) release for free circulation. In 2015 the Netherlands had about 240 companies with an authorization Local Clearance Procedure release for free circulation. They submitted 7 times (113 million) as much as the normal procedure import declaration lines but with less than half (952 million euro[22]) of customs duties. Any checks (check of customs documents, reconciliation checks or ex-post audits) only take place after the release of the goods and physical inspection is rare. These numbers show not only the size of the import declarations but above all the importance of the simplification Local Clearance Procedure release for free circulation for businesses.

The supplementary declaration should be submitted electronically[23] in the Netherlands. Depending on the type of Local Clearance Procedure[24] (LCP) the Dutch Customs described various standards for exchanging data. These standards have broader coverage than data about the required transactions (the supplementary declaration). It also includes transactions and data to audit the completeness (for example, are all components that are necessary for the determination of the customs value included) and accuracy (for example, are the correct tariffs or currency conversion rates applied) of the supplementary declaration. All transactions together are currently called the Electronic Periodic Declaration (EPD).

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[19] (Customs Administration of the Netherlands, 2016a) Source intern document: Facts and figures in brief and data from the Dutch Customs application Bladertool (Hof. R.E. van 't., 2017).
[20] TOR Traditional own resources are considered as the "natural" own resources, since they are revenue collected by virtue of Community policies rather than revenue obtained from the Member States as national contributions. Own resources currently come from customs duties, agricultural levies, sugar contributions, a fixed-rate portion of value-added tax (VAT) receipts and a fixed-rate levy on gross national income (GNI).
[21] Council Regulation (EEC) No. 2913/92 of 12 October 1992 establishing the Community Customs Code.
[22] See 17.
[23] There are still exceptions'.
[24] Most companies has the combination local clearance procedure release into free circulation with local clearance procedure placing goods under a customs warehouse and an authorization customs warehouse.

FIGURE 15
Development of number authorizations LCP release into free circulation

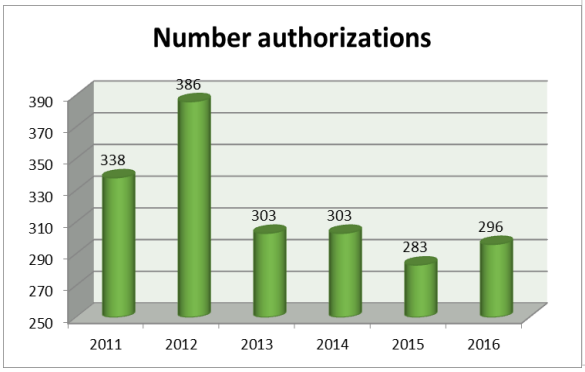
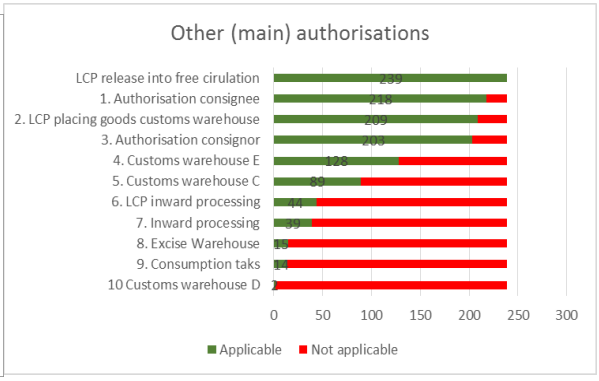


FIGURE 16
Combination of LCP release into free circulation with other authorizations



In Figure 15 the development of the number of authorizations LCP entry into free circulation – in the period 2011-2016[25] - is shown. The number of holders of authorizations (companies) is about 240 – 250[26]. The combination of authorizations of these companies is very diverse. From 239, situation

January 2017, the DNA, in the sense of the combination of authorizations, is further investigated and depicted in Figure 16[27].

Most companies are also authorized consignee and consignor. The authorized consignee offers the authorization holder to receive goods that have been placed under the customs transit procedure directly into his business. There is no need to present the goods and the corresponding declarations beforehand at the customs office of destination. The authorized consignor offers the authorization holder to issue community transit declarations by himself, without the intervention of Customs and dispatches a good without having to present them, and the corresponding declaration, at the office of departure.

Other authorizations used by these companies are customs warehouse (C, D or E are terms of the Community Customs Code (CCC) which are now private customs warehouses under the UCC), inward processing (suspension or drawback system, processing under customs control (in UCC it is all inward processing) , but also excise warehouse or establishment for consumption tax as listed in the Consumption Tax Code for alcohol, free drinks and other products. These last two are national interests and out of scope.

Without explaining all the authorizations of Figure 16, the essence is that these companies have multiple authorizations and that this increases the complexity of customs supervision. In total, based only on the authorizations of Figure 16, there are 37 combinations in use in the Netherlands. The most two common combinations are:

[25] These numbers (and next in this paragraph) are based on the data form the application Bladertool from the Dutch Customs.
[26] In total in 2015 in the Netherlands there were 10021 companies with one or more authorizations.
[27] This information is based on the data from the application KIS (Client Information System) from the Dutch Customs.

TABLE 2

Most common combinations of authorizations

Combination 1 (63 times)			Combination 2 (52 times)		
LCP release into free circulation LCP placing goods under customs warehouse Authorization Consignor Authorization Consignee Customs warehouse type E			LCP release into free circulation LCP placing goods under customs warehouse Authorization Consignor Authorization Consignee Customs warehouse type C		
AEO-F 46	AEO-C 13	None 4	AEO-F 34	AEO-C 17	None 2

FIGURE 17

Application of AEO-authorizations in combination with LCP

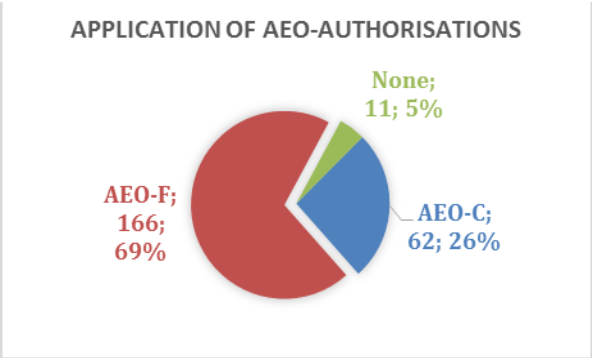
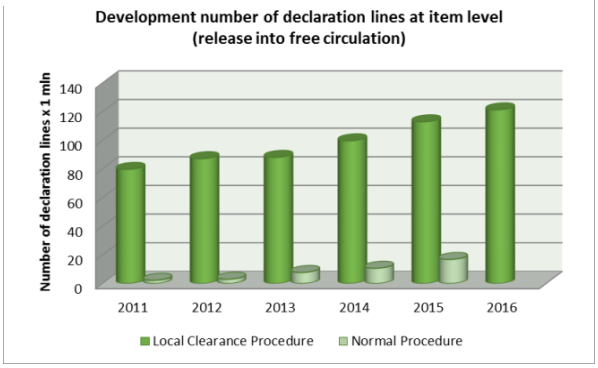


FIGURE 18

Development declaration lines LCP vs Normal Procedure 2011-2016



For the authorization LCP (or Entry In the Declarant's Records (EIDR) since UCC replaces CCC) release into free circulation the company must comply with the AEO criteria in the CCC or UCC (Art. 5bis CCC, Art. 14bis and 14 octies until 14 duodecies CCCIP replaced by Artt 22, 38 and 39 UCC art 24 until 28 DA). In Figure 18 for 239 companies (situation January 2017) is given how many of the companies have an AEO authorization and which type. It seems that 11 companies do not have that authorization. It means that the waiver for doing notification to place goods under an LCP-scheme (or EIDR) do not apply to them. Also, it is important for the pre-information the Dutch Customs has about these companies. If a company has no AEO authorization C or F then also there is no regular AEO field test and no information about the operation of the AO/IC. Instead, customs have the information of the notification. As explained previously, the advantage of using the outcome of AEO-audits about the completeness and correctness of the audit file fails for these 11 companies.

The importance of LCP/EIDR is not immediately apparent from the number of companies using LCP/EIDR. The number of information lines[28] LCP/EIDR release into free circulation and the customs duties payable gives additional insight. Figure 19 shows the development of the information lines over the period 2011-2016 and compare this with the number of lines according to the normal

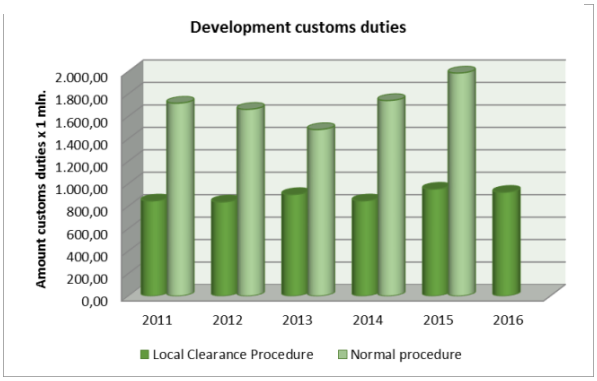
[28] Information lines used as synonym for declaration lines

procedure release into free circulation. Figure 20 does the same for the customs duties[29]. For 2016 the figures for the normal procedure are not known at the time of this research[30].

As expected, only a small number of companies are responsible for a large part of the import declaration lines and the customs duties. Also, within the LCP/EIDR, the Pareto principle[31] applies:

- (perspective of declaration lines) 20% of the companies corresponds with 94% of the declaration lines and 58% of the customs duties;
- (perspective of the customs duties) 20% of the companies corresponds with 75% of the declaration lines and 82% of the customs duties.

FIGURE 19
Development customs duties LCP vs Normal Procedure 2011-2016



With this figures, it is possible to provide insight on the importance (effect) of LCP/EIDR for customs and companies. For companies, the main advantage of LCP/EIDR, knowing that clients which use LCP/EIDR also have a waiver to present the goods and documents at the customs office, has no delay in the logistics and no/minimal physical inspections. For Dutch Customs the advantage is that the supervision is mostly administrative. When companies decide to change to the normal procedure the effect is, of course, possible more delay and physical inspections and costs. Table 3 lists three scenarios. These scenarios take into account a multiplication factor. This factor corrects the number of information lines. A correction is needed because the declaration line corresponds to an entry in the business records, while a declaration following the normal procedure the business records, where possible, are cumulated.

For example, a declaration line following the normal procedure mentions one line for 100 pairs of shoes, while the EPD mentions 10 different declaration lines for the different sizes 36 up to 45. In Table 3 the factor is 5, based on the experience of the author.

The comparison between LCP/EIDR and normal procedure is made for the customs procedure release into free circulation. The number of LCP/EIDR placing goods under the procedure customs warehouse is approximately 12 million lines per year. Other lines, for example, the said stocks or corrections, are estimated on 20 million lines per year. These figures are based on an analysis over the month June 2012 and personal experience in the field of EPD's.

[29] Customs duties contains agricultural levies, anti-dumping duties, additional duties and countervailing duties

[30] These numbers are based on the data form the application Bladertool from the Dutch Customs and facts and figures in brief (2016), intern document of the Customs Administration of the Netherlands

[31] The Pareto principle, also known as the 80/20 rule, states that for many events, roughly 80% of the effects come from 20% of the causes. It was Vilfredo Pareto, economist, who noted this rule by showing that approximately 80% of the land in Italy was owned by 20% of the population

TABLE 3
Overview of increase physical inspection in case of switch to normal procedure

Transition to normal procedure	Number of declaration lines EPD	Multiply factor	Chance physical inspection	Number physical inspection
10 % over total declaration lines	10% of 121 million 12.100.000	5 = 2.420.000	0,5 %	12.100
			0,65 %	15.730
One of the top 20% of companies customs duties	2.066.171	5 = 413.234	0,5 %	2.066
			0,65 %	2.686
One of the top 20% of companies declaration lines	4.226.546	5 = 845.309	0,5 %	4.227
			0,65 %	5.495

Conclusion: the main conclusion is that, despite the small number of clients, the LCP/EIDR release into free circulation is significant for the Dutch Customs. In most of the situations, the goods are placed under the customs procedure customs warehouse. The declarations lines LCP/EIDR is much higher than the declarations normal procedure, the customs duties charged via the LCP/EIDR is one-third of the total customs duties charged. A significant advantage for these companies concerns no delay in the logistics (and thus costs reduction and predictability), this because these clients have a waiver to present goods/documents at a customs office, a physical inspection at the time of release is very exceptional. Table 3 shows the consequences if 10% of the declaration lines changes to the normal procedure. It means an increase of physical checks, an increase of administrative burden for companies and supervision costs for customs. Of course, there is a possibility to fill in a deviated form of supervision for these companies.

3.5 Expected Benefits use of Audit Files

In paragraph 3.3 benefits of using audit files are mentioned. For businesses, it is about the reduction of compliance costs. Otherwise, businesses need to devote resources to produce data as required in a readable format. For multinational enterprises an international standard has, even more, reduction of compliance costs because otherwise, each country has its requirements. For supervisors, it means a reduction of administrative costs. Easy access to required (and agreed) data will reduce these costs. The time duration of audits will be shorter and lower trained staff can do much of the work. However, these benefits are not for the tax authorities and the businesses only. Audit firms, advisory firms, and software firms may obtain benefits also. As a matter of fact, it is a fact that audit firms are using audit files, and from the (inter)national developments it is known that these stakeholders are interested and see opportunities. Also, when other regulators use the audit file (or participate by including their required data in the audit file) the added value will grow further. This also applies to the subject of data retention. See this as opportunities and out of the scope of this study.

3.6 Surveys 2013 and 2016

In 2013, Dutch Customs organized a co-creation project associated with changes in customs legislation from CCC to UCC, specific the Local Clearance Procedure (Customs Administration of the Netherlands, 2013, Customs Administration of the Netherlands, 2013b). All LCP-authorization holders are asked to participate. Several roadshows took place, and Dutch Customs created a (private) website. On the website customs posted questions and companies respond (anonymous for participants except for customs). The main goals of the co-creation were: informing (changes related

to the process supplementary declaration), discovering what changes in the process are required and determining the functionality of the new declaration system AGS. The second goal consists of four themes. Two of these hit the audit file (process):

- discussing the (im) possible checks, which are conducted by customs to carry out by themselves (as a company) and, as agreed with the customs authorities, to report periodic;
- discussing the added value of the audit file in relation to horizontal supervision and AEO.

In total 91, representing 86 companies and 74% of the declaration lines of the whole declaration lines of Local Clearance Procedure release for free circulation (June 2013) responded to this part on the website. Most are members working in the customs department of these companies. Other positions include directors, IT professionals or employees internal audit department. Many of these companies use besides the Local Clearance Procedure also the normal procedure to release goods into free circulation. The main conclusions, related to customs supervision and the audit file, were:

- 71% of the respondents indicate that fast assurance about the supplementary declaration is an important subject (p: 14);
- 74% (21% no opinion) indicate that an audit file offers the possibility to reduce the administrative burden (p:20) because with one audit file multiple government bodies should be informed;
- 92% think that Dutch Customs should share their analyses and 88% find that these customs checks should be done by the authorization holders, based on an audit file (p: 20);
- 82% believe that an audit file (standard) makes communication more efficient (p:21).

This study shows that the audit file is positively experienced by the businesses, because it lowers the administrative burden, accelerates assurance about the supplementary declaration and creates new possibilities for supervision. For example, supervision can be improved by sharing (standard) data analysis or as a step towards further cooperation in the supervision.

In total 103 companies responded to the general questionnaire and these companies provide - on a scale from 1 to 10 - the customs an average grade of 6,8 for the application of the Electronic Periodic Declaration[32] and a 5,4 for the added value of an AEO-authorization. The survey showed that ownership of the goods makes no real difference. A logistic service provider gives customs somewhat higher ratings: for application of the Electronic Periodic Declaration (7,1 versus 6,7), and for an AEO-authorization (5,8 vs 5,2). The norm is 7 (Overleg Douane Bedrijfsleven, 2014). In short, here's something to gain for customs.

For this survey, the benefits of an audit file are investigated and listed in Table 4. In this analysis also (Customs Administration of the Netherlands, 2012) is taken into account, that is the business case AGS about the acquisition of the supplementary declaration as replacement of the application Geautomatiseerde Periodieke Aangifte. The author was part of the organization of that survey and participated during the business case. Table 4 is an interpretation of the documents by the author.

[32] The EPD will be explained in chapter 4

TABLE 4

Benefits audit file companies and customs by author

Aspect	Companies	Dutch Customs	Explanation
Standard audit file	++	++	For *customs* one semantics and (known) format of the data with the possibility of standard data analysis. The possibility for one audit tool to treat all companies, benchmark, to exchange data across borders, link data between companies and link data with customs systems. A new era of supervision, to realize 100% supervision on the movement of goods - with bridging the gaps (white spots) in the audit trail. The possibility for joint audits.
(more transparency AEO)	+	++	
(improving compliance and lower compliance costs)	+		For *companies,* a unique set of requirements and wishes of the customs are known which shortens the development time and implementation time. Once develop/implement (costs) against continuous querying data on request. Standards lead to attention from software manufacturers (market). Use of audit file by own internal audit department. Possibility to make/buy own audit tool and perform checks to increase assurance in the declaration. Possibility to show compliance and to lower the costs by adopting the standard by more authorities/regulators. *Both*, an enhanced relationship, the possibility to do supervision (more) together and to facilitate further (dashboards, self-assessment). Develop standard analyses and visualization of the results.
Cost reduction (efficiency)	+	++	For *customs* using standards and standard analyses decrease the time of the audit and could be conducted by others than (expensive) auditors. Customs can use one (standard) tool for audits of many companies. Customs can use results of other audits as a base for the substantive testing with the audit file. For *companies* less time spent in support of the audit of understanding the business and analysis of the administration (AO/IC). Not depending on new different data retrieval (queries) of customs. Use of regular AEO-audits. Reduction of costs for fulfilling tax obligations and tax administration. Less printing. Use of audit file by other external auditors. Use of audit file for internal audits. For *both*, also the operation of the internal controls and the different activities (tasks) could be recorded and be part of the audit file. This will lower the costs further.
Effective supervision	+	++	For *customs* more frequent and actual audits (higher productivity). Higher quality of data. Improved risk analysis. Higher quality of audits. Unity of execution of audits. Easier detection and quantification of errors, use of automation. Better visibility on the movements of goods. For *companies* more assurance at an earlier time. Possibility to exchange standard data analysis. A step towards self-assessment by companies.
(higher quality)	+	+	
(assurance)	+	+	

(Based on (Customs Administration of the Netherlands, 2012; Customs Administration of the Netherlands, 2013)

The benefits in (OECD, 2010a; OECD 2010b) about the SAF-T as expressed in paragraph 3.5 are confirmed by the Dutch customs and traders with an authorisation Local Clearance Procedure. Dutch businesses see opportunities to further reduction of compliance costs for example by sharing standard data analysis. The closer businesses in actuality find a possible or real error, the cheaper is its recovery.

In 2016, during a pilot study by some students of the executive master program Customs and Supply Chain Compliance of the Rotterdam School Management the question they asked: "What is the most suitable approach for Dutch Customs to increase its level of supervision without hindering trade facilitation to companies as a consequence of the shift from Local Clearance Procedure to the Entry in the Declarants' Records?" (Hof, Kondrashova, Palacios Miras & Speelman, 2016). In that study, companies are asked to respond to some possible approaches that fill in the gap caused by phasing out of the EPD or in other words the white spot formed by customs warehouses. In Table 5 the used approaches are mentioned and explained.

TABLE 5

Possible approaches to fill in the gap caused by phasing out EPD

Approaches	Explanation
No additional measures (minimum required by UCC)	Companies will send notifications (unless a waiver is granted) to Customs and submit a supplementary declaration. Customs will perform more physical and administrative checks due to the notifications and the lack of information regarding e.g. the movement of goods within a warehouse.
Audit file	An Audit File is a computer file that stores the most frequently used data. The file specifies a default for all the changes in the administration in relation to the goal of the file, such as the date, item number, quantity, etc. Companies send an audit file (an extended GPA) to Dutch Customs and the situation will be more or less the same as it is currently, with the possibility to vary with this in periods and form depending on the level of compliance of the company.
Access companies' systems	Companies could be supervised by accessing their systems. Dutch Customs can view the information right out of the system, without the interference of the company. This is better known as "online and real time access". Dutch Customs determine the enforcement on the basis of the information out of the companies systems.
Dashboard	Customs supervision could also be based on a dashboard - a user interface, maintained by the company (online real-time or only on premises) making information readable/understandable. This dashboard should contain information about internal controls, audits performed, but also about the flow of goods. The dashboard then reflects that the company is in control.
External experts hired by company	Dutch Customs could also rely on external experts e.g. with respect to the flow of goods within the warehouse. Companies should hire experts (e.g. accountants or consultants) to perform a periodic audit (once a month or once a year, depending – for instance - of the level of compliance). The report is being provided to Dutch Customs.

(Source Hof, et al., 2016: 15. Table 1

The companies (in total 37 responded) that participated in this research have ranked the approaches regarding preference (ranking), costs and burden. 1 is the best and 5 the worst option. Table 6 shows the results of this research:

TABLE 6

Ranking different approaches filling the gap

Approaches	Ranking	Costs	Burden
No additional measures (minimum required by UCC)	3,4	3,1	3,7
Audit file	1,6	2,1	1,9
Access companies' systems	3,9	3,6	3,6
Dashboard	2,9	3,5	3,3
External experts hired by company	4,6	5,4	4,6

(Source Hof, et al., 2016: 19. Table 3

The audit file is the most preferred option by the companies. It is even a better option than doing nothing. It is worth to remark that this study also showed that the size of the company slightly influences the ranking, from 2.2 for companies with less than 50 employees until 1.5 for companies with more than 500 employees.

Conclusion: Table 4 shows the benefits of an audit file according to Dutch customs and businesses. Table 4 is a confirmation of the benefits mentioned at the beginning of this paragraph (OECD, 2010a) and applies for audit files used by customs. Dutch businesses see also opportunities like sharing standard data analysis. This because the closer the business in actuality finds a (possible) error, the cheaper is its recovery. Also, there are other possibilities (innovation) to use audit files for further reduction of compliance costs and in facilitating businesses, for example by including data for process mining, using dashboards based on the audit file, for further facilitation (for example self-assessment) and use by other supervisors. Again, standardization is the keyword. It is about communication, data retrieval, and requirements. Indirectly derived from the benefits standardization means simplification, clearness, and clarity. The requirements are known, and data is not needed to convert to readable form. This all leads to a reduction of costs. However, the most important conclusion is that there is a demand for audit files also from outside the customs. It is even a better option than doing nothing, referring to just following the requirements of the customs legislation.

3.7 Summary

An audit file is a concept of one or more computer files based on an open standard for storage and/or exchange of (transaction and master) data, which underlie the audit object, from administrative systems for the benefit of internal for businesses and external regulators. However, as Bottemanne indicates the audit file can be used for more than only supporting audits, e.g. dashboards, advisory, benchmarking. The importance of an audit file is national (audit file family, SIE) and international (OECD, ISO) recognized. Although, all developments miss customs issues on inventory (goods).

National, in the Netherlands, the customs recognized the importance of the audit file in the (Customs Administration of the Netherlands, 2017), it supports all elements to realize the enforcement vision (Customs Administration of the Netherlands, 2014) and it is applicable in all supervision layers. The audit file can change the customs audit approach by paying more attention (regularly) to the creation of the audit file, for example as a part of the legally required AEO field test, for confirmation of the

completeness and correctness of the audit file. Customs supervision is then more efficient and effective. Businesses have more and faster assurance and less administrative burden.

Further customs supervision has been discussed in a very simplified manner. Especially customs warehousing is a procedure in which the audit file has significant added value. Business confirmed this (Customs Administration of the Netherlands, 2013). Despite the fact that it is a small number of companies, the share of declarations and customs duties is high. Given (European Court of Auditors, 2010; box 3) it is likely that this also applies to other Member States of the EU.

The main aspect of the audit file concerns the transaction code for goods movements and other goods issues. The transaction code depends on the information system used by the company, which prevents the optimum use of an audit file. With a standardization of the transaction code, it is possible for everyone to speak the same language, it makes it easier to exchange data, and faster, it prevents interpretation differences, it makes benchmarking and standard data analysis possible and even share this analysis between government and companies. Besides that, data analysis fits into the development within the accounting world, which can use the audit file too.

In chapter 4 the recent Electronic periodic Declaration (a customs audit file) used by customs is explained with particular attention to the structure of the transaction and transaction code. Also, the UCC for customs warehouses is considered. Both analyses provide insight into the possible transactions taking place in which customs are interested. Besides that, the analyses are extended with an audit perspective. This leads to a first part of the conceptual model of transactions in which customs are interested. Next, the business process inventory is analyzed. In the end, the conceptual model is presented by combining both analyses.

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Conceptual model customs transactions

Chapter 4: Analysis transactions

4 ANALYSIS TRANSACTIONS

4.1 Introduction

The success of the audit file depends on the possibilities to identify customs relevant transactions. Other principles that determine the success of the audit file are related to that identification. For example, the data for shaping relationships with customs systems to realize the audit trail (and thus visibility on the goods), the required data (transparency) or the possibility for (sharing) standard data analysis.

In this chapter, the Electronic Periodic Declaration for a customs warehouse is discussed with special attention to the construction of the transaction code. Also, the customs legislation relating to customs warehouses is discussed, to identify which transactions are of interest for customs. Further section 4.3 determines the business perspective. Section 4.4. introduces the conceptual model for customs transaction codes.

4.2 The Customs Perspective

4.2.1 Electronic Periodic Declaration (Dutch Customs)

In 1992 the CCC opened the possibility to simplify the normal declaration procedure. One of these simplifications is Local Clearance Procedure (customs declaration by an entry in the records and obtain simplifications for presenting the goods to customs). After a period, usually a calendar month, the trader submits a supplementary declaration. The supplementary declaration contains the record entries (declarations), and the trader pays any duties due. Further, the supplementary declaration should be submitted electronically[33] in the Netherlands. Depending on the type of Local Clearance Procedure the Dutch Customs described various standards for exchanging data. These standards are broader than the required transactions/data (the supplementary declaration), it also includes transactions and data to audit the completeness and accuracy of the supplementary declaration. All transactions/data together is called the Electronic Periodic Declaration.

The Electronic Periodic Declaration is a type of Audit File (Customs). The key Local Clearance Procedure - simplification is the Local Clearance Procedure for entry into free circulation. The supplementary declaration, which is required in this situation, is lodged electronically in accordance with the established standard (Customs Administration of the Netherlands, 2015a). The supplementary declaration consists mostly of data about and necessary for the determination and calculation of the levies. This applies for the simplified declaration entry into free circulation also. The Electronic Periodic Declaration may also contain the following data:

- Declaration of data regarding the control of the stock movement using a customs warehouse type C, D or E in combination with the above.
- Declaration of data regarding the control of the stock movement using a customs warehouse type C without a following supplementary declaration for the local clearance procedure for discharge.
- Declaration of data regarding the control of the stock movement using a tax warehouse according to the Excise Code and/or an establishment for consumption tax according to the Consumption Tax Code for alcohol-free drinks and other products.
- The bill of discharge in case of the customs procedure for inward processing, suspension system, or the customs procedure for processing under customs control, using local clearance procedures for entry and discharge.
- The repayment claim in case of the customs procedure inward processing, drawback system.

[33] There are still exceptions, but they are out of scope

In this paragraph, the main points of the Electronic Periodic Declaration are explained. The main points are:

- the construction;
- the transaction code;
- the type of mutation;
- mutation number.

The construction. The Electronic Periodic Declaration consists of information lines. Any information line is built up from blocks, and a capital letter identifies each block (See box 4). Block A, the first block is a block which identifies the event unique. In addition to a unique feature, this block includes a transaction code. Another block, block E, contains all the relevant (tax) information, fiscal and non-fiscal, necessary to at least be able to calculate customs duties. In some cases, the information from block E is not enough and needs block F (or other) to be filled. Box 4 gives a complete overview of the blocks for the authorization customs warehouse (as an example) with a brief description.

BOX 4

Overview information blocks EPD Customs Warehouse

A	General;
B	Data previous document;
D	Product Details previous document;
E	Declaration data;
F	Data other charges;
G	Data excise tax / consumption tax and other;
H	Data on discharge, levies and documents;
J	Details new customs destination
K	Goods movement

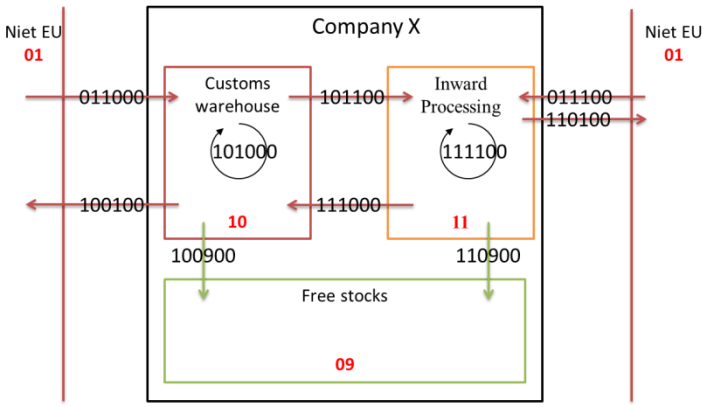
The transaction code. The transaction code above determines which blocks apply and with that the required data. The transaction code is a characterization of a business event (**movement of goods or a customs-technical operation with respect to the goods**). The structure of the transaction code is set up simple and logical. It consists of a total of 6 positions and which is divided into three blocks of two positions, as follows:

- The first block of two positions reflects the situation or the scheme (regime) to which the goods originate.
- The second block of two positions reflects the situation or the scheme (regime) to which the goods are destined.
- The third block of two positions reflects possible particulars relating to the levying of taxes.

In summary, the transaction code is composed of the combination *from-to-particularity* from a customs perspective. Situations or regimes are represented with a two digit code, for example, the regime of a customs warehouse has the two digit code ‘10’ and transit the code ‘01’. In the situation of an entry of non-community goods under the company’s customs warehouse procedure using (for example) the company’s simplified procedure for the entry of goods under customs procedures, the transaction code is ‘011000’. The last two digits refer to a particularity, and ‘00’ means no particularity.

Particularities are related to the requirement of additional information. For example, a license required by commercial policy measures or transactions in which excise duty is payable also. Particularities usually refer to the filling of extra blocks. Figure 20 is a highly simplified diagram of a company with authorizations customs warehouse and inward processing, where some movements are elaborated to the appropriate transaction code (certainly not complete because this scheme does not take into account particularities).

FIGURE 20
Example construct transaction codes



Now that the structure of the transaction code is known, the respective applicable blocks are known. In the tables 7 and 8, this has been elaborated for the two authorizations.

TABLE 7
Relationship transaction codes with information blocks customs warehouse

EPD for the stock movement of customs warehouses with the related supplementary declaration for the local clearance procedure for entry into free circulation (Customs Administration of the Netherlands, 2015b):	Information blocks (gray blocks are blocks not applicable in this EPD)											
Transaction code	A	B	C	D	E	F	G	H	I	J	K	L
011000	Y	Y		Y	Y						Y	
100100	Y										Y	
100900	Y				Y						Y	
101000	Y										Y	
101100	Y				Y						Y	
111000	Y	Y		Y	Y						Y	

TABLE 8
Relationship transaction codes with information blocks inward processing

EPD for the customs procedure inward processing (suspension system) and or processing under customs control, comprising the supplementary declaration for the concerning local clearance procedure and the bill of discharge with the subsequent supplementary declaration for the local clearance procedure for entry into free circulation (Customs Administration of the Netherlands, 2015c):	Information blocks (gray blocks are blocks not applicable in this EPD)											
Transaction code	A	B	C	D	E	F	G	H	I	J	K	L
011100	Y	Y			Y							Y
101100	Y	Y			Y							Y
110100	Y									Y		Y
110900	Y				Y				Y			Y
111000	Y				Y							Y

The type of mutation. Figure 20 shows that customs-technical operations may occur within a regime. In that situation, the combination of the first two combinations is the same, for example, '1010' and '1111'. However, there are many different types of operations within a company. The next main point of the EPD addresses this deficiency, and that is the kind of (stock)mutation. The kind of mutation is a field in block K (for customs warehouse), or L (for inward processing). Each information line consists of the data of block K (or L). The most important types of mutations (customs-technical operations) are:

TABLE 9

Customs technical operations (customs warehouse & inward processing)

Type of mutation	Explanation	Customs warehouse	Inward processing
MB	Surplus	X	X
VM	Shortage	X	X
HW	Revaluation	X	X
BZ	Usual forms of handling without customs value elements	X	
BM	Usual forms of handling with customs value elements	X	
VE	Processing or usual form of handling		X
PV	Discrepancies that arise with usual forms of handling or during inward processing or processing in excise warehouse	X	X
PR	Prefinance	X	
VN	Destruction	X	X
VD	Vaporisation	X	X
VT	Loss/waste	X	X
OE	Transfer in a warehouse or during processing or usual form of handling, for example, because of transfer to other ownership or change in location.	X	X
EQ	Transfer due to applying equivalence		X
CO	Correction of quantities and/or values in consultation with Customs	X	X

(Source: Customs Administration of the Netherlands, 2015b; Customs Administration of the Netherlands, 2015c)

The mutation number: The last important point concerns how different transactions that belong together are made visible. An example is a usual form of handling. In the EPD (customs warehouse) this is solved by a mutation number in block K. Different transactions that belong together is made visible by a unique mutation number. However, customs is not only interested in submitting declarations (or an entry in the declarant's records). She is also interested customs technical operations like usual handlings. A third group customs is interested are the opening and closing data of the stock, so called audit data. These data are required for the set up the flow of goods (Blokdijk, Drieenhuizen & Wallage, 1995).

TABLE 10

Customs technical operations from audit perspective

Type of mutation	Explanation	Customs warehouse	Inward processing
BV	Opening stock	X	X
EV	Closing stock	X	X

Conclusion: The transactions (customs and customs technical) code is divided into a part – 4-digits – corresponding to the movement of the goods from a customs perspective. The last 2 digits only are needed if there are particularities. It is the code of the mutation type that gives extra information, especially if the transaction happens within a customs procedure. It is an easily understandable translation with the significant advantage that it is used in the Netherlands for more than 20 years. The problem, if it is a problem, is that the codes are randomly chosen and that the definition of a code is typical Dutch (and the European Union). Another point is that still more data fields are needed to identify the meaning of a complete transaction.

4.2.1.1 Phasing out the GPA and EPD

The GPA and EPD are undergoing two major changes over the next few years:

- From a legal perspective, the Union Customs Code[34] replaces the Community Customs Code. The Union Customs Code entered into force on May 1, 2016. The Local Clearance Procedure is not anymore a simplified procedure but a normal procedure and is called Entry in the Declarant's Records. The super-simplification is not possible anymore. The procedure to deal with (the waiver of) notifications for presenting the goods to customs has tightened, to harmonize local differences between member states.
- From a supervision perspective, the application Geautomatiseerde Periodieke Aangifte is phased out. The reasons are that the application is outdated, the declaration process has to be adapted to the new legislation, which implies a far-reaching change in the data set for the supplementary declaration, and above all because the continuity of the application and standards is no longer guaranteed. The consequences are that the supplementary declarations are submitted into the new (Dutch) declaration system AGS, the Electronic Periodic Declaration will expire, and customs no longer receive the audit data.

From a legal perspective, the solution to submit the supplementary declaration into the AGS system is sufficient. Legally this appears to be the only change. From a supervision perspective, however, Customs receive less (actual) data, compared to audit data that – at this moment – is part of the Electronic Periodic Declaration. As a consequence, the verification of completeness and accuracy of the supplementary declaration and the assurance about it for the trader will only take place at the post audit once in three years. This represents a white spot. For customs, post audits are less efficient and effective because there is no standard for the exchange of data (and no standard data analysis) and therefore a lack of correct data in the correct format from the accounts. For traders, post audits lead to a later moment of assurance, and they are confronted with more administrative burden (time-consuming audits, - building - queries to comply with data retrieval) due to the lack of a communication standard.

4.2.2 Customs Warehouse Explained

The Electronic Periodic Declaration is based on the CCC, and that is why paragraph 4.2 is CCC oriented. However, the CCC is replaced by the UCC, and this paragraph is UCC oriented. This paragraph is not only to clarify a customs warehouse but also it is of importance to identify possible customs transactions and customs technical operations.

The UCC distinguishes three storage facilities. In addition to temporary storage and free zone[35] that is the customs warehouse. A customs warehouse is a premises or any other location authorized for that procedure by the customs authorities and under customs supervision (article 240.1 UCC). This could be a temporary storage too. Customs warehouses are classified as public or private customs warehouses. The holder of the authorization, manager of the warehouse, must implement measures

[34] Regulation (EU) No 952/2013 of the European parliament and of the council of 9 October 2013 laying down the Union Customs Code
[35] Not applied in the Netherlands

to ensure that the stored non-Union goods are not removed from customs supervision. The manager is also responsible for ensuring that the goods are stored properly, think of the health or safety of society. The holder of the authorization must be established in the customs territory of the Union. Further, he must provide the necessary guarantees for the proper conduct of the customs procedure, must provide a guarantee for the customs debt which may arise and other charges which may be due for the stored non-Union goods and customs authorities shall exercise customs supervision without having to introduce administrative arrangements disproportionate to the economic needs of the applicant for the authorization (articles 211.3, 211.4 UCC).

Public customs warehouse

Public means storage of non-Union goods by anyone and that person is then the holder of the procedure[36]. This is usually done for transport reasons to bridge a short period that is needed to select for the goods a subsequent customs procedure. This possibility of storage is particularly important for stevedoring, shipping and transport, and these warehouses are mainly located in international seaports. The one that stores the goods does both the declaration of placing goods under the special procedure customs warehousing and the declaration that discharges that special procedure. Also, that person is responsible for the resultant obligations from the storage of the goods. Public customs warehouse has three forms and in the Netherlands only type 2 applies. It means that the holder of the authorization (customs warehouse) is responsible for that goods under the customs warehousing procedure are not removed from customs supervision.

Private customs warehouse

Private means storage of non-Union goods by the holder of the authorization of the customs warehouse. The holder of the procedure and the holder of the authorization is the same (article 240.2 UCC), and storage in private customs warehouses will be the responsibility of this same person. The declaration of the special customs warehousing procedure must be submitted by the authorization holder, and he is also responsible for applied discharge formalities properly He does not have to be the owner of the stored goods. These warehouses are located in seaports and airports (often for transport reasons and short term) and other places (distribution, stockpiling and speculation). Private customs warehouse has no further subdivision.

Administration

For customs supervision, customs authorities attach great importance to the administrative organization and internal control of both the holder of the authorization and the holder of the procedure. They shall keep appropriate records in a form approved by the customs. The administration should be historical, actual and clearly reflect all events that take place in the customs warehouse. The administration has to show an overall picture of what goods are stored in the customs warehouse at any time to customs officials. All documents that provide insight into the movements and the treatments about goods in the customs warehouse must be present and should refer to the documents relevant posts in the administration. The administration must refer in turn to the underlying documents. If the holder of the authorization or procedure uses the modality of movement of goods, those movements should also be included in the records(articles 214.1 & 214.2 UCC). In the case of a public warehouse the holder of the authorization is limited, a limited liability administration which doesn't have to be approved by customs. For example, which place of the warehouse applies to the holder of the procedure, details about the number of stored goods, but

[36] The holder of the procedure is the person who is responsible for the non-Union goods actually are stored in a customs warehouse and, therefore, he is responsible to submit the declaration for placing the non-Union goods in the customs warehouse. Also he is responsible for that any applied usual form of handling is carried out correctly, and is when the special procedure (customs warehouse) is discharged, there also a declaration is submitted for the subsequent procedure or for removal from the customs area of the Union. He must keep records about the stored non-Union goods. Art 158 lid 1, 214 lid 1 UCC

also data of the customs declaration placing the goods under the customs procedure customs warehousing and of the declaration which discharge the storage (article 178.3 UCC DA).

Temporary storage in the customs warehouse
Goods whose special procedure external transit is terminated may be stored pending final placement in the warehouse for a short time in the area of the customs warehouse. For example, to determine their nature and composition for making a declaration or because the space intended for the storage in the customs warehouse is not yet available. These goods are not yet under the customs warehousing procedure because no declaration for placing these goods under the special customs procedure customs warehousing is submitted. However, the holder of the customs warehouse (and in this situation holder of the goods) is responsible for the goods stored in this way. Conditions are that the administration proves that non-Union goods with the status of temporary storage are in the customs warehouse and that this storage not exceeds the limit, one day (article 149 UCC).

Storage of Union goods in the customs warehouse
Storage of Union goods by submitting a customs declaration for placing goods under the special procedure customs warehousing is possible if measures apply for export are coming into effect at that moment. This is the case in the situation of repayment or remission, and one of the conditions is the export of the goods. By the storage of the goods, the request can be granted, and the transaction must be recorded in the administration as non-Union goods (article 118 UCC).

At request, it can be allowed that Union goods are stored in the spaces of the warehouse (optimum use) which are not placed under the system of customs warehousing (also no declaration). An application may be once or continuously, and in the latter, it is included in the authorization. For Union goods belonging to the inventory of the warehouse or for repair, no specific permission is needed. This also applies to Union goods which are to be used or consumed in the treatment of stored goods, such as boxes (article 237 UCC).

If Union goods and non-Union goods are easily identifiable at any time by the Customs, then there is no need for special facilities for the storage. The customs authority may, however, require that, in the stock records of the warehouse nature, identity, quantity, customs status and goods turnover of both the Union as well as the non-Union goods, are clearly identified. It may be allowed to Union goods and non-Union goods to be stored together in a space, tank or silo, while the status of the goods is not directly and in a simple manner is to be determined. In this case, the holder of the authorization and/or the holder of the customs procedure must perform separated bookkeeping for the type of goods, the customs status and if this is deemed necessary, the origin of the goods (article 177 UCC).

Storage duration of goods in customs warehouse
To the length of time goods may remain stored under the procedure customs warehousing, there is no time limit (article 238 UCC). The customs warehouse shall be discharged when the goods are placed under a subsequent customs procedure, have been taken out of the customs territory of the Union, or have been destroyed with no waste remaining, or are abandoned to the State (article 215 UCC).

Missing in customs warehouse
Is there a missing and can the holder of the authorization and/or special procedure (customs warehousing) give no conclusive explanation for this, then for the missing goods the customs warehousing procedure does not discharge properly. This has two consequences, namely an administrative fine (article 9 Douanewet) and paying the import duties due to the withdrawal of the non-Union goods from customs supervision (article 79.1 UCC).

Usual forms of handling in a customs warehouse
With non-Union goods placed under the special procedure customs warehousing, so-called usual forms of handling (conventional treatments) may be carried out. This allows storage in a customs

warehouse also be used to market non-Union goods in the form in which users will buy the goods. Usual forms of handling are (article 220 UCC & article 180 UCC DA):

a. the preservation of goods in good condition or
b. to improve the appearance or marketable quality or
c. in preparation for distribution or resale.

A further elaboration of these handlings and under what conditions these are possible is given in Annex 71-03 DA (European Commission, 2015a). Are there used non-Union goods, such as non-Union packaging, then the customs value, quantity, nature, and origin of these goods are to be taken into account in the calculation of the amount of import duties if the special procedure customs warehousing is discharged (article 86.1 UCC).

If the goods after the handling are classified under a different tariff code, this should be recorded in the administration, with the new trade name and the correct tariff code. At the moment of discharge of the special procedure customs warehousing, in principle, the new tariff code applies, but the declarant is allowed, on request, to use the original classification (article 86.2 UCC & article 178.1 UCC DA).

Temporarily out of the customs warehouse
Non-Union goods may be removed, in some cases, temporarily out of the customs warehouse. This possibility is often of interest to usual forms of handling - as mentioned before - which by their nature cannot happen in the warehouse, such as the disinfection of goods by gas. It may also be permitted, due to space limitations, the non-Union goods no longer can be stored in approved premises of a customs warehouse. It may be authorized to store these non-Union goods temporarily at another location. For the temporary removal authorization by the customs authorities is required in advance. Any continuous permission can be included in the authorization. However, this requires the use of a customs notification. The holder of the authorization and/or procedure remains fully responsible for the non-Union goods temporarily removed during the temporary removal. The special procedure customs warehousing is not discharged by this temporary removal, and that is why no customs declaration is submitted.

Equivalence in the customs warehouse
Within the customs warehouse equivalence of goods is permitted. Equivalent goods shall consist in Union goods which are stored, used or processed instead of the goods placed under a special procedure. Unless otherwise provided, equivalent goods must be classified under the same eight-digit Combined Nomenclature code, the same commercial quality and technical characteristics as the goods they are replacing. Union goods mentioned in Annex 71-02 DA (European Commission, 2015a) are excluded for equivalence under the special customs procedure customs warehousing. Use of goods that are genetically manipulated or that have undergone genetic modification cannot be allowed as equivalent goods. The use of equivalent goods is subject to authorization by the customs authorities. The issuing of this authorization is irrelevant whether the use of equivalent goods is systematic or not. Permission to use equivalent goods may be included in the authorization for a private or a public customs warehouse (article 223 UCC).

Normal procedure versus Entry in the declarant's records
The above does not concern in which way the customs declaration is submitted. In Appendix B the normal procedure and the Entry in the declarant's records are explained. If the declaration is submitted via the normal procedure, the customs have the information. If the declaration is submitted via the Entry of the declarant's records the information is not known by customs or at a later moment by the supplementary declaration (assuming that the holder of the authorization does not need to do a notification prior the entry in the declarant's records). The supplementary declaration concerns the releases into free circulation. The customs authorities shall monitor the conditions and criteria to be fulfilled by the holder of a decision and monitor compliance with the obligations resulting from that decision (article 23.5 UCC). The customs authorities shall set up a

control plan specific to the economic operator when granting authorization to submit a customs declaration in the form of an entry in the declarant's records (article 233 UCC IA).

Conclusion: Public customs warehouses as mentioned in the UCC are the former free warehouse and customs warehouse type B. The private customs warehouses are the former customs warehouses type C and E. The latter is the scope of this research, so the administration is in the hands of one person. For customs, the goal is that the goods placed under the procedure "customs warehousing" stays under customs supervision, that the goods remain in unaltered state and follows a permitted destination. This paragraph shows that there are many disturbing factors (transactions/events) like usual handlings. It is then also obvious that customs have a lack of (actual) information. That information is part of the audit file. Information that links a transaction with a declaration and information about other transactions to follow the goods.

4.2.3 Analysis EPD and Customs Warehouse

From paragraphs 4.2 and 4.4 the events the customs is interested are derivable. The transactions in which the customs is interested are transactions before the real movement or operation takes place and specific data to make audits (at a distance) possible (efficient and effective). It means that the following categories can be distinguished:

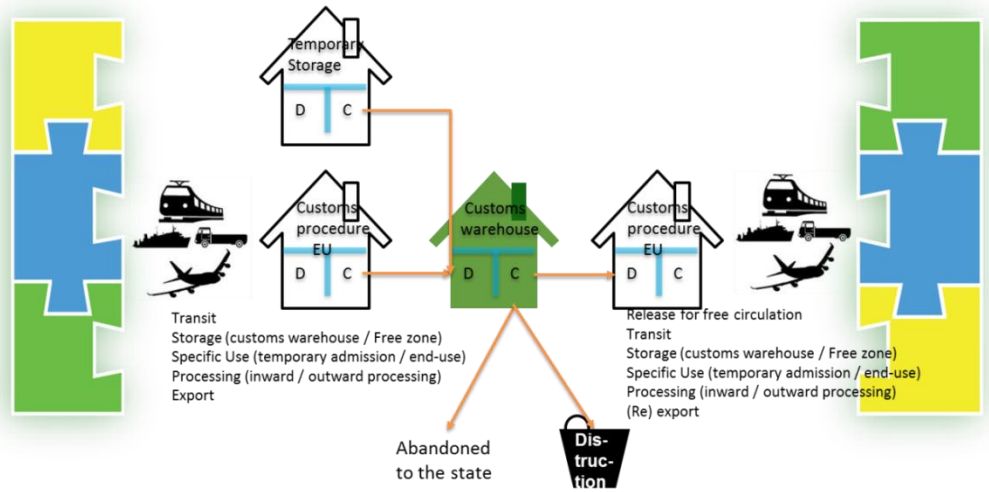
a) customs transactions that lead to the start of the customs procedure;
b) customs technical operations during the period the goods under the procedure;
c) customs transactions that lead to the end of the customs procedure;
d) specific data for audits.

4.2.3.1 Customs transactions (arrows)

Customs transactions are categorized under a) and c). Customs transactions are transactions where a customs declaration is submitted. A customs declaration is an act whereby a person (customs warehouse) indicated, in the prescribed form and manner, a wish to place goods under a given customs procedure with an indication, where appropriate of any specific arrangements to be applied (article 5.1 UCC). These customs transactions primarily reflect the debit or credit of a customs procedure, also the arrows in the cottage model.

FIGURE 21

Customs transactions in and out customs warehouse in the cottage model



In Table 11 a proposed classification of the transactions mentioned above is shown. The starting point is that the classification follows as much as possible the common line of customs supervision. That means that the start is temporary storage and the end the procedure release for free circulation. Another constraint concerns the terms used so far. This because it is meant to be a (worldwide) standard, terms can be differently interpreted. In Table 11 the terms utilized in the EU is also included for convenience, but the key is the description.

TABLE 11

EU customs procedures translated to general descriptions and coded

EU term used	Standard description	Code
Goods under customs supervision		
Free zone	Areas that are 'enclosed'. The boundaries and entrance and exit of that area are under customs supervision.	**05**
Temporary Storage	Non-Union goods shall be in temporary storage from the moment they are presented to customs and their placing under a customs procedure.	**10**
Transit external	Non-Union goods that are moved from one point to another within the country or customs union without being subject to import duties, other charges and commercial policy measures insofar as they do not prohibit the entry or exit of goods into or from the country or customs union.	**20**
Transit internal	Union goods that are moved from one point to another within the country or customs union and pass through a country or territory outside that customs territory without a change in their customs status.	**25**
Customs warehouse	Storage of non-free-goods in premises or any other location authorized for this procedure by the customs authorities and under customs supervision.	**40**
Inward processing	Placing non-free-goods under a customs authorized arrangement to be processed, not being a usual form of handling within the country or customs union.	**50**
Outward processing	Placing Union-goods under a customs authorized arrangement to be processed, not being a usual form of handling outside the country or customs union.	**55**
End-use	Non-Union goods that are released for free circulation under a duty exemption or at a reduced rate of duty on account of their specific use.	**60**
Temporary admission	Non-Union goods that are temporarily imported and are not subject to duties and trade policies insofar as entry and exit of the country or customs union do not prohibit this. The goods may not be processed other than in the context of repair and maintenance 9revision, adjustment, and preservation in good condition or preserved in the required technical state) which operations are necessary for the use of these goods.	**65**
Export(ation)	Union-goods, not placed under the codes 20 (internal transit) 55, 65 to be taken out the country or customs union.	**80**
Re-Export	Non-Union goods, not placed under the codes 05, 10 or 20 to be taken out of the customs territory.	**85**

Import(ation), release into free circulation	Non-Union goods intended to be put on the Union or country market or intended for private use or consumption within the customs territory of the Union or country.	**95**

a) Non-Union goods are goods that not fulfill the requirements of Union goods of that customs territory;
b) Customs procedure means a scheme/arrangement that is part of the customs supervision in accordance with the law of that country or customs union.

4.2.3.2 Customs technical operations (cottage model)

The next group of transactions exists about category b). These transactions do not have a customs declaration but customs are interested. These transactions ensure the audit trail between the transactions of category a) and category c). Most of this transactions are already mentioned (and experienced) in the Electronic Periodic Declaration. The analysis of legal text about the customs warehouse in the UCC fills in this further.

Table 12 provides an overview of these transactions with a general description. Because the transactions are within a customs procedure, for example in this research a customs warehouse, the code starts with '40' representing a customs warehouse, or in the situation of inward processing, the code starts with '50'. To indicate the type of transaction in this proposal, the preference is given to a two-letter code.

TABLE 12

Overview of customs technical operations

EPD term	Standard description	Code
VM	Shortage, in consultation with Customs	**SH**
MB	Surplus	**SU**
BZ	Usual form of handling without elements that effect customs value or classification	**HE**
BM	Usual form of handling with elements that effect customs value or classification: - Without changing tariff code - With changing tariff code o Without request to use original classification o With request to use original classification	 **HV** **HZ** **HR**
PV	Discrepancies that arise with usual handlings	**HD**
PV	Discrepancies that arise during processing	**PD**
PR	Production inward processing	**PR**
VD	Vaporisation	**PV**
VN	Destruction with no waste remained	**DN**
BZ/VN	Destruction with waste remained	**DW**
VT	Waste/loss	**WL**
OE	Transfer of ownership of goods	**TO**
HW	Revaluation	**RE**
EQ	Equivalence	**EQ**
CO	Correction of data elements in consultation with Customs	**CO**
OE	Temporarily out of goods	**TG**
new	Abandoned to the State	**AS**
OE	Relocate goods	**RG**
IV	Internal Consumption	**IC**
TV	Correction due to temperature differences	**CT**

EPD term	Standard description	Code
OB	Other bottle loss (in case of excise)	**BL**
SV	Loss of strength (in case of excise)	**LS**
OV	Differences due to overfilling	**DO**

Insofar the customs warehouse and inward processing are elaborated. The transaction code consists of 4 positions. The code determines the required data. For customs transactions, it is required to include all the declaration data to realize the connection with customs systems. For customs technical operations the required data can be limited to the data about the changes. The audit trail is the red thread. This method also applies to the other customs procedures, to the extent that the allowed customs technical operations are defined for these customs operations. Also, these method applies to other storage facilities with no customs goods at all. The descriptions are universal and can apply worldwide.

4.2.3.3 Audit perspective transactions

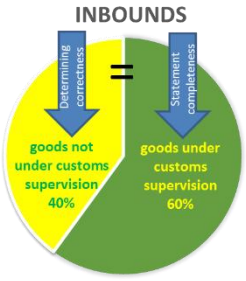
Category d). The purpose of a customs audit is to determine whether the formal tax liability corresponds to the material tax liability and whether additional tax regulations have been met. In other words, the purpose of an audit is to check of the control object is acceptable. To do this, the auditor must answer two questions, and if so, then the formal tax liability corresponds to the material tax liability:

a) does the declaration indicate the acts correctly and completely?
b) Are these facts interpreted in an acceptable fiscal way?

For the first question, the auditor checks whether the declaration corresponds with the administration and or the administration is a complete and correct view is of the real world. The AO/IC plays an essential role in this. Further, assume the AO/IC is good enough, it is essential to have also the mutations on the Union goods, because similar movements and operations are carried out on these free goods. From an audit perspective, this group is very important. To verify completeness of the customs goods, customs need positive evidence of the free goods, for which duties have already been paid, and independent evidence of the total number of goods in the warehouse (Griffioen, Christiaanse, Wang, & Hulstijn, 2016). In this way, the auditor can make a statement on the *completeness* of the goods - which are under customs supervision - that are stored in the customs warehouse (see Figure 22). It means that Table 11 expands with the following row:

FIGURE 22

Assessment of correctness of one part
= completeness of other part



- Audit perspective transactions:
  - Inbound transactions Union goods
  - Operations on Union goods
  - Outbound transactions Union goods

TABLE 13

Overview transactions free goods

Goods not under customs supervision		
Goods in free circulation	Goods not under customs supervision.	**95**

As explained the completeness of A can be assessed by the correctness of B. For so far all transactions are in the audit file, including the opening and the closing stocks. This information needed for the audit is written in Table 14 as an extension on Table 12.

TABLE 14

Overview of audit perspective transactions

EPD term	Standard description	Code
BV	*** Opening stock period audit file**	OS
EV	*** Closing stock period audit file**	CS

With this information added it is possible to do the audit equations (flow on goods):

- Opening stock + Inbound – Outbound = Closing Stock;
- Closing stock audit file n-1 = Opening Stock audit file n.

This equation can be adjusted to the level of the audit, for example for Union-goods or Non-union goods, etcetera. Further, the equation must be adapted to company's activities such as usual forms of handling, processing with or without waste, etcetera.

For the second question, it is important to understand the meaning of the moment the customs declaration is accepted. The date of acceptance of the customs declaration by the customs authorities shall, except where otherwise provided, be the date to be used for the application of the provisions governing the customs procedure for which the goods are declared and for all other import or export formalities. For example the tariff. In the case of entry in the declarant's records, the customs declaration shall be deemed to have been accepted at the moment at which the goods are entered in the records (article 172 & 182.2 UCC). The data of acceptance of a customs declaration is not always the moment that the goods are moved or transported. Goods can be declared for release into free circulation while the goods are not moved at all. In that situation, something happened or happens with the inventory. In the case of no physical but only an administrative adjustment takes place the same codes apply and there is an administrative movement of goods, for example in the event of release for free circulation the movement consists of a movement of non-Union goods to Union goods.

4.2.3.4 Audit perspective transactions extensions

Reliable data (audit file) is needed to determine whether the customs declarations are accurate and complete. As described in paragraph 3.5, an audit can only provide (reasonable) assurance if business processes are executed within the given set of boundaries. For that purpose, auditors assess the operating effectiveness of the process / internal controls (assuming that design and existence are determined by the initial audit or AEO field tests). Nowadays, detailed information about these activities is increasingly available in event logs. Because of that, internal and external auditors can use these – knowledge in – event logs and no longer have to rely on a small set of samples (Aalst, Hee, Werf, Verdonk, 2010). This not only enables a new form of auditing but also enables the

opportunity for lower the administrative burden for businesses and more efficient audits by customs. In (Jans, Alles, Vasarhelyi 2013) the added value for auditors are explained more in depth and emphasizes that:

- process mining analyzes the entire population of data and not just a sample,
- that data consists of metadata (data entered independently of actions of auditee),
- allows the auditor to have a more effective way of implementing the audit risk model by providing effective ways of conducting the required walkthroughs of processes and conducting analytic procedures and
- it allows the auditor to conduct analyses not possible with existing audit tools such as discovering how business processes are being carried out.

(Rozinat & Gunther, 2014) indicates that Porter's Value Chain Analysis provides a framework for looking at the processes that can be analyzed (Porter, 1985). This framework shows an overview of the processes found inside and outside an organization. For this research, processes of importance are typically typed as primary processes and the support process procurement. These processes are supported by IT. With a limited dataset, the activity (well-defined step), case ID (process instance) and the event's time stamp it is possible to visualize (one of the important benefits) these processes. The results are based on facts and make it possible to explore the actual processes at an overall level of transparency, an unbiased view of what actually happened and is called process discovery. This instead of time-consuming interviews where everyone has a subjective and partial view of the process or in other words from poor visibility (interviews) to real visibility (process mining). Also, a conformance check is possible where the auditor checks the priori process model (for example from the initial audit) with the actuality. Deviations or exceptions are a part of further checks. (Aalst et al., 2010), (Rozinat & Gunther, 2014) (Rozinat, 2016).

The required data can be further expanded for more opportunities and with that for more assurance about the operational effectiveness of internal controls. For example the start and end time stamp or the addition of the employee/department (team) who recorded the mutation/activity. With the addition of the employee, it is possible to audit the adequacy of segregation of duties and if it is applied corresponding the design.

Many of the processes mentioned above are defined in the audit file, and the data for process mining can be part of the required data. In that situation, the auditor can audit the conformance of the processes with a priori model or audit the segregation of duties is adequately applied. Because these are data requirements (attributes) and not a transaction it is not part of the transaction code.

However, there are also application controls incorporated in the applications. For example, an application control compares values entered with a list of allowed values or that it falls within certain limits. The objective of these (programmed) application controls is to ensure the completeness and accuracy of the records and the validity of the entries made therein (integrity and quality of data). Moreover, that is precisely the purpose of the audits as explained before. In relation to the application controls, there are IT general controls. IT general controls are IT processes and related controls which ensure the ongoing effectiveness of application and manual IT-dependent controls (Change Management, System Development, Computer Operations and IT Security / Access Controls according to Cobit). The PCAOB Auditing Standard 2 explicitly indicates that IT general controls are an essential prerequisite for being able to rely on application controls. Every auditor knows that he or she can only rely on application controls when the underlying IT general controls are of sufficient level. When the IT general controls, which are of importance for the audit, are stored in a log and be part of the audit file (or as a separate file), this will benefit the performance of the audit and also lower the administrative burden. An important example concerns the application control known as '3-way match', an automated measure that checks whether the invoice received matches the order and also with the goods received (although the allowed deviation should be known).

Conclusion: Traditional audit tools do not analyze data in a process-oriented manner, and the analyses are usually limited to sampling. Process mining is an additional tool for auditors that enables them to analyze processes and visualize them. Process mining adds value to the audits and makes it more efficient and effective. The data required are part of the transactions treated in the paragraphs above. A second category where process mining has added value and where audit file can help concerns those controls that influence the integrity or confidentiality of the data. This is part of the phase preplanning and out of the scope of this research. However, the audit file can play an important role to realize this part and influence further innovation within customs supervision. For example, with this it is possible to think about audit once for many uses, meaning that these controls are audited once (process mining is 100%) and can be used by more than one regulatory supervisor. In the DTAA the union model describes this thought.

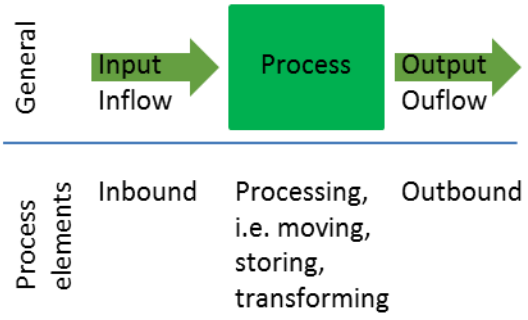
4.2.4 Conclusion Analyses Customs Perspective

The Electronic Periodic Declaration provides insight into the customs transaction that occurs at a customs warehouse. The effectiveness of the EPD has been proven in recent years and with it the classification of the transactions. The replacement of the CCC by the UCC brings other possible transactions, especially customs technical operations. Also, certain customs transactions have expired. Finally, some transactions have been identified that are needed from an audit perspective. This group makes an audit more effective and reduces costs for companies. Also, this provides the opportunity, the first set-up, to carry out checks on internal control measures once and share the results with multiple users/regulators.

4.3 The Business Perspective

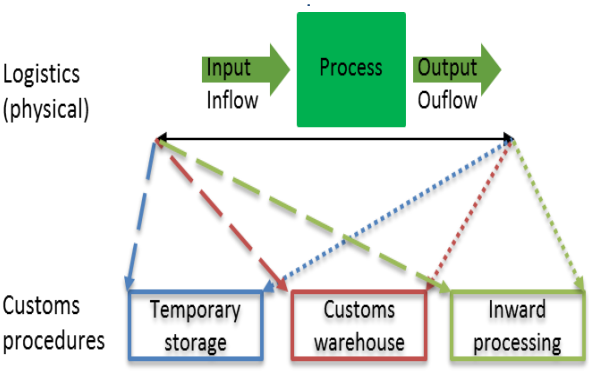
The starting point of the conceptual model for customs transaction codes is the business perspective. According to (Zuidwijk, 2015) a supply chain is built on some networks. One of them concerns a logistics network where facilities are connected through transport services (goods flow). According to (Veenstra, 2015) such a network exists of nodes (rectangle in Figure 23), for example, a terminal, a warehouse or a factory. The nodes are connected with each other representing the transports (arrows in Figure 23). At a general level, the processes are very similar within the different nodes, ranging from simple (customs warehouse) to complex (manufacturing).

FIGURE 23
Processes within nodes



As far as the mindset concerned this figure has many similarities with the cottage model, explained in paragraph 3.4.3. Also, the customs procedures (cottage) know these. In Figure 24 this is shown. The difference is that a process does not match one customs procedure always. In many cases, the actor is the same for more customs procedures. For example customs warehousing and inward processing. In that case, the rectangle "Process" consists of two cottages representing the customs warehouse and inward processing. It means that the businesses – on the logistics level "Process" – must decide whether there is a transition in customs

FIGURE 24
Processes nodes extended with customs



procedure. If so, a declaration (normal procedure or entry in the declarant's records) has to be submitted (striped lines) for the new customs procedure to discharge the former customs procedure. These transactions have a coding "from – to".

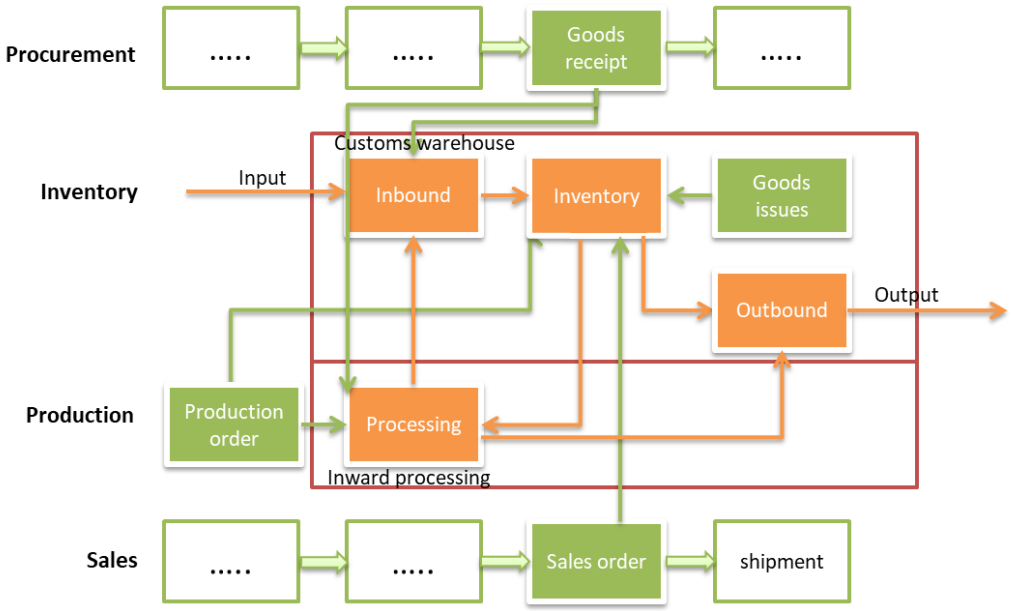
4.3.1 Process steps, inventory, material handling

Figure 25 is a further elaboration of the rectangle "Process" for inventory. Also, Figure 25 shows the customs procedures customs warehousing (storage) and inward processing (production). Further, the process inventory is controlled by a purchase, a sale, a production order or a specific goods issue (green arrows). The orange arrows represent the flow of goods. Crossing the red line requires a customs declaration. This results in a next subdivision of the process Inventory:

- goods receipt (inbound): GR
- goods shipment (outbound): GS
- goods issues (material handlings including production): GI
- goods transfer (transfer of customs procedure) TR

FIGURE 25

Elements that have effect on the inventory



At a high level the subdivision corresponds with the primary activities of material handling according to (Jans, 2000: 75), see Table 15.

TABLE 15

Description primarily activities

	Description primary activities (Jans, 2000: 75)	Figure 25
I.	**Receipt goods**	GR
II.	**Validate/counting received goods**	GI
III.	**Storage of received goods** (first location)	GI
IV.	**Issue of goods (internal / external):**	GI / TR

V.	**Shipping of goods**	GS
VI.	**Maintain own accounting warehouse accountability**	Not applicable
VII.	**Inventory stocks**	GI

The conclusion is that the inventory process consists of four steps: receipt, goods issues and production, and shipment. Production is as a matter of fact also a goods issue. That is why for the conceptual model the steps goods issues and production are combined into goods issue.

4.4 Introduction Conceptual Model Customs Transaction Codes

In this research to a conceptual model for transaction codes the following requirements are applicable:

R1 limit the model to the core, initially. Do not try to cover all specific situations or exceptions;
R2 the model provides stability, changes or additions can be translated into the model later on without complications;
R3 the model is easy to read;
R4 the model is flexible and extensible.

With these requirements in mind the conceptual model has been given shape. The conceptual model for transaction codes is made from a business's view and presented in the cottage model. First, the business is divided into:

- goods receipt (GR): the arrival at the cottage;
- goods issues (GI): processing: all activities during the customs procedure;
- goods shipment (GS); departure at the cottage.

The connection of the business perspective and the customs perspective consists of:

- GR and GS which are green in the conceptual model (Figure 26) leads to customs declarations;
- GI which is blue in the conceptual model (Figure 26) are customs technical operations and requires no customs declaration;
- TR, a kind of special goods issue, which is green (also) in the conceptual model (Figure 26) because it requires a customs declaration.

Further, if a customs declaration applies (GR, GS, and TR), it is always one transaction. The transaction code is composed of three parts as follows:

business perspective – from customs procedure – to customs procedure.

For goods issues (GI), which are customs technical operations, the code is composed as follows:

business perspective – applied customs procedure – code indicating type mutation.

Table 16 gives some examples of the construction/application of the transaction code:

TABLE 16

Examples application transaction codes

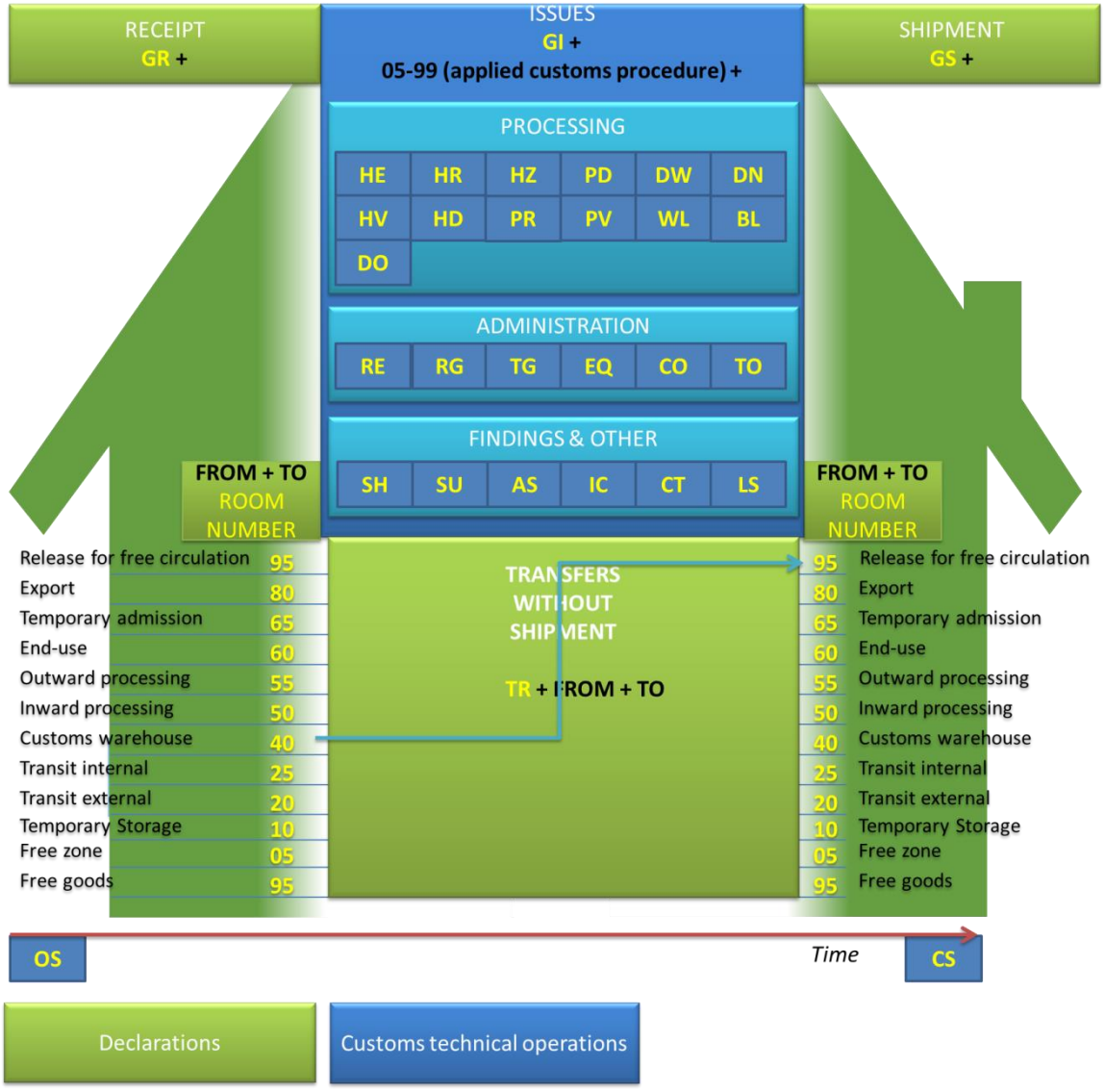
Goods receipt non-Union goods which are transported under external transit and stored in the customs warehouse	GR 20 40
After receipt a difference (shortage) in quantity was determined	GI 40 SH

Non-Union Goods stored in customs warehouse and brought into free circulation without shipment at that time	TR 40 95
Goods stored in customs warehouse and brought into free circulation with shipment at that time	GS 40 95
Goods sold during storage (new owner)	GI 40 TO
Goods stored in customs warehouse brought under the procedure inward processing	TR 40 50
Goods processed under inward processing, (two raw materials and one finished product) * Used raw materials; ** finished product	GI 50 PR * GI 50 PR * GI 50 PR **

Figure 26 shows the conceptual model, followed by a few simple examples.

FIGURE 26

Conceptual model transaction code



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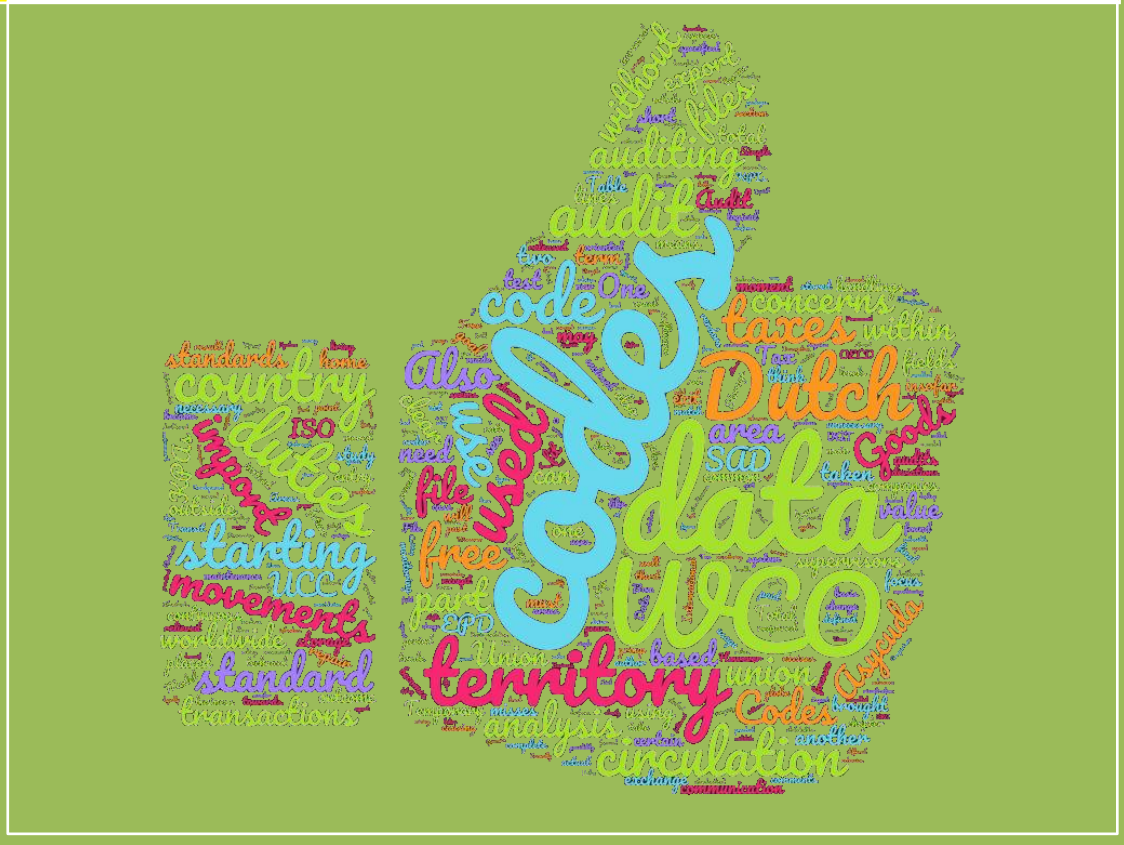
Conceptual model customs transactions



Chapter 5: Validation

5 VALIDATION

5.1 Introduction

The previous chapters explained the 'Environment 'and the ' Knowledge Base' of the audit file and the design of the artifact conceptual model for transaction codes for customs warehouses and inward processing (Hevner et al., 2004). This chapter focus on the validation of the artifact.

According to (Raus, Liu & Kipp, 2010) the value categories to consider are: financial, operational, social and strategic/political perspectives and reflect the value of ICT innovation. For the practical application of the framework they suggest to expand the categories by using a second dimension containing: goals areas, key performance areas, and key performance indicators to measure (quantitative) or to assess (qualitative) the value. The identification of values follows these three levels of granularity from top to bottom.

The goal area concerns an open standard for the collection of data for the purpose of increasing the efficiency and effectiveness of customs supervision and to lower the administrative burden by using a standard transaction code as part of the audit file. For the goal area, the generic KPAs and KPIs for the conceptual model for transaction codes need to be defined. For each value category, the KPAs have been defined for the conceptual model for transaction codes in Table 17. These KPAs are based on authors observation during the studies (Customs Administration of the Netherlands, 2013; Customs Administration of the Netherlands, 2013b) and the business case (Maenen, H.van & Goeman, M. 2012) about supporting a decision by the Management Team of Dutch Customs for the new realization of functionality for, among others, replacement of the application Geautomatiseerde Periodieke Aangifte.

TABLE 17

Common KPAs from stakeholders of using standard transaction codes

Value category	Key Performance Areas
Strategic	Policy, e-government, innovation (supervision), auditing, standardization, supervision, trade facilitation, EU interests,
Operational	Faster assurance, (proving) compliance, transparency, efficient and effective data exchange, communication, more actual supervision, less delay in logistics, improved customs supervision, better quality of data, more internal customs efficiency, efficient and effective communication, data analysis, data standardization, sharing data analysis, interoperability
Social	(improved) cooperation business – government, increased trust, environment
Financial	Cost savings

This study focuses on the value category 'operational' where the KPA 'efficient and effective communication' is of specific interest. The conceptual model for transaction codes contributes to this. Further, in this study the researcher focus on the completeness and the usability (KPIs) of the conceptual model for transaction codes. The completeness means that all transactions that take place on the globe fit into the model. Usability concerns the ease of use of the conceptual model for transaction codes.

This Chapter validates the conceptual model for transaction codes found during the analysis in Chapter 4 for the aspects completeness and usability. This model will be validated as follows:

- Verification of the terms (descriptions) used in the conceptual model for worldwide usage;
- Testing by using test data to determine if all existing transactions in the recent audit file used by Dutch Customs fit into the conceptual model for transaction codes;

- A questionnaire asking several experts, employed at the Tax Office and Customs Office, for feedback;
- A final interview with an expert in the fields of standardization, auditing, and customs supervision.

5.2 Validation: Verification of the Descriptions Transaction Codes

This part concerns the usability of the conceptual model. For use worldwide it is essential that the descriptions be applicable worldwide. Finally, the descriptions are the basis of the model. These descriptions have been verified with the glossaries of the WCO (WCO, 2013; WCO, 2008) and Automated Systems for Customs Data (Asycuda)[37]. Asycuda takes into account the international codes and standards developed by ISO, WCO (World Customs Organization) and the United Nations. Table 18 gives the comparison. The outcome is that the definitions are interchangeable and because of that with the WCO (based on the Revised Kyoto Convention), the definitions are applicable worldwide.

TABLE 18

Comparison definitions terms with Asycuda and WCO

EU term used	Standard description
Goods under customs supervision	
Free zone	Areas that are 'enclosed'. The boundaries and entrance and exit of that area are under customs supervision. *Asycuda*: An area within a country (a seaport, airport, warehouse or any designated area) regarded as being outside its customs territory. Importers may therefore bring goods of foreign origin into such an area without paying customs duties and taxes, pending their eventual processing, transshipment or re-exportation. *WCO*: A part of the Customs territory of a Contracting Party where any goods introduced are generally regarded, insofar as import duties and taxes concerned, as being outside this territory.
Temporary Storage	Non-Union goods shall be in temporary storage from the moment they are presented to customs and their placing under a customs procedure *WCO:* Storing of goods under Customs control in premises and enclosed or unenclosed spaces specified by the Customs (temporary stores) pending lodgement of the Goods declaration
Transit external	Non-Union goods that are moved from one point to another within the country or customs union without being subject to import duties, other charges and commercial policy measures insofar as they do not prohibit the entry or exit of goods into or from the country or customs union. *WCO:* Customs procedure under which goods are transported under Customs control from one Customs office to another
Transit internal	Union goods that are moved from one point to another within the country or customs union and pass through a country or territory outside that customs territory without a change in their customs status.
Customs warehouse	Storage of non-free-goods in premises or any other location authorized for this procedure by the customs authorities and under customs supervision. *Asycuda:* A secure storage area in which goods, subject to excise taxes or customs duties, are stored pending payment of taxes or duties (bonded warehouse).

[37] Source: http://asycuda.org/cuglossa.asp

	WCO: Customs procedure under which imported goods are stored under Customs control in a designated place (a Customs warehouse) without payment of import duties and taxes.
Inward processing	Placing non-free-goods under a customs authorized arrangement to be processed, not being a usual form of handling within the country or customs union. *WCO:* The Customs procedure under which certain goods can be brought into a Customs territory conditionally relieved from payment of import duties and taxes, on the basis that such goods are intended for manufacturing, processing or repair and subsequent exportation
Outward processing	Placing free-goods under a customs authorized arrangement to be processed, not being a usual form of handling outside the country or customs union. *WCO:* The Customs procedure under which goods which are in free circulation in a Customs territory may be temporarily exported for manufacturing, processing or repair abroad and then re-imported with total or partial exemption from import duties and taxes
End-use	Non-free goods that are released for free circulation under a duty exemption or at a reduced rate of duty on account of their specific use.
Temporary admission	Non-free goods that are temporarily imported and are not subject to duties and trade policies insofar as entry and exit of the country or customs union do not prohibit this. The goods may not be processed other than in the context of repair and maintenance 9revision, adjustment, and preservation in good condition or preserved in the required technical state) which operations are necessary for the use of these goods. *WCO: the Customs procedure under which certain goods can be brought into a Customs territory conditionally relieved totally or partially from payment of import duties and taxes; such goods must be imported for a specific purpose and must be intended for re-exportation within a specified period and without having undergone any change except normal depreciation due to the use made of them*
Export(ation)	Free-goods, not placed under the codes 20 (internal transit) 55, 65 to be taken out the country or customs union. *WCO:* The act of taking out or causing to be taken out any goods from the Customs territory.
Re-Export	Non-free goods, not placed under the codes 05, 10 or 20 to be taken out of the customs territory. *WCO:* Exportation from a Customs territory of goods previously imported into that territory.
Import(ation), release into free circulation	Non-free goods intended to be put on the Union or country market or intended for private use or consumption within the customs territory of the Union or country. *WCO:* The act of bringing or causing any goods to be brought into a Customs territory.
Goods not under customs supervision	
Goods in free circulation	Goods not under customs supervision. *WCO:* Goods which may be disposed of without Customs restriction.

5.3 Validation: Testing

Testing is about identifying mismatches and determining completeness of the conceptual model for transaction codes. For testing has been made use of two audit files of a fictitious organization called Mazandale. These files are about customs warehouses. Dutch Customs uses these files for the education of customs officers at different levels like auditors and employees in customer management.

The outcome of the testing is that all transactions of the two audit files match with the codes in the conceptual model for transaction codes. Only, this test has a limitation. Because the audit files have insufficient data to test all transactions that do not require a customs declaration.

TABLE 19

Results matching Audit file 1 with conceptual model

Codes in Conceptual Model	Codes in EPD (audit files used by Dutch Customs)					
	011000	100100	100900	100902	101000	Total lines
GR 20 40	2.026					2.026
GI 40 HV					566	566
GI 40 OS					5.731	5.731
GI 40 SH					12	12
GI 40 TO					935	935
GI 40 95			39.299	1		39.300
GS 40 20		3.374				3.374
Total lines	2.026	3.374	39.299	1	7.244	51.944

TABLE 20

Codes in Conceptual Model	Codes in EPD (audit files used by Dutch Customs)							total
	011000	100100	100900	100920	100904	101000	101404	lines
GR 20 40	2.161							2.161
GI 40 SH						1		1
GI 40 SU						1		1
GI 40 HV						190		190
GI 40 DN						9		9
GI 40 CS						5.295		5.295
GI 40 TO						126		126
GI 40 RE						2		2
GI 40 95			47.091	124	75		216	47.506
GS 40 20		3.159						3.159
Total lines	2.161	3.159	47.091	124	75	5.624	216	58.450

Results matching Audit file 2 with conceptual model

5.4 Validation: Questionnaire

The questionnaire is a set of questions for gathering information from individuals and administered by mail. The survey focuses on the completeness and usability of the model in the fields of auditing and customs supervision. In total 11 auditors, who are effective in the Dutch Tax Office or Customs Office asked to conduct the questionnaire. A total of 4 responses were received, representing 36,4% response rate. The background of the respondents is that they are very experienced in the fields of auditing and customs supervision. One of the respondents is involved in the ISO / ADCS development and participates in Audit File Platform, Reference Ledger Scheme (see section 3.3) and is a supporter of standardization. Audit File Platform is founded by SRA (Samenwerkende Registeraccountants and Accountants-Administratieconsulenten) including as well the Dutch Tax Office and software vendors. The goal is a standard format for data exchange of data between entrepreneurs, intermediaries and the government and the exchange of data between administrative systems[38].

Another respondent is involved in the analysis of the SAF-T from the OECD and the ADCS of the ISO by the Dutch Customs. Also, he is a member of the working group 'Data Analysis' of the Dutch Tax and Customs authorities, where standardization is an important item. The other two respondents are particularly familiar with the recent audit file EPD used by the Dutch Customs as well of the application Geautomatiseerde Periodieke Aangifte. Further, one of them teaches about this matter. All of them are graduated IT-auditors, familiar with customs supervision and with practice. In short, the respondents have a diverse but complementary but also an overlapping background which benefits the judgment of the conceptual model.

Aspect usability. One of the aspects in the questionnaire concerns the usability. Usability consists in this study of acceptance and extensibility of the conceptual model for transaction codes. In chapter 4 (Table 11) the classification follows the most common process from the entry in the European Union (code 05) into final release into free circulation (code 95). This in contrast to the Single Administrative Document (SAD)[39]. Box 37 of the SAD requires codes for the procedures too, only instead of "from – to" it uses the opposite "to – from". The used groups of transaction codes of Box 37 is as follows:

TABLE 21

Classification box 37 Single Administrative Document

Group	Description.
0	Free circulation of goods in the series 0 is used only when import duties have to be paid, without payment of national taxes such as VAT and excises
1	Permanent export or dispatch.
2	Temporary export or temporary dispatch
3	Re-exportation of non-Union goods are placed under an economic customs procedure and which were intended for re-exportation
4	Codes starting with a 4 are used for free circulation of goods and home use when import duties and national taxes such as VAT and excises have to be paid. The difference between the codes starting with a 4 and the codes starting with a 6 is that with a 6, the goods are always re-imported based on Article 259 of UCC (outward processing) and Article 203 of UCC (returned goods). If the goods are returning after permanent export and Article 203 of UCC is not applicable, then there is a new transaction and a code starting with a 4 has to be used.

[38] More information: www. auditfiles.nl

[39] The SAD is aimed at ensuring openness in national administrative requirements, rationalize and reduce administrative documentation, reduce the amount of requested information and standardize and harmonize data.

5	Goods imported temporarily.
6	Re-importation for free circulation and home use The difference between the codes starting with a 4 and the codes starting with a 6 is that goods imported under a code starting with a 4 will be released for free circulation (except code 49) and home use whereas goods re-imported under a code starting with a 6 are re-entering the Union after permanent export or temporary export based on Article 259 of the UCC (Outward Processing) and Article 203 of the UCC (Returned goods) with simultaneous release for free circulation and home use. Codes starting with a 6 can be used only together with a previous procedure
7	Placing of goods under the customs warehousing procedure.

(Source: European Commission, 2016)

The respondents preferred the connection with the classification used in the EPD (explained in section 4.2.1) or SAD. This, because businesses know these codes. Further, they realize that support – worldwide – is difficult. One of the reasons not to modify the proposed model is that the table of the SAD is built from the perspective of types of declarations, while the proposed model is more process oriented and with that more business-oriented. Secondly, because the model is more process oriented, it is more easy for other supervisors to connect to this model. A third reason is that the SAD does not take into account those mutations that do not lead to a customs declaration. Also, the 'from-to' instead of the 'to-from' is more logical in order.

Another question concerns the acceptance of the model: the naming 'transaction code'. Business associates the term transaction code usually with a purchase or a sale. Despite, all respondents think the term transaction code is fine. Moreover, an explanation of the usage of the conceptual model for transaction codes is important.

A third question about the usability concerns the possibility to define the data requirements for the different transaction codes. This question seems difficult to answer, even with an explanation of the application of the transaction code. Although all four respondents give no negative identification.

About the system of the conceptual model to determine the applicable transaction code, two respondents think the model is clear and ready for further development as a standard for companies and other supervisors. Also, the respondents think extensibility of the model is possible.

Aspect completeness. Completeness is another aspect of the model. Completeness as an objective of this research means, that the model must consist all movements on the goods. Completeness of the green part means the determination that all movements (i.e. transfers between customs procedures) on the globe fit in the conceptual model. Figure 27 shows this. Two respondents have no comments towards completeness. One respondent misses codes for 'economic movements' of goods. For example, an order involving the transfer of ownership. However, this research focus on the physical movements of goods, The author believes that the

FIGURE 27

The globe caught in transaction codes

model can be expanded with transactions for 'economic movements' easily. In Appendix C the operation of the transaction codes is explained. Also, there is attention to the extension of the model for other supervisors.

For the completeness of the blue part of the conceptual model, the goods issues, the respondents have no comments towards the completeness. One respondent misses certain handlings, but these handlings are focused on terminals (temporary storage). For example, applying a blockade. This is something typical Dutch (for more information see: Pligt; 2015). Other findings of the respondent are actually in the conceptual model. Determining the completeness of this part of the model is only possible when testing the model with companies. In short, the respondents see no data that is missing or unnecessary.

The outcome of the questionnaire is that there are no deviations in the conceptual model for transaction codes and that the model is usable and complete for auditing and customs supervision.

5.5 Validation: Interview Expert

Finally, the validation ends with a meeting with Mr. Alewijnse. Mr. Alewijnse is a specialist in the fields of standardization, auditing, and customs supervision. In the past, he was involved in the development of the SAF-T of the OECD. Also, he participates in the development of the ADCS from the ISO. Further, he is the developer of the application GeautomatiseerdePeriodieke Aangifte and the Electronic Periodic Declaration.

He agreed with the approach of the problem and the end-product the conceptual model for customs transaction codes. The conceptual model is technical and legally correct. Also, the conceptual model for the goods movements (physical movements) is complete. For the handlings (administrative movements) with the goods, businesses should be consulted. Further, he recommends to set up a proper documentation of the conceptual model and to outsource it to a maintenance group.

The conceptual model for customs transaction codes is not the main result of this research. The main result concerns standardization. Standardization as a first step, followed by harmonization. As Mr. Alewijnse claims there is, at this moment, a need for standardization. The NVWA has expressed this need. Also, software vendors and businesses express this need, considering, for example, the demand for SAF-T. Not only in the Netherlands this development is recognized. Worldwide, Mr. Alewijnse sees an increase of the implementations of SAF-T. Precisely because that need is clear, and implementation (of such a standard) is not possible by a single stakeholder, it is time to introduce this to the International Organization for Standardization. The International Organization for Standardization can bring the different stakeholders together and develop a standard that will also reveal harmonization of (customs) transaction codes. M. Alewijnse advises starting to standardize with the smallest common part and slowly grow to the greatest common divisor.

During this interview, it becomes clear that the audit file does not have eternal life. Standardization, on the other hand, seems to have that more. This becomes clear in Figure 28. The figure shows the development of (customs) audit in the past 20 years and possible future according to Mr. Alewijnse and the author.

FIGURE 28

Development customs audits

First Dutch customs checked data-oriented. For some years ago, the system based approach, a term from accountancy, was taken over by the Dutch customs and translated into System Based Auditing. This because customs could not handle the volume of data. However, the customs also had to do something with data, and found the solution in sampling.

This was the case until Customs manages the volume of data. Also, data analysis (including process mining) became popular. From that moment on, all data was available again in the tool (own computer). Then the tooling became a problem, the volume of data increased, and the interpretation of the data differed per company. To solve this, standards are required, standards for necessary data and standard data analysis. The transition of data analysis and standards is the period in which Dutch Customs is now (red in Figure 28).

For the future, and the standards are arranged, the question arises why this is not in the core packages (of the companies). If so, it allows for the development of continuous monitoring and auditing. A further step would then be (logical) to standardize the visualization of continuous monitoring and auditing, known as standardized shared dashboards. This dashboard applies for the whole field of customs supervision and other supervisors. In short, the audit shifts from post audits to actual (continuous) audits. Standards, like this conceptual model for customs transaction codes, are necessary to continue this development.

5.6 Conclusion Validation

Conclusion: The glossaries of the WCO and Asycuda validates the descriptions used in the conceptual model for transaction codes. Further, a test has been executed with no deviations. All transactions match with the transaction codes of the conceptual model for customs transaction codes. Several auditors validate, through a questionnaire, the conceptual model on usability and completeness. The conceptual model for transaction codes misses no data, does not contain unnecessary data, is clear and is extensible. An interview with Mr. Alewijnse confirms the whole. The conceptual model is valid.

Conceptual model customs transactions

Chapter 6: Contribution for research

Rotterdam School of Management Erasmus University

6 CONTRIBUTION FOR RESEARCH

This study wants to contribute to the problem businesses and supervisors face in collecting relevant and reliable data for supervision. The contribution consists of standardizing the transaction codes for inventory in relation to (customs) warehouses, this as part of an audit file. It also means standardizing the terms of the movements and treatments within a customs warehouse. The transaction code determines the data required which depend on the country or customs union. In other words: the requirements of the supervisor.

The standardization of the transaction codes makes it possible to lower the administrative burden for businesses and more efficient and effective supervision. Further, by standardization, it is possible to use standard data analysis. Sharing standard data analysis can be an incentive for further compliance or higher level of compliance and with that further innovation of supervision, “supervision we do together” (OECD, 2014). Especially by adding specific data attributes to the audit file at the level of transaction like: date/time stamp, case-id, activity and employee who did the mutation, the possibilities for proving compliance increases and improves the efficiency and effectiveness of the audits.

Although this study is limited to customs supervision, the idea is simply extensible to other supervisors on goods (inventory) like NVWA or for business purposes.

Conceptual model customs transactions

Chapter 7 Contribution for practice

Rotterdam School of Management Erasmus University

7 CONTRIBUTION FOR PRACTICE

This research also adds value for business and other stakeholders. The audit file makes it possible that businesses themselves are doing the analysis (demonstrate compliance) and provides more (faster) assurance about the submitted (supplementary) declarations. Other stakeholders, like audit firms and advisory firms, can support customers (businesses) better and faster. For software vendors/manufacturers, the market increases and one standard is easier to maintain and improves the quality of data. Also, this will create new business opportunities like dashboards and benchmark, for example for advisory or audit firms but also for businesses and customs. To get the most out of an audit file, standardization of transactions is required. This research focuses on transactions within the inventory process.

Conceptual model customs transactions

Chapter 8 Conclusion and recommendations

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8 CONCLUSIONS AND RECOMMENDATIONS

This research focuses on:

> ***obtaining a conceptual model for the translation of business events into customs transactions to achieve optimal benefits from implementing a standard audit file.***

To get a conceptual model for the translation of business events into customs transactions the research is substantiated in 7 sub-questions.

> ***Sub-question 1. What is an audit file, what are the developments concerning the audit file?***

There is no precise definition in the literature for audit file. Based on the two concepts of 'audit' and 'file', this research adopts the following definition: "Audit file is a concept of one or more computer files based on an open standard for storage and/or exchange of (transaction and master) data, which underlie the audit object, from administrative systems for the benefit of internal for businesses and external regulators". Further, it is clear that national and international a lot of attention exists for audit files. Especially, the audit files Standard Audit File Tax from the Organization for Economic Co-operation and Development and Audit Data Collection Standard of the International Organization for Standardization play a major role in the future. This because of the reach of these standards. National, the development of Reference Ledger Scheme is interesting, because the idea is very similar to the developing conceptual model for transaction codes.

> ***Sub-question 2. What is the policy of customs towards audit file, what is the place of an audit file in customs supervision?***

In recent years, Dutch Customs has increased attention for the audit file. It fits in the enforcement vision "Pushing Boundaries", it is mentioned in the future vision of customs supervision (continuous supervision), a project started to develop an audit file logistics, Dutch Customs participate in the development of the Audit Data Collection Standard of the International Organization for Standardization and Dutch Customs is working on a policy on the subject Audit Files.

The transaction model and the workflow model describe the location of the audit file in an audit. The audit file relates in particular to systems that record primary recordings. These audit files are ideal for automated (standard) analysis. The transaction model shows that it is necessary to continue to have and to hold attention for checks and validations in the primary recordings. That is why it is necessary that there are some guarantees for the completeness and correctness of the audit file. These assurances should be part of the initial audit and the AEO field test to get the maximum use of the audit file. The workflow model shows an overview of the audit process. It indicates that, if the guarantees are part of preplanning and the operation are confirmed, the audit file can be used for substantive testing.

> ***Sub-question 3. At which place in customs supervision provides an audit file absolute added value and what is the importance of that so-called white spot?***

Research shows that an audit file has added value in the situation where both businesses and customs has benefits of an audit file, so-called white spot. Further, this research shows that the audit

file relates to all layers in the enforcement vision “pushing boundaries”. In particular, those companies of the green layer of the enforcement vision, the well-known and reliable companies which are the holders of the authorisation Authorised Economic Operator in combination with an authorization customs warehousing.

More specific, the research shows, despite the small number of clients (± 240), the significance of the white spot customs warehouses (with or without inward processing) with a combination of the authorization Entry In the Declarants Records release into free circulation. This latter is a simplification of the normal procedure for submitting a declaration. Instead of submitting a declaration at the customs office and presenting the goods, an entry in the administration of the holder of the authorization is enough followed by a periodical supplementary declaration. This group submits 7 times more import declarations in comparison with the normal procedure and representing almost 50% of the customs duties. The research also addresses the impact, increase of physical checks, on customs if a small number switches to the normal procedure. These small number of clients is the target group in this research.

Sub-question 4. How do the businesses experience an audit file? In other words: what are the expected benefits?

From a study in 2013 initiated by the Dutch Customs, 86 companies of the target group representing 74% of the declarations responded. They see faster assurance, reducing administrative burden, more transparency, higher quality of data, improving compliance and efficient communication as important benefits. Further, they recognize the opportunities of an audit file for innovation of customs supervision. For example, the possibility to share standard data analysis, dashboards and benchmarking. Also, the Organization for Economic Co-operation and Development mentioned a reduction of compliance costs.

Sub-question 5. What are the main transactions, related to the white spot, customs are interested in for supervision purposes?

To determine which transactions are relevant to customs, this research studies the recent audit file Electronic Periodic Declaration, the existing customs legislation and the audit perspective on audit files. The transactions are divided in:

- transactions with a customs declaration (customs transactions);
- transactions without a customs declaration (customs technical operations);
- transactions from an audit perspective;
- transactions from an audit perspective extensions.

The latter is out of scope for this research. The transactions customs are interested, are listed in the tables 11, 12, 13 and 14. The final model reflects these. Further, the research studies from a business perspective the inventory process. This process is divided in:

- transactions which relate to goods receipts (GR);
- transactions which relate to goods issues (including processing) (GI);
- transactions which relate to goods shipments (GS)
- transactions (administrative), transfer between customs procedures (TR)

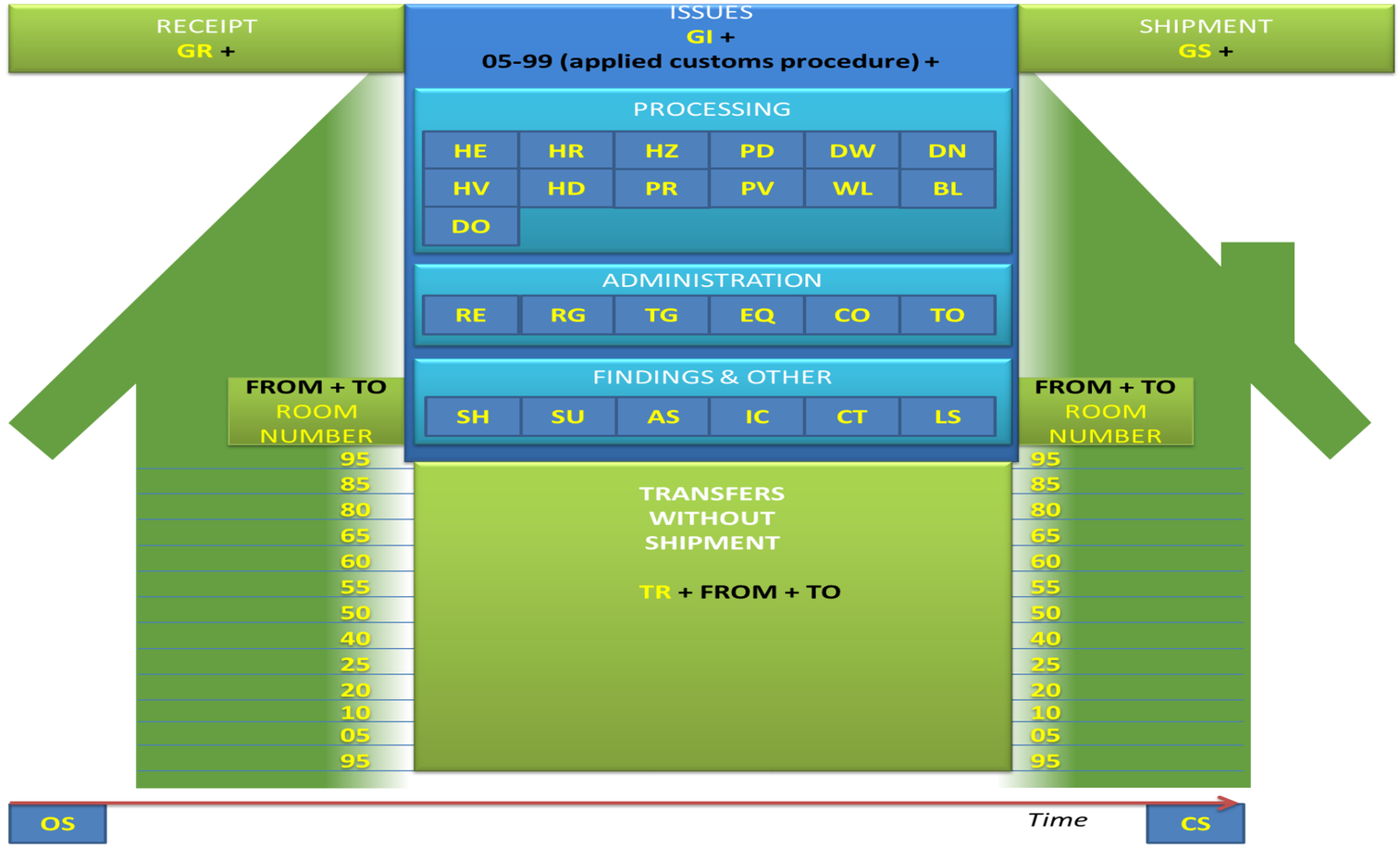
Sub-question 6. How can these transactions be modeled in a conceptual model for transaction codes?

The conceptual model for transaction codes connects the transactions from the business perspective with the customs perspective. Figure 28 presents the final model.

Code	Standard description (declarations)
	Goods under customs supervision
05	A part of the Customs territory of a Contracting Party where any goods introduced are generally regarded, insofar as import duties and taxes concerned, as being outside this territory.
10	Storing of goods under Customs control in premises and enclosed or unenclosed spaces specified by the Customs (temporary stores) pending lodgement of the Goods declaration
20	Customs goods that are moved from one point to another within the country or customs union without being subject to import duties, other charges and commercial policy measures insofar as they do not prohibit the entry or exit of goods into or from the country or customs union.
25	Free goods that are moved from one point to another within the country or customs union and pass through a country or territory outside that customs territory without a change in their customs status.
40	Customs procedure under which imported goods are stored under Customs control in a designated place (a Customs warehouse) without payment of import duties and taxes.
50	The Customs procedure under which certain goods can be brought into a Customs territory conditionally relieved from payment of import duties and taxes, on the basis that such goods are intended for manufacturing, processing or repair and subsequent exportation
55	The Customs procedure under which goods which are in free circulation in a Customs territory may be temporarily exported for manufacturing, processing or repair abroad and then re-imported with total or partial exemption from import duties and taxes
60	Customs goods that are released for free circulation under a duty exemption or at a reduced rate of duty on account of their specific use.
65	The Customs procedure under which certain goods can be brought into a Customs territory conditionally relieved totally or partially from payment of import duties and taxes; such goods must be imported for a specific purpose and must be intended for re-exportation within a specified period and without having undergone any change except normal depreciation due to the use made of them
80	The act of taking out or causing to be taken out any goods from the Customs territory.
85	Exportation from a Customs territory of goods previously imported into that territory.
95	The act of bringing or causing any goods to be brought into a Customs territory.
	Goods not under customs supervision
95	Goods not under customs supervision. Goods which may be disposed of without Customs restriction.

Conceptual model for transaction codes

FIGURE 29



Code	Standard description (goods issues)	Code	Standard description (goods issues)	Code	Standard description (goods issues)
SH	Shortage, in consultation with Customs	**PD**	Discrepancies that arise during processing	**TG**	Temporarily out of goods
SU	Surplus	**PR**	Production inward processing	**AS**	Abandoned to the State
HE	Usual form of handling without elements that effect customs value or classification	**PV**	Vaporisation	**RG**	Relocate goods
HV HZ HR	Usual form of handling with elements that effect customs value or classification: - Without changing tariff code - With changing tariff code ○ Without request to use original classification ○ With request to use original classification	**DN**	Destruction with no waste remained	**IC**	Internal Consumption
		DW	Destruction with waste remained	**CT**	Correction due to temperature differences
		WL	Waste/loss	**BL**	Other bottle loss (in case of excise)
		TO	Transfer of ownership of goods	**LS**	Loss of strength (in case of excise)
		RE	Revaluation	**DO**	Differences due to overfilling
		EQ	Equivalence	**OS**	Opening stock period audit file
HD	Discrepancies that arise with usual handlings	**CO**	Correction of data elements in consultation with Customs	**CS**	Closing stock period audit file

Sub-question 7. Is the proposed conceptual model for the transaction codes valid?

The usability and completeness of the conceptual model for transaction codes have been validated by testing with test audit files, by questionnaires filled in by four auditors with backgrounds in standardization, audit files, Electronic Periodic Declarations, audits and customs supervision. Also, the descriptions of the customs procedures are validated with the terms used by the WCO. Finally, the whole is validated by an interview with an expert. The validation proves that the conceptual model is complete and usable.

Based on the validated conceptual model for transaction codes, the receommendation is to present this model to Dutch Customs, businesses, accountant and advisory firms, software vendors, the project Audit Data Collection Standard from the International Organization for Standardization and other supervisors. This to create support and to connect those stakholders to the model. The presentation to:

- the customs serves to include the model in the project Audit File Logistiek and the policy on audit files as a prerequisite;
- the businesses serves to create support and further development for business purposes;
- the accountant and advisory firms to create support and also further development for audit and advisory purposes;
- the software vendors for further development of the connection of the business events with the transaction codes;
- the project Audit Data Collection Standard from the International Organization for Standardization serves to create worldwide support and to allow customs be part of the standard
- other supervisors serves to inform them and participation in further development.

Another recommendation is to establish a proper documentation of the conceptual model for (customs) transaction codes. A maintenance group must maintain this document.

The research also has some limitations. A limitation is that the research focuses on the customs procedure customs warehousing. Other customs procedures have not been taken into account. Another limitation is that national legislation has not been included, for example, excise legislation. However, the model is designed so that that add-ons are easily to include. A third limitation concerns that only employees of the Dutch Tax and Customs Administration validated the conceptual model for customs transaction codes. That is why it is recommended to present the model to the other stakeholders: businesses, audit firms, advisory firms, software vendors, other supervisors. This also means that further research is not required. It is about doing it now.

9 LIST OF REFERENCES

Aalst, W.M.P van der., Hee, K. M. van., Werf J.M. van der & Verdonk, M. 2010. Auditing 2.0: using process mining to support tomorrow's auditor. ***IEEE Computer Society***, March 2010: 90-93.

Ayres, I. & Braitwaithe, J. 1992. ***Responsive Regulation: Transcending the Deregulation Debate***. Oxford: Oxford University Press.

Bharosa, N., van Wijk, R., de Winne, N. & Janssen, M.F.W.H.A. 2015. ***Challenging the chain, governing the automated exchange and processing of business information***. Delft: Logius & Thauris.

Blokdijk, H., Drieenhuizen, F., Wallage, P. 1995. The Dutch Discipline of 'Administrative and Accounting Organization. ***Reflections on auditing theory***: 38. Den Haag: Kluwer Bedrijfswetenschappen, Limperg Instituut.

Bottemanne, G., 2013. Auditfiles: haal eruit wat er in zit. ***Accountant*** https://www.accountant.nl/globalassets/accountant.nl/web-only/0011_bottemanne_18april2013.pdf. Accessed March 9, 2017.

Butter den, F.A.G., Scheltinga, W.J., 2008, Kosten en baten van AEO-certificering. ***Personal.vu*** http://personal.vu.nl/f.a.g.den.butter/AEO%20versie%20def1.pdf. Accessed March 1, 2017.

Boy, U.& Veldhuizen, W. 2017, Ruimte voor SAF-T in de Nederlandse Controleaanpak Belastingdienst?. ***BTW-Bulletin2017/15***, 3: 5-6.

Customs Administration of the Netherlands. 2003b. Handleiding XML Auditfile Financieel. ***Belastingdienst***. https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/themaoverstijgend/brochures_en_publicaties/handleiding_xml_auditfile_financieel. Accessed February 12, 2017.

Customs Administration of the Netherlands, 2013. ***Rapport co-creatie AGS 4***. Report presented at the end of the project AGS 4, Rotterdam (confidential).

Customs Administration of the Netherlands, 2013b. ***Discussienota co-creatie AGS-4***. Note presented at the end of the project AGS 4, Rotterdam (confidential).

Customs Administration of the Netherlands, 2013c. ***Implementation of the CAB***. Presentation presented in 2013 at the customs office Rotterdam, July 1, 2013, Rotterdam.

Customs Administration of the Netherlands, 2014. ***Pushing boundaries: The customs administration of the Netherlands' point on the horizon for the enforcement on continuously increasing flow of goods***. Presented at Executive Master in Customs and Supply Chain Compliance, Rotterdam School of Management Erasmus University. July 4, 2016, Rotterdam. https://www.01.ibm.com/events/wwe/grp/grp009.nsf/vLookupPDFs/D1S6.1C_FrankHeijmann_Enforcement%20Vision%20EN/$file/D1S6.1C_FrankHeijmann_Enforcement%20Vision%20EN.pdf. Accessed February 2017

Customs Administration of the Netherlands, 2015a. Informatie geautomatiseerde opgave domproc I. ***Belastingdienst***. https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/themaoverstijgend/brochures_en_publicaties/gpa_informatie_geautomatiseerde_opgave_domproc. Accessed February 15, 2017

Customs Administration of the Netherlands, 2015b. The electronic declaration for the stock movement of customs warehouse with related supplementary declaration for the local clearance procedure for entry into free circulation and supplementary declaration for the simplified declaration for entry into free circulation. ***Belastingdienst*** https://www.belastingdienst.nl/wps/wcm/connect/bldcontenten/themaoverstijgend/brochures_and_publications/customs/apd_information_electronic_declaration_bonded_warehouse. Accessed February 15, 2017

Customs Administration of the Netherlands, 2015c. De geautomatiseerde opgave voor de douaneregelingen actieve veredeling, systeem inzake schorsing en/of behandeling onder douanetoezicht. Omvattende de aanvullende aangifte voor de plaatsing van de goederen en de aanzuiveringsafrekening met de aansluitende aanvullende aangifte voor domicilieringsprocedure in het vrije verkeer brengen. ***Belastingdienst***. https://download.belastingdienst.nl/douane/docs/geautomatiseerde_opgave_avs_do0891z4fd.pdf. Accessed February 15, 2017

Customs Administration of the Netherlands, 2016a. Facts and figures in brief DO 726 - 1Z*2FD ENG. ***Belastingdienst*** Customs Administration of the Netherlands.

Customs Administration of the Netherlands, 2016b. ***Pushing boundaries***. Presentation presented in 2016 Dutch Customs with video http://www.youtube.com/watch?v=YqAV1woA-XM&list=TLPhlpEmLf36NY3dT8jY8KeLNvSXvsGeE2. Customs Administration of the Netherlands, Rotterdam. Accessed January 12, 2017

Customs Administration of the Netherlands, 2017. ***Eerste contouren toekomstvisie toezicht op vergunninghouders***. Paper presented at a meeting in April at the Customs Office. Rotterdam (confidential).

Dechaume, J. & Venturelli, W., 2014. ***Gestion des procédures douanières: La douane: théorie et pratique***. Chambery: Le Genie des Glaciers

Elfrink, B. 2016. ***Push left the electronic declaration***. Thesis Master Customs and Supply Chain Compliance of Rotterdam School of Management Erasmus University, 2016, Rotterdam.

European Court of Auditors, 2010. ***Special report No. 1. Are simplified customs procedures for imports effectively controlled?****:* 21 paragraph 46 and 47. http://www.eca.europa.eu/Lists/ECADocuments/SR10_01/SR10_01_EN.PDF. Accessed January 14, 2017

European Commission Directorate General Taxation and Customs Union, 2017. SAD Guidance, (working document). https://ec.europa.eu/taxation_customs/sites/taxation/files/guidance_transitional_sad_en.pdf. Accessed June 21, 2017.

Grainger, A., 2008. Customs and trade facilitation: from concepts to implementation. ***World Customs Journal***, Vol. 2: 17-30

Griffioen, P., Christiaanse, R., Wang, Y., & Hulstijn, H., 2016. ***Model-based auditing with inequalities***. presented at VMBO 10th International Workshop on Value Modeling and Business Ontologies, 14-15 March 2016. Trento. https://pdfs.semanticscholar.org/ae03/be353581396209f94b48392f4b723d72700f.pdf Accessed June 12, 2017.

Gultekin, Z., Woudenberg, A.J., 2015: ***Het schillenmodel in de praktijk***. Amsterdam: Belastingdienst.

Heijmann, F & Tusveld, R. 2015. ***New horizons in customs & trade – the customs professional of the future*** slides 40-42. Presentation presented at Rotterdam School Management Erasmus University March 2015, Rotterdam.

Hof, R.E. van. 2017a. ***Calculation import declarations normal vs simplified procedure***. 2017 (internal document)

Hof, R.E. van 't., Kondrashova, A., Palacios Miras, A. & Speelman, S. 2016. ***Bridging the gap, Dutch response to UCC customs legislation***. Rotterdam School of Management Erasmus University, Rotterdam.

Hevner, A.R., March, T., Park, J., & Ram, S. 2004. Design science in information systems research. ***MIS Quarterly***, 28 No. 1: 75-105.

International Organization for Standardization, 2017. ***Working draft of "Audit Data Collection Standard, second edition***. Presented at the meeting NEN ISO/PC295 April 2017.

Jans, E. O. J. 2000. Het magazijnproces en het voorraadsysteem. In E.O.J. Jans (Eds), ***Grondslagen administratieve organisatie deel B: Processen en systemen***: 71-77**.** Voorburg: Kluwer.

Jans, M., Alles, M. & VasarHelyi, M. 2013. The case for process mining in auditing: sources of value added and areas of application. ***International Journal of Accounting Information Systems***, 14, 201: 1-20.

Kocks, H.C. 2003. Auditing, audit, auditor, wat moeten we ermee? In R. de Korte, L. Paape & W. Verhoog (Eds.), ***20 Over Internal/Operational auditing: bijdragen aan governance & control***: 141-174. Amsterdam: Koninklijk NIVRA/VERA.

Lensseling, S. & Biesen van der, R., 2017. ***Datavelden audit file logistiek***. Paper presented in the projectteam Auditfile Logistiek, Rotterdam (confidential)

Maenen, H.van & Goeman, M. 2012. ***Outline business case AGS increment 4***. Paper presented at the end of the project AGS 4, Rotterdam (confidential).

Organization for Economic Co-operation and Development. 2010a. ***Guidance for the Standard Audit File – Tax version 2.0.*** http://www.oecd.org/tax/administration/45045602.pdf Accessed February 21, 2017.

Organization for Economic Co-operation and Development, 2010b. ***Guidance and Specifications for Tax Compliance of business and Accounting Software.*** http://www.oecd.org/tax/administration/45045404.pdf. Accessed February 21, 2017.

Organization for Economic Co-operation and Development, 2010c. ***Guidance and Test procedures for Tax Audit Assurance.*** hthttp://www.oecd.org/tax/administration/45045414.pdf. Accessed February 21, 2017.

Organization for Economic Co-operation and Development, 2014. ***Regulatory Enforcement and Inspections, OECD Best Practice Principles for Regulatory Policy***. OECD http://dx.doi.org/10.1787/9789264208117-en. Accessed March 12, 2017.

Overleg Douane Bedrijfsleven. 2014. ***ODB Work in progress 2013-2014***, Rotterdam.

Pligt, S. van de., 2015. ***CCM based regulation: Case study on the future temporary storage supervision process at the port of Rotterdam***. Thesis Master Customs and Supply Chain Compliance of Rotterdam School of Management Erasmus University, 2015, Rotterdam.

Popa, I., Belu, M.B., Paraschiv, D.M. & Marinoiu, A.M., 2015, Best Practices in Customs Procedures. ***Amfiteatru Economic***, Vol. 17, No. 40: 1095-1107.

Porter, M.E. 1985. ***Competitive advantage: creating and sustaining superior performance***. New York: Free Press. (ISBN 0684841460).

Raus, M., Liu, J. & Kipp, A., 2010. Evaluating IT innovations in a business-to-government context: A framework and its applications. ***Government Information Quarterly*** 27.2: 122-133, 2010.

Romney, M.B. & Steinbart, P.J. 2015. Auditing information systems applications. ***Accounting Information Systems*** (13th ed): 338-340. Harlow: Pearson Education Limited.

Rozinat, A. & Gunther, C.W. 2014. Toegevoegde waarde van process mining. ***Informatie***, june/july 2014: 14-21.

Rozinat, A. 2016. ***Process mining introduction and positioning***. Presentation presented at the Master Customs and Supply Chain Compliance of the Rotterdam School of Management Erasmus University. September 14, 2016, Rotterdam.

Swart de, J., Wille, J. & Majoor, B. 2013. Het 'push left' principe als motor van data analytics in de accountantscontrole. ***Maandblad voor Accountancy en Bedrijfseconomie***, 2013 No. 10: 425-433.

Swart de, J., Wille, J. & Zuur, M. 2016. Data Analytics volgens het push-left principe. ***Audit Magazine***, No. 1: 40-42.

Tax Administration of the Netherlands, 2003a. ***Belastingcontrole met de AuditFile***. http://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/themaoverstijgend/brochures_en_publicaties/belastingcontrole_met_de_auditfile. Accessed February 18. 2017.

Tax Administration of the Netherlands, 2013. ***Auditfiles, basis voor effectief en efficient toezicht***. (confidential)

Tax Administration of the Netherlands, 2016a. ***Handboek Controle***. https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/themaoverstijgend/brochures_en_publicaties/handboek-controle-belastingdienst. Accessed March 8, 2017.

Tax and Customs Administration. 2016. ***Audit approach Netherlands Tax and Customs Administration***. https://download.belastingdienst.nl/belastingdienst/docs/cab_dv4221z2fd.pdf. Accessed December 10, 2016.

Tianyang, Lv. 2015. ***Brief introduction of "Audit Data Collection"***. Presentation presented at the first plenary meeting of the ISO/PC 295, November 3, 2015, Beijing.

Tusveld. R. 2016. ***Suspension regimes / special procedures***. Presentation presented at the Master Customs and Supply Chain Compliance of the Rotterdam School of Management Erasmus University, January 19, 2016. Rotterdam

World Customs Organization, 2008. ***International convention on the simplification and harmonization of customs procedures***, http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/conventions/kyoto-convention/revised-kyoto-convention/body_gen-annex-and-specific-annexes.pdf?la=en. Accessed January 8, 2017.

World Customs Organization, 2013. ***Glossary of international customs terms***. http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/ressources/publications/updated-glossary-e-v2-2011.pdf?la=en . Accessed June 21, 2017.

Wagenaar, H. 2017. ***eAuditing – Strategic Vision***. Presentation presented at the Kick off meeting normcommissie Audit Data Collection at the NEN. March 15, 2017, Delft.

Veenstra, A. 2015. ***Essentials of logistics, primer nodes in networks***. Presentation presented at Executive Master in Customs and Supply Chain Compliance, Rotterdam School of Management Erasmus University. September 14, 2015, Rotterdam.

Veiga, L., Janowski, T. Barbosa, L.S., 2016. Digital government and administrative burden reduction. ICEGOV '15-16 Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance Montevideo, Uruguay. ***ACM***, New York: 323-326

Willmot, P. 2007. A review of the European Commission's Plans for an Electronic Customs Environment. ***World Customs Journal***, Vol. 1, No. 1: 12

Wijk van, L., Hagdorn, L., Versteijnen, W. &Dierikx, M., 2011. ***Partituur naar de top, adviesrapport topteam logistiek***. http://www.infrasite.nl/documents/bedrijven/1889/Adviesrapport%20TopTeam%20Logistiek%202011.pdf. Accessed December 17, 2016.

Zuidwijk, R. 2015. ***Inventory management basics***. Presentation presented at Executive Master in Customs and Supply Chain Compliance, Rotterdam School of Management Erasmus University (slide 32). September 14, 2015, Rotterdam.

Used European Union customs legislation:

Council of the European Communities,1992. COUNCIL REGULATION (EEC) No 2913/92 of 12 October 1992 establishing the Community Customs Code http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:31992R2913. Accessed January 14, 2017.

Commission (EEC), (1993), 'COMMISSION REGULATION (EEC) No 2454/93 of 2 July 1993 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code'. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31993R2454. Accessed January 14, 2017.

European Parliament and the Council of the European Union, 2013, **Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code.** http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0952&rid=1**.** Accessed January 14, 2017.

European Commission, 2015a. Commission Delegated Regulation (EU) 2015/2446 of 28 July 2015 supplementing Regulation (EU) No 952/2013 of the European Parliament and of the Council as regards detailed rules concerning certain provisions of the Union Customs Code http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.343.01.0001.01.ENG&toc=OJ:L:2015:343:TOC**.** Accessed January 14, 2017.

European Commission, 2015b. COMMISSION IMPLEMENTING REGULATION (EU) 2015/2447 of 24 November 2015 laying down detailed rules for implementing certain provisions of Regulation (EU) No 952/2013 of the European Parliament and of the Council laying down the Union Customs Code http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.343.01.0558.01.ENG&toc=OJ:L:2015:343:TOC. Accessed January 14, 2017.

10 APPENDIX

Appendix A Abbreviations

Appendix B Custom declarations / procedures

Appendix C Explanation use transaction code

Appendix D Interview Mr. L. Alewijnse March 15th , 2017

Appendix E Questionnaire

Appendix F Interview Mr. L. Alewijnse June 28th, 2017

Appendix A. Abbreviations

ADCS	Audit Data Collection Standard
AEO	Authorized Economic Operator
AGS	AanGifteSysteem (declaration system in the Netherlands)
CCC	Community Customs Code:
CMS	Customs Management System
DA	Delegated Acts of the UCC
EIDR	Entry In the Declarants' Records
EPD	Electronic Periodic Declaration
ERP	Enterprise Resource Planning
EU	European Union
GPA	Geautomatiseerde Periodieke Aangifte (software application)
ISO	International Organization for Standardization
LCP	Local Clearance Procedure
NEN	Nederlands Normalisatie-instituut
NFCA	Netherlands Food and Consumer Product Safety Authority
OECD	Organization for Economic Co-operation and Development (OECD)
RLS	Reference Ledger Scheme
SAD	Single Administrative Document
SAF-T	Standard Audit File for Tax
SBR	Standard Business Reporting
UCC	Union Customs Code
VAT	Value Added Tax
WMS	Warehouse Management System
XML	eXtensible Markup Language

Appendix B. Customs declarations / procedures

The system of supervision is based on declarations (arrows). For placing goods under a customs procedure a customs declaration must be made[40]. In general:

- A customs declaration may be submitted by any person who can provide all of the information which is required for the application of the provisions governing the customs procedure in respect of which the goods are declared.
- That person shall also be able to present the goods in question or to have them presented to customs. This is the case for example for release into free circulation because customs supervision ends after the release of the goods.
- However, where acceptance of a customs declaration imposes particular obligations on a specific person (for example record keeping in case of warehouses), that declaration shall be lodged by that person or by his or her (direct) representative. [41]

And that is the situation for the special procedures and customs procedure export. This because these procedures require that the person have to fulfill obligations, so this person has to submit the declaration in principle in his own name and own account.

The normal procedure

- The main rule, normal procedure, is that the declaration is submitted electronically[42]. In most cases that is the declaration system AGS (in the Netherlands)[43].
- Goods must be presented to the customs and that means the notification to the customs authorities of the arrival of the goods at the customs office or at any other place designated or approved by the customs authorities and the availability of those goods for customs controls[44].
- Then, if it fulfills all rules (all information[45] [46]) the declaration may be accepted, possible verified[47] and the goods are released[48]. The date of acceptance is decisive for the application of all provisions governing the customs procedure and for all other import or export formalities[49]. By accepting a declaration for release into free circulation (or temporary admission) also a customs debt occurs[50].

The simplified declaration

In addition to this standard declaration it is possible to make a simplified declaration.

- In order to enable a company to place goods under a customs procedure (a declaration) as soon as possible, even if still not having all information and/or supporting documents, and to maintain speed in the logistics, it is possible to make a so-called simplified declaration.
- A simplified declaration may be accepted by customs, as long as the goods are presented to customs and, of course, the legal requirements for a simplified declaration for information and supporting documents are fulfilled.
- The customs procedure transit is excluded[51].

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[40] Art. 158 (1) UCC
[41] Art. 170 (1)
[42] Art. 6 (1) UCC, art 158 (1) UCC
[43] Art 16 (1) UCC, art. 216 IA
[44] Art. 5 (33) UCC, art. 139 (1) UCC
[45] Art 162 (1) UCC
[46] Art. 172 (1) UCC
[47] Art. 46 UCC
[48] Art. 194 (1) UCC
[49] Art. 172 (2) UCC
[50] Art. 77 (1)(2) UCC
[51] Art 5 (16) UCC art 210 UCC

- Also, simplified declaration is excluded for temporary admission, end-use, inward and outward processing if the application for an authorization is done at the time of submitting the declaration[52].
- The declarant has to submit a supplementary declaration containing the information required for the customs procedure and not yet included in the simplified declaration[53].
- An exception of this condition is the simplified declaration for placing goods under the customs procedure customs warehouses, because the missing information is (later) listed in the administration of the relevant warehouse[54].
- The supplementary declaration has, in the Netherlands, a general and recapitulative nature by lodging it in the declaration system AGS (referred to the master reference number (MRN) of the simplified declaration.
- Submitting a supplementary declaration has to be done, in the case of month credit which is usual in the Netherlands, within 10 days after a period (month) in which the simplified declaration is submitted. Otherwise within 10 days after submitting the simplified declaration[55].

Entry in the declarant's records

Another, a third possibility, is that customs authorities may allow the customs declaration is made in the form of an entry in the records of the declarant and hereby waive the requirement to present the goods at a customs office. This is possible for the following customs procedures[56]:

- Release for free circulation
- Customs warehousing
- Temporary admission
- End-use
- Inward processing
- Outward processing
- Export and re-export

The declarant must be in possession of an authorization[57].

- Again, for the special procedures, the declaration (also a simplified declaration)– the entry in the declarant's records – can only done by themselves or by directly representatives.
- At the time of entry in the declarant's records the information (particulars of the declaration) must be at the disposal for customs in the declarant's electronic system[58]. This must be interpreted as meaning that customs have access at any time to this system.
- This is also the moment that the customs declaration shall be deemed to have been accepted[59]. Also, the goods must be presented, although in this situation the holder of the authorization may present the goods at an approved or designated location (location of the holder of the authorization, a customs warehouse or a container terminal). The main rule is sending a notification and the goods are released after a certain period (response time: mostly 2 hours) in which the customs can response.
- If the holder of the authorization has a waiver for submitting notifications, then the goods are considered to be released at the time of registration (entry in the declarant's records)[60].

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[52] Art. 163 (1) (2a) DA
[53] Art. 167 (1) UCC
[54] Art. 167 (2) UCC
[55] Art. 146 (1)(2)(3) UCC
[56] Art. 150(2) DA
[57] 182 (1) UCC
[58] 182 (1) UCC
[59] 182 (2) UCC
[60] 182 (3) (4) UCC

The application of the waiver may be granted only if the declarant is an authorised economic operator for customs simplifications, the nature and flow of the goods concerned so warrant and are known by the customs authority, the supervising customs office has access to all the information it considers necessary to enable it to exercise its right to examine the goods should the need arise and at the time of the entry into the records, the goods are no longer subject to prohibitions or restrictions[61], except where otherwise provided in the authorization.

- Customs authorities shall set up a control plan specific to the economic operator when granting an authorization to lodge customs declaration in the form of an entry in the declarant's records[62].
- The entry in the declarant's records must be followed by a supplementary declaration[63] except placing goods under the customs procedure customs warehousing.
- The entry in the declarant's records and the supplementary declaration shall be deemed to constitute a single, indivisible instrument taking effect, respectively, on the date on which the goods are entered in the declarant's records[64].
- In the Netherlands the supplementary declaration is submitted within 10 days after the end of a period (month). And in the Netherlands there are two different ways to submit the supplementary declaration:
    - Electronic Periodic Declaration (EPD) and this form has a periodic nature;
    - Written Periodic Declaration (WPD) and this form has a periodic summary nature.
- In the case of the customs procedure inward processing, the authorization mentions how the supplementary declaration is submitted. This can be the EPD, but also a separate file (excel) or a bill of discharge.

In Figure XXX the next cottages (special procedures) could be drawn:

- Customs warehouses
- Temporary admission (out of scope)
- End-use (out of scope)
- Inward processing
- Outward processing (out of scope)
- Transit

General

- For the special procedures (except transit) an authorization[65] from the customs authorities shall be required[66]. This person is to be regarded for customs legislation as an economic operator and registered by the so-called EORI-number[67] and (except temporary admission) must be established in the European Union. The person has to provide
    a) the necessary assurance of the proper conduct of the operations (an AEO for customs simplification shall be deemed to fulfill this condition as far this is taken into account in the authorization) and
    b) a guarantee where customs debt or other charges may be incurred[68].

[61] For example medicins
[62] Art 233 (1) IA
[63] Art. 167 (1) UCC
[64] Art. 167 (4) UCC
[65] The authorization customs warehousing is valid without limitation of time. The others are limited. Art. 22 (5) UCC, Art 173 DA
[66] Art. 211 UCC
[67] Art. 5 (5) UCC, Art. 9 (1) UCC
[68] Art. 211 (3) UCC, Art. 5 (31) (32) UCC

c) Another condition is that the customs authorities are able to exercise customs supervision without having to introduce administrative arrangements disproportionate to the economic needs involved[69].

- Customs checks the special procedures mainly administrative. For the following special procedures records must be kept[70]:
    - Customs storage
    - Inward processing
    - Outward processing
    - End-use
    - Temporary admission[71]
- The records shall contain the information and the particulars which enable the customs authorities to supervise the procedure concerned, in particular with regard to identification of the goods placed under that procedure, their customs status and their movements. This is for example[72], see article 178 DA.
- In cases other than the transit procedure and without prejudice to Article 254 UCC, a special procedure shall be discharged
    - when the goods placed under the procedure, or the processed products, are
        - placed under a subsequent customs procedure,
        - have been taken out of the customs territory of the Union, or
    - have been destroyed with no waste remaining, or
    - are abandoned to the State in accordance with Article 199 UCC.
- The transit procedure shall be discharged by the customs authorities when they are in a position to establish, on the basis of a comparison of the data available to the customs office of departure and those available to the customs office of destination, that the procedure has ended correctly[73]. Only the customs procedure customs warehousing the storage period has no limit and so no deadline needs to set for discharge.

Equivalence

In all special procedures so-called equivalent goods may be used instead of the goods placed under the special procedure. Equivalent goods may, depending on the special procedure in which they are used, have the non-Union or Union status. The equivalent goods shall have basically the same eight-digit code of the Combined Nomenclature and the same commercial quality and technical characteristics as the goods they are replacing. This possibility should be specifically defined in the license[74].

Transit

- Transit, the last special procedure, means that non-Union goods may be moved from one point to another within the customs territory of the Union (so-called external transit)[75] or union goods may be moved from one point to another point within the customs territory of the Union and pass through a country or territory outside that customs territory, without any change in their customs status (so-called internal transit)[76].
- For goods placed under the special procedure external transit a simplified procedure is possible and without an authorization. Just having an authorization for a special procedure is

[69] Art. 211 (4) UCC
[70] Art. 214 UCC
[71] Art. 178 (4) DA
[72] Art. 178 (1) DA
[73] Art. 215 (1) UCC
[74] Art. 223 (1) UCC, Art 169 (1) DA
[75] Art. 226 UCC
[76] Art. 227 UCC

enough and in this simplified procedure the transport is covered by the special procedure the goods are placed under before. This applies to the special procedures inward processing, outward processing, temporary admission, end-use and customs warehousing[77].

- Under the special procedure (IP, TA and end-use) placed goods can be transported without further formalities between different places in the Union. It is sufficient that the holder of the authorization prior to the movement of goods this movement lodges in his administration. At any time, it must be clear to the customs authorities - in the framework of supervision – where the goods are. The movement of the goods – transport – doesn't terminate the special procedure. The holder of the authorization referred to this special procedure is also responsible for the goods during transport[78].
- Transport between customs warehouses has three forms[79]:
    - Between different storage facilities designated in the same authorization;
    - From the customs office of placement to the storage facilities;
    - From the storage facilities to the customs office of exit or any customs office indicated in the authorization for a special procedure as referred to in art. 211 UCC.

  For the first two, the movement shall end within 30 days and for the last 100 days after departure. This transport must be included in the records.

[77] Art. 219 UCC, Art. 179 DA, art. 267 IA
[78] Art. 178 (1e) DA
[79] Art. 179 (3) DA

Appendix C. Explanation use transaction codes

The classification

This appendix deals with the application of the transaction code. This is beyond the scope of this research. It only reflects the operation as the author has it in mind. It is certainly not complete.

This survey has been based on a transaction code that is up to three x two positions. In fact, the business transaction, which in this example is limited to one block of two positions, may extend to 3 or 5 (or more) blocks. For example, it may be interesting for business to distinguish between returning goods received and other revenue.

The same applies for other supervisors. Of course, if they are able to use the codes from this research, that is obviously preferred. But they can also extend the classification, but always based on the business classification.

Example: A receipt of customs goods in a customs warehouse:

GR	20	40													

Example: it are returning goods (RG) and business wants to see this distinction for own purposes. In the following example the first two groups are reserved for business. This could thus be standardized but also tailored to the company (this is an item for businesses for further development):

GR	RG	20	40												

Example: NVWA adhere to the customs transaction codes:

GR		20	40												

This way, other supervisors can easily connect to the model.

The data requirements:

The data requirements depend on the transaction code used. As soon as there is a customs declaration (or another supervisor's document) the green part of the conceptual model, the requirements are limited to those data to connect to the supervisor's internal systems. For example:

- Identification goods
- Number of declaration
- Line number of declaration
- Country of declaration
- System of declaration

Other information required by Customs is in the Customs System (IST), which is compared to the data in the administration of the auditee (SOLL), and that information exists in the audit file already. If not, for example in the situation of the EU, the inbound in the customs warehouse. The data requirements are more extensive.

For storage operations, the requested data is also limited to monitor the data required for the audit trail. An important issue in this situation is the number or another identifier that connects an action / production (different transactions). For example the following data

- Identification goods
- Number of mutation (or another identifier)
- Identification of the data that changes
- Changed data (repeating group)
  - <old>
  - <new>

Appendix D. Interview Mr. L. Alewijnse March 15th, 2017

Dit interview heeft tot doel om:

- Vast te stellen waar de white spots zijn in het douanetoezicht;
- Wat een audit file is en de toekomst hiervan;
- Of en zo ja hoe de audit file een toegevoegde waarde heeft voor het douanetoezicht;

De vragenlijst is uitgebreid en bestaat uit een aantal deelgebieden:

A. Auditfile: wat is het (definiëren), wat zijn de ervaringen tot nu toe en wat zijn de huidige ontwikkelingen? Wat zijn de voordelen en nadelen?
B. Douanetoezicht (CCC): algemeen (normale procedure) en specifiek (meer vereenvoudigingen) met de algemene vraag waar mogelijke white spots zijn? Douanetoezicht (UCC): de wijzigingen die plaatsvinden in het toezicht
C. De plaats van de auditfile in het douanetoezicht (controle o.b.v. CAB)
D. Waaraan / uitgangspunten van de auditfile voor de douane en het (mogelijke) bereik van de auditfile.

Vraag 1: Wilt u uzelf voorstellen. Wat is uw achtergrond en wat is uw betrokkenheid de audit files en het douanetoezicht.

Leo Alewijnse is accountant, EDP-auditor en ontwikkelaar van de applicatie GPA. Hij heeft daarmee veel ervaring in de uitvoering van controles maar ook in de elektronische ondersteuning van controles. Verder heeft hij meerdere onderzoeken gedaan waar het bedrijfsleven bij betrokken is geweest en heeft daarmee veel kennis hoe het bedrijfsleven dit onderwerp ziet. Ook is hij betrokken geweest bij de ontwikkeling van SAF-T.

Deelgebied A Auditfile en ontwikkelingen

A1. Wat is in uw eigen woorden een audit file en welke termen zouden minimaal in de definitie voor moeten komen? Kunnen we tot een goede definitie hiervan komen.

Auditfile = audit + file. Het is een bestand met gegevens die door een te controleren partij worden verstrekt aan de controlerende (toezicht) instantie in het kader van de toezichtswerkzaamheden door die instantie op de te controleren partij. (N.B. Kan ook de eigen interne controleafdeling zijn, in het kader van de eigen IB).

A2. In Nederland zijn diverse auditfiles.

- Auditfile Financieel is wel de bekendste en meest gebruikte. Kunt u de achtergrond waarom destijds door de Belastingdienst is gekozen voor het gebruik van deze audit file? Wat is/zijn de succesfactoren van deze audit file? Doen deze redenen nog steeds opgeld?

  Effectiviteit en efficiencywinst voor toezichthouder en voor gecontroleerde. Ook duidelijkheid in definities, te verstrekken informatie, en alle voordelen van standaardiseren spelen mee. Standaardiseer over alle toezichthouders heen en het positieve effect is nog groter.
- Een tweede bekende auditfile is wel de GPA. Kunt u de achtergrond waarom destijds door de Douane is gekozen voor het gebruik van deze audit file? Wat is (of zijn) volgens u de belangrijkste succesfactoren van deze auditfile? Doen deze redenen nog steeds opgeld?

  Vervanging papier door elektronische data, die daarmee beter auditable werden (is dus efficiënt en effectief). Ook overgenomen door bedrijfsleven voor IB. En uiteraard duidelijkheid. Later is AA deel ingekomen, maar was niet uitgangspunt. Belangrijk is ook dat dit de manier was om eisen en wensen van douane te verwoorden.
- De GPA applicatie gaat eruit, laten we daar van uitgaan (we lopen even vooruit). Kan de douane, volgens u, toch doorgaan met de bestaande GPA-file en alleen de applicatie veranderen. Waarom wel of waarom niet (nadelen / voordelen). Anders gevraagd, zijn deze

gegevens nog steeds voldoende om alles uit de audit file te halen voor een controle? Voldoet de data nog aan de eisen van de douane of ontbreken er gegevens?

Beperkte control technische gegevensset, leidt tot minder mogelijkheden dan gewenst. Denk aan mogelijkheden in het kader van "bewaren van gegevens"(AWR)

A3. Tot nu toe zijn er twee belangrijke auditfiles besproken. Het waarom en de succesfactoren (voordelen) zijn bekend.

- Maar wat zijn nu de ervaringen geweest op het gebied van nadelen?

  Initiële kosten totstandkoming en controleerbaarheid leidt tot controle, tot bevindingen en dus tot vragen aan gecontroleerde. Geen gegevens leidt tot niet controleerbaar en dus geen vragen.
- Dit alles overziend, wat is dan uw conclusie over de auditfile in het algemeen en over het verleden (tot op vandaag) dus?

  + In het kader van effectief en efficiënt inzetten van mensen (Douane) en middelen is dit n.m.m. een gewenste ontwikkeling.

A4. Naast nationaal zijn er ook internationale ontwikkelingen. Meerdere landen hebben op eigen initiatief een of meerdere auditfiles ontwikkeld al dan niet gebaseerd op het OECD. Op internationaal gebied zijn er diverse ontwikkelingen, met name ook land overstijgend zoals ISO en OECD.

- U hebt veel ervaring met OECD SAFT. Voor wie was dit bestemd,

  voor taxdepartment, companies, auditfirms
- waarom is dit project destijds opgestart?

  standaardisering van data en analyses
- Wie waren aanwezig (alle stakeholders aanwezig)?

  veel tax, enkele auditfirms, IDEA en de Canadese auditsoftwarebouwer.
- Wat is de kracht van dit product?

  standaard en internationaal
- Is hier ook rekening gehouden met de invalshoeken van bijvoorbeeld de douane en NVWA.

  Nee, bewust is Douane weggelaten
- Zo niet, wat was daarvan de reden?

  Scope binnen tijdsinterval, dat er voor was en achtergrond werkgroepleden.
- Zijn er andere belangrijke pluspunten of minpunten te onderkennen?

  Niet onderhouden en mogelijk te omvangrijk om binnen redelijke termijn te kunnen vervaardigen.
- U weet dat OECD SAFT verschillende versies heeft met ook verschillende implementaties in verschillende landen. Wat is uw idee hierover? Geeft dit iets aan over de waarde van SAFT wanneer er zo verschillend mee om wordt gegaan?

  Het product biedt wel mogelijkheden om af te wijken, maar de landenimplementaties zijn niet goed gegaan, ondanks begeleidende documenten onder verantwoordelijkheid van de OECD (publicatie is niet gedaan!!!!)
- Wat zijn de leerpunten geweest in dit onderzoek/eindproduct wanneer u de kans hebt dit opnieuw te doen?

  Duidelijker hierover afspraken maken en sneller tot een eindproduct komen, zodat landafwijkingen (vanwege tempoverschil) worden ingeperkt.
- ISO is nu dus ook bezig, ook daar bent u ook weer bij betrokken. Wat is er nu anders aan in vergelijking met de OECD?

  Gebruik bestaande producten, uitbouwen daarvan. Consensus is een belangrijk aspect om tot een ISO standaard te komen, maar tevens mogelijk een barrière.
- Hoe ziet u het eindproduct van ISO, bijvoorbeeld een grote auditfile waar diverse afnemers hun eigen data ontvangen of nog steeds veel verschillende auditfiles?

Maakt niet uit, als je maar werkt op basis van de standaard (en modules moeten te linken zijn).

- Ziet u iets in dat een ISO standaard de GPA file vervangt en zo ja waarom / hoe en zo niet, waarom niet?

Ja, doen.

A5. We hebben nu een definitie van een audit file en ook heel veel over het waarom van een audit file. Die voordelen zijn vaak de redenen van het ontstaan en de ontwikkelingen van een audit file. Wanneer we nu naar de OECD en ISO kijken maar ook naar de eigen audit files, voldoen deze dan aan de definitie van audit file zoals gegeven in A1.

Ja.

A6. We weten nu wat een audit file is en welke ontwikkelingen er zijn. Dat die ontwikkelingen er zijn, zegt iets over de mogelijkheden voor een audit file. Dat geldt niet alleen voor controles. Wat zijn voor u mogelijke innovaties die hiermee een push kunnen krijgen?

Meer data-analyse, datamining, process mining, artificial intelligence op data.

A7. Even samenvatten. Het is al bij vorige vragen veelvuldig aan bod gekomen. Maar samenvattend, wat zijn de belangrijke pluspunten voor het gebruik van een audit file voor Douane en Bedrijfsleven (extra)?

Meer inzet elektronische hulpmiddelen in het kader audit = minder mensenwerk en meer mogelijkheden (krenten uit de pap).

Deelgebied B Douanetoezicht algemeen

De douane is een handhavingsdienst en een van de strategische **doelen is 100% toezicht** (als een van de handhavingsinstrumenten) **op de goederenstroom**. Dit toezicht is onder te verdelen in fysiek en administratief toezicht en onder de laatste valt de administratieve controle. In de volgende vragen wordt onderscheid gemaakt tussen de toepassing van het CCC en het UCC, het nu en de toekomst. Ofwel vastgesteld wordt hoe het toezicht zich ontwikkelt.

B1. Wat bedoelt, volgens u, de douane met 100% toezicht op de goederenstroom?

100% onder controle. Dat kan ook zonder fysieke aanwezigheid of fysieke waarneming, weliswaar. Common Risk Management van de EU hier bij halen.

B2. Is, in het algemeen, hiervan nu sprake a) volgens toepassing CCC of b) volgens toepassing in NL of c) volgens het UCC? (Dus is 100% mogelijk toezicht dan mogelijk)

Wanneer je risicogericht (Doet ook de EU al) in de zin inpast WEL, maar dat zet dit dus tegelijk op losse schroeven.

B3. Pushing boundaries (grensverleggend) is u bekend, komt het strategisch doel hier tot uitdrukking? Zo ja, hoe? Zo niet, waar ligt dit aan?

Ja, in beginsel wel, maar het risico zit er in, dat we het vertrouwen dat we hebben in een stroom wel moeten toetsen. De veronderstelde 100% informatiestroom dekt NIET alle risico's af, maar kan wel hoog komen. Dan is de vraag of we het restrisico kunnen kwantificeren en vervolgens accepteren.
Kan de auditfile daar een rol in spelen (dus bij dat beheersen van dat restrisico)? Denk het wel, maar nog steeds geen 100%. Je kunt het risico verkleinen.

B4. Bent u het eens met de opmerking dat het toezicht is gebouwd op de aangiften omdat de ene aangifte door een andere wordt opgevolgd totdat de goederen een bestemming krijgen waar het douanetoezicht eindigt (invoer of verlaten van de gemeenschap in het algemeen)? Zo niet, kunt u dit summier toelichten?

Nee, er zitten huisjes tussen.
Het DWU kent als uitgangspunt – zonder dat dat expliciet is beschreven – dat Douane registreert iedere plaatsing onder een regeling en daarvan wordt afgeschreven (reconciliation) bij vertrek uit die regeling. Douane houdt toezicht zo op de "voorraad" in de huisjes (1) en op afstemming van de pijltjes (2). En dan sluit het en is de wetgeving ineens een stuk begrijpelijker.

Het algemene douanetoezicht is nu afgerond. Of heeft u nog aanvullingen op het gebied van strategische doelen die van belang zijn voor een administratieve controle?

Nee

We gaan nu over naar het huisjesmodel. Dit is u bekend, dus een toelichting is niet vereist. Ook dit gaan we langzaam opbouwen in moeilijkheid. U bent de man van het huisjesmodel of potjesmodel (anderen noemen het kamertjes waarbij de goederen binnekomen via de voordeur en weer verlaat via de achterdeur). Het toezicht zoals hiervoor besproken kan hierin heel mooi worden toegelicht. Nu kennen we over het algemeen twee procedures:
- de normale procedure en
- andere.

B5. (Let op toepassing CCC) Wanneer we uw model toepassen op de normale procedure, waar (als ze er zijn) liggen dan de gebreken in het toezicht volgens u? Welke douanesystemen worden er gebruikt? Dekken deze systemen het douanetoezicht (boekhoudsysteem)? Wat zijn de white spots?

Gaten zijn er: beheersing huisjes (sluitende voorraad) en de gebrekkig afstemmogelijkheden rondom de pijltjes, nl. is wat er vertrekt gelijk aan wat aankomt aan de punt-kant van het pijltje, dus gelijk meeteenheid (een container is niet het zelfde als 20 dozen). Dit geldt voor alle douaneregelingen.

Om dit in banen te leiden – en waarbij het gaat om een algemeen beeld - gebruiken we hiervoor een situatie zoals weergegeven in onderstaand figuur (see Figure 12).

Bij ieder pijltje worden gegevens "omgekat". Dat is een probleem v.w.b. juistheid en volledigheid.

1. Tijdelijke opslag	DMF …..NFD	Risico analyse (vooraf), blokkadesysteem, Fysiek toezicht (aanwezig)
2, 3c In het vrije verkeer brengen	AGS	Risico analyse, reponsetijd, op aangifte(artikel)niveau. Vooral fysiek toezicht of controle op bescheiden.
3a Transit	NCTS	Risico analyse, responsetijd, en vooral fysiek toezicht
3b, 6 Plaatsing entrepot	AGS IM7	Risico analyse, reponsetijd, op aangifte(artikel)niveau. Vooral fysiek toezicht of controle op bescheiden.
Entrepot (C of E)	vergunninghouder	Administratief toezicht
4a + 4b plaatsing AVS	AGS…	Risico analyse, reponsetijd, op aangifte(artikel)niveau. Vooral fysiek toezicht of controle op bescheiden.
AVS	vergunninghouder	Aanzuiveringsrekening en administratief toezicht
5. AGP	AGS..	Risico analyse, reponsetijd, op aangifte(artikel)niveau. Vooral fysiek toezicht of controle op bescheiden.
6. DIN	NVT	NVT

B6. (Let op toepassing CCC) We gaan dit figuur langzaam ingewikkelder maken. Bij elk deelvraag hierna spelen de vragen welk douanesysteem, wat zijn de gevolgen voor het toezicht en ontstaat er een white spot (see Figure 12)?

- vergunning TG-TA , - LCP plaatsing entrepot, - LCP plaatsing entrepot met DIN en DEN, - douane entrepot E/C, - LCP plaatsing vrije verkeer (aanv. aangifte)

Nagaan of: de vereenvoudigde plaatsing alleen – bij uitsluiting dus van anderen – mag worden gedaan door de vergunninghouder van de douaneregeling???!!!!

1. Tijdelijke opslag	DMF …..NFD	Verandert niets (behalve DIN / DEN)
2a, 2b In het vrije verkeer brengen	GPA	Vooral adm. toezicht
3a, 3b Transit	NCTS (TA + TG)	Risico analyse, responsetijd, en vooral fysiek toezicht
4a, 4b en 4c Plaatsing entrepot (evt goederen nog op terminal)6	Vergunninghouder GPA	Vooral adm. toezicht.
Entrepot (C of E)	Vergunninghouder GPA	Vooral adm. toezicht.
5a + 5b plaatsing AVS	Vergunninghouder GPA	Vooral adm. toezicht
AVS	Verguninghouder GPA	Aanzuiveringsafrekening en adm. toezicht
6. AGP	AGS..	Risico analyse, reponsetijd, op aangifte(artikel)niveau. Vooral fysiek toezicht of controle op bescheiden.
AGP	GPA	Vooral adm. toezicht

B7. We stappen over naar het UCC. Wat zijn voor u de belangrijkste verschillen in de normale procedure en kunt u dat plaatsen in de tekening van B5?

Niet of nauwelijks verschillen.

B8. Wat zijn voor u de belangrijkste verschillen voor de overgang van LCP naar EIDR en kunt u dat plaatsen in de tekening van B6.

Aanbrengen??? Ook niet.

B9. Samenvattend, wat zijn de effecten van B7 en B8 voor zgn. white spots?

Nagenoeg gelijk gebleven??!! De grote lijnen in ieder geval gelijk. Details niet belangrijk.

B10. Een van de verschillen is dat het inschrijving is in de administratie van de aangever. Kunt u verduidelijken wat hiervan de gevolgen zijn voor de tekening in 5b? In welke mate denkt u dat dit voorkomt in Nederland? *No consequenties. Vergunning te verlenen aan…….??????*

B11. Tot nu toe hebben we een goed beeld over het toezicht en white spots. In Nederland hebben we echter de GPA. Als we dit toepassen op de white spots, op welke white spots heeft dit dan betrekking?

Rode huisjes, maar entrepots moet vrijwel geheel rood zijn.

B12. Nu lijkt het er sterk op dat Nederland de GPA uitfaseert. Dit betekent wellicht een terugval in het toezicht. Kunt u verduidelijken wat de gevolgen hiervan zijn voor de douane (efficiency, effectiviteit etc.) en mogelijk het bedrijfsleven?

Geen zicht op huisjes en wat daar in gebeurt. Dus geen zicht op de volledigheid van de transacties. Let op: de auditfile speelt dus een belangrijke rol in het 100% onder toezicht uitgangspunt. Zonder auditfile op de huisjes, geen zicht daar op en dus geen 100% onder toezicht: weg uitgangspunt.

B13. Bent u het eens met de opmerking dat tussen EIDR en LCP wetstechnisch geen tot weinig verschil bestaat? *Ja*

Eisen zijn hetzelfde, wel of geen kennisgeving, administratieve eisen etc. Deze groep zegt vooral dat Nederland meer strikt de wetgeving moet toepassen in vergelijking met het verleden (bijvoorbeeld doelend op in bezit zijn van de vereiste data op moment van aangifte), dit even buiten dat het nu om de aangever gaat.

Deelgebied C Controle algemeen

C1. Kunt u toelichten waar, in het algemeen, de toegevoegde waarde ligt van de audit file in de controle? (CAB)

In alle fasen: bedrijfsverkenning, controle op volledigheid (voorwaardelijke controles) en juistheid.

C2. De toegevoegde waarde van de auditfile in het algemeen ligt in het tweede deel van het transactiemodel. Bij de Douane hebben veel klanten ook een AEO-vergunning. Bent u het eens dat de AEO vergunning vooral ziet op het eerste deel van het transactiemodel. Kunt u dit toelichten?

Ja, wel eens, maar ook met een 5,5 "krijg" je een AEO-vergunning.
De auditfile zou bij de goeden (cijfer > 7,5) als "monitoring" instrument kunnen dienen. Waarbij de uitkomsten van die monitoring (door bedrijf)

C3. Als C2 ja is, is er dan sprake van dat er wordt voldaan aan de volledigheid van de auditfile? Kan de uitkomst van controles op AEO vergunningen (bijv. veldtoets) als voldoende worden gekwalificeerd om een audit file te gebruiken en daarmee de lasten voor het bedrijfsleven te verminderen.

Niet in alle gevallen.

En welke aspecten moeten dan minimaal vooraf worden gecontroleerd?

IO, Klantbeeld, kwaliteitsbeeld en risicobeeld in te vullen, wellicht deels met een auditfile.

C4. Wat zijn de mogelijkheden en gevolgen (voor- en nadelen) van een audit file voor Douane en Bedrijfsleven (zonder in te gaan op de inhoud van die audit file)?

Kosten, meer diepgaande controlemogelijkheden. Zie co creatie.

C5. Kunt u aangeven wanneer de audit file er niet is of komt wat dit voor gevolgen heeft voor het proces toezicht door de douane?

Back to the stone-age.

Deelgebied D De audit file

D1. Wat zijn de redenen waarom de huidige auditfile GPA niet kan vervolgen (is eerder al gevraagd)

Leo en W10, en dataset is out-of-date.

D2. Om een audit file te doen slagen zijn er zeker minimale randvoorwaarden. Deels zullen die al besproken zijn hierboven. Maar wat zijn de drie belangrijkste randvoorwaarden?

Standaard, internationaal, standaard analyses bruikbaar door een ieder, inclusief IB.

D3. Vanuit D2 is een van de punten de duiding van de (douane technische) goederenstromen. Binnen de GPA is hier de transactiecode gebruikt. De auditfile terminal past een andere methode voor.

Nee, alleen de GPA is de transactiecode de weerslag van VAN-NAAR, maar dat is lang niet bij alle movements nodig. Matrix is uitgangspunt geweest.

Is een model op basis van de douaneregeling het meest voor de hand liggende omdat hiermee de douane technische transactie als basis dient?

Ja, want die matrix is de GEHELE wereldbol en daar kunnen we nog steeds niet vanaf.

Appendix E. Questionnaire

Inleiding: Het gaat om hoe we eenvoudig transacties kunnen identificeren.

In model (figuur 26 thesis) zijn coderingen van alle goederenbewegingen die relevant zijn voor de douane weergegeven. Dus ook goederen die *niet* onder douanetoezicht zijn. Uitgangspunt van de douane is ten slotte 100% van de goederen onder douanetoezicht (administratief of fysiek).

De grote vraag aan u is: Kunnen we daaraan voldoen met dit model? Deze vraag geldt voor (maar komt later terug)

a) De systematiek
b) De inhoud (ontbreken er belangrijke bewegingen)

Maar eerst een aantal afzonderlijke vragen die worden gebruikt om de validiteit van de reacties te beoordelen:

Naam										
Functie										
Ben jij bekent met de systematiek OECD SAF-t*	1	2	3	4	5	6	7	8	**9**	10
Ben jij bekent met de systematiek ISO ADCS*	1	2	3	4	5	6	7	8	**9**	10
Ben jij bekent met de movement types SAP	1	2	3	4	5	6	**7**	8	9	10
Ben jij bekent met de systematiek transactiecode GPA	1	2	3	4	5	6	7	8	**9**	10

* Kleur het vakje wat voor jou van toepassing is (0 = geheel niet en 10 is geheel wel)

De beantwoording van bovenstaande vragen heeft geen enkele invloed op de volgende vragen.

Achtergrond:

Het model gaat uit van een simpele driedeling: ontvangst (GR), verzending (GS) en alle tussenliggende activiteiten (issues, GI). De reikwijdte van deze driedeling is breder dan alleen het fysieke pand. De reikwijdte is *gelijk aan de locaties in de vergunning* (bijv. ook de terminals als dat de situatie is – DEN). De driedeling GR, GI en GS kan uitgebreid worden door het bedrijf zelf, dus anders gezegd dit is geen beperking.

Bij ontvangst moet gekozen worden voor een 'regeling' dat van toepassing is op de goederen. Die regeling bestaat uit een tweecijferige code en de ophoging van die code is gebaseerd op de meest logische goederenbeweging (van temporary storage 10 naar vrije goederen 95). Bij een goederenontvangst (alsook bij de goederenverzending) bestaat de douane deel van de code altijd uit twee tweecijferige codes, conform de GPA gedachte dus *van- naar.* Vervolgens kan er diverse handelingen plaatsvinden. In het model (figuur 26) is dat blauw weergegeven. De betekenis van de afkortingen zijn in tabel 12 van de thesis opgenomen. Hier geldt niet de van-naar, maar de *van toepassing zijnde procedure en de code voor de handeling*. Als één na laatste geldt de verzending. Ook dan moet er weer een keuze worden gemaakt in welke regeling van toepassing is. Dit is te vergelijken met de ontvangst. Als laatste komt de mogelijkheid dat er geen uitslag plaatsvindt maar wel een verandering van regeling. Dit staat in het midden van het model. Dit zijn zogenaamde transfers. Ook hiervan een voorbeeld waar wel weer *van-naar* van toepassing is.

Voorbeelden uit tabel 16 van de thesis bijgevoegd.

Verder is over dit model te schrijven dat het groene deel overeenkomt met het doen van aangiften. In die gevallen is er altijd sprake van 1 transactie (een af- en opboeking). Ook geldt in deze situatie

dat de gevraagde dataset beperkt is tot die gegevens om een relatie te leggen met het interne douane systeem (bijv. AGS) en indien niet mogelijk (inschrijving in de administratie van de aangever voor inslag in entrepot) dan zal dat uitgebreider mogelijk zijn. Voor het blauwe deel zijn dus geen aangiften en ook daarvan is de dataset beperkt tot het hoognodige. Maar, de dataset zelf staat buiten dit onderzoek. Hiermee is voldoend achtergrond gegeven op het model. Bij onduidelijkheid, bel of mail me en ik zal dezelfde dag nog reageren. (Een toelichting over het volledige gebruik is achterin opgenomen.)

Dan nu de vragen ter validatie van het model:

1. De codering die nu gebruikt wordt voor de douaneregelingen is gebaseerd op het logische proces van binnenkomst (05 of 10) naar uiteindelijk in het vrije verkeer brengen (95). Uiteraard staan ook dergelijke codes in vak 37 van het enig document (Bijv. 51 staat voor actieve veredeling en 71 staat voor Plaatsing onder douane-entrepot). Is het volgen van de systematiek van bijv. AGS een beter voorstel dan het huidige, waarbij wel in ogenschouw moet worden genomen dat het product bestemd is voor wereldwijd gebruik ipv nationaal of EU-gebruik)?

   Reactie 1: Ja, bredere codering zorgt ervoor dat ook transacties met niet douane goederen gevolgd kan worden en sluit beter aan bij de handelingen van bedrijven.
   Reactie 2: Volgen van de AGS codes heeft mijn voorkeur. Bij de GPA transactiecodes wordt vaak gezegd door collega's waarom andere codes? Ik zelf vind ook uniformiteit erg belangrijk. Dit geeft eenheid/duidelijkheid echter tot welke reikwijdte qua landen. Met product bedoel je denk ik het model van de codering? De AGS codes zijn niet wereldwijd inderdaad. Ik weet niet of het haalbaar is om het model wereldwijd te gebruiken. Lijkt mij erg lastig om dat te realiseren
   Reactie 3: Voorkeur voor het volgen van de GPA systematiek, vanuit verleden is bewezen dat deze de voor de Douane van belang zijnde logistieke bewegingen afdekt
   Reactie4: Is er op EU niveau geen set aan coderingen? Al dan niet geleend van een ISO tabel. Toen we er in de negentiger jaren mee begonnen was het er misschien niet, maar nu we ook hard meegewerkt hebben aan WCO datamodel 3.xx is dit misschien ook meegenomen.
   Als niet dan heb je al een sterk advies voor de EU om dit minimaal op EU niveau te gaan doen, zodat de koppeling tussen warehousing (saf/iso-inventory) en douane processen (wco datamodel en EU wetgeving) gekoppeld worden/zijn.

2. De benaming die nu gebruikt wordt voor de code is 'transactiecode'. Echter deze term wordt ook gebruikt voor de invulling van een code voor de waardebepaling. Is het gebruik van de transactiecode te verwarrend en zo ja, heb jij een voorstel?

   Reactie 1: Nee, wel dient duidelijk te worden uitgelegd hoe de transactiecode gebruikt wordt. Het van naar en type transactie moet wel duidelijk zijn en uniform gebruikt worden.
   Reactie 2: Til het naar internationaal niveau: als die er nog niet is bij Cefact/WCO/VN dan voorstellen. Te gek dat we de verworvenheden van de transactiecode nog niet op EU niveau hebben weten te 'verkopen'.
   Reactie3: Ook al wordt de benaming "transactiecode" vaker en in meerdere situaties gebruikt, ben ik van mening dat de benaming "transactiecode" hier goed is. Met name omdat men dan over het algemeen gelijk een idee heeft op niveau de vastlegging plaats vindt. Daarnaast wordt de benaming "transactiecode" hier in de context van het model gebruikt dus

is dit zeker niet verwarrend.
Reactie 4: Ik vind transactiecode een goede duidelijke benaming. Als ik een alternatiefvoorstel mag noemen voor transactiecode : movementcode of activitycode Wanneer het transactiecode blijft : Idee om dan de naam van de code voor de waardebepaling aan te passen? Transactiewaardecode ofzo ;).

3. Zoals aangegeven is met de codering van-naar de gehele wereld in kaart gebracht. Echter heb jij nog iets dat ontbreekt (let wel: dit is slechts de douanewereld muv van AGP/IVV e.d.)? Of anders gezegd: denk jij dat het gehaald wordt dat de codes alle bewegingen in kaart kunnen brengen?

Reactie 1: Nee, ik verwacht dat wanneer je de codes gaat toepassen bij specifieke bedrijven dat je transacties gaat waarnemen die niet geheel aansluiten bij deze coderingen. Denk bijvoorbeeld aan bestellingen waarbij economisch eigendom wordt verkregen, geen fysieke stroom wel eigendomsoverdracht. Je zou de codes ook niet moeten beperken tot douane codes, maar toepasbaar laten zijn op goederentransacties in bredere zin.
Reactie 2: Vind ik lastig te beantwoorden. Er kunnen in de loop van de tijd m.i. altijd nieuwe activiteiten/varianten ontstaan die nu nog niet bestaan. Mogelijkheid is dan de definitie van de bestaande codes aan te passen dat het daaronder kan vallen?
Reactie 3: Ik denk dat nagenoeg alle bewegingen zijn afgedekt en in ieder geval voldoende voor het conceptuele model. Wel nog een opmerking over het tweemaal gebruiken van dezelfde code. Is het nodig om deze code twee maal te gebruiken of moet dit onderscheidt niet worden opgenomen bij de beschrijving van de code?
Reactie 4: -

4. In tabel 1 zijn alle voorvallen benoemd of zie jij nog handelingen die ontbreken of aangepast moeten worden?

Reactie 1: Ja, de volgende worden o.a. door mij gemist:
- *wijziging van data-elementen (bijvoorbeeld wijziging goederencode of blokkade)*
- *statisch wijziging zoals wel/geen blokkade toevoegen van documenten*
- *handelingen met containers (stuffen / strippen)*
- *herwaarderingen*
- *wijziging accijnscategorie*
- *equivalentie verkeer*

Ik verwacht dat meer codes worden gemist en dat deze pas bij het gebruik duidelijk gaan worden.
Reactie 2: Ik zou t.b.v. het overzicht (en mogelijk ook voor het bepalen van de volledigheid) een de handelingen anders presenteren. Dit wil ik mondeling graag toelichten. Dit is mondeling toegelicht. De handelingen zouden gegroepeerd kunnen worden.
Reactie 3: ? Vind ik ook lastig te beantwoorden. Er kunnen in de loop van de tijd m.i. altijd nieuwe handelingen plaats vinden die nu nog niet bestaan
Reactie 4: -

5. In principe komen de verschillende (douane)statussen naar voren in de codering. (Goederen die onder actieve veredeling worden gebracht krijgen bijvoorbeeld de code 50). Mijn vraag is of dit afdoende zichtbaar wordt en zo niet, heb jij een idee / voorstel?

Reactie 1: In mijn optiek is actieve veredeling en "Inward processing" niet hetzelfde. Ook "Outward processing" kan actieve veredeling zijn. Mij lijkt derhalve het plaatsen onder een douane regeling een relevante transactie, die afzonderlijk moet worden gebruikt.
Reactie 2: Ik vind zelf als het benadrukt wordt dat dit extra duidelijkheid geeft. Idee : Toevoeging van kleur in de code? Bijv. code Unie goederen is groen (of een andere kleur) en de niet Unie goederen zwart. Oke, kan in software bij verwerking (ontvangst).
Reactie 3: Afdoende zichtbaar
Reactie 4: -

6. Aangegeven is dat aan de codes, in een latere fase, de vereiste data wordt gekoppeld. Denk jij dat het hiermee te bereiken is?

   Reactie 1: In mijn optiek zijn dan 2 zaken vereist. Ten eerst dat er op partijniveau de transacties zijn te volgen en dat er gewerkt wordt met historische stamdata. Ook de wijzigingen moeten worden bijgehouden.
   Reactie 2: Ik denk dat dit mogelijk is. Mogelijk dat dan verdere standaardisatie nodig is.
   Reactie 3: Ik denk dat we dat moeten gaan doen met privaat-publieke inspanning op eu/wco niveau. Daarmee creëer je duidelijkheid voor alle betrokkenen. Soort taxonomie ontwikkelen of aansluiten bij TDED trade data elements..
   Reactie 4: -

7. Over het algemeen als je naar de modellen kijkt:
   a) ontbreekt er data (wellicht al in andere vraag ook behandeld)
   Reactie 1: Ja, maar welke data wordt gemist is moeilijk te bepalen. Dat wordt denk ik pas duidelijk als je het datamodel gaat gebruiken bij diverse bedrijven.
   Reactie 2: Niet direct
   Reactie 3: Nee
   Reactie 4: -
   b) is er data overbodig
   Reactie 1: Ja, het is de vraag of je bepaalde codes niet moet samenvoegen. Het werken met type en subtype kan mogelijk oplossingen geven.
   Reactie 2: Nee
   Reactie 3: Nee
   Reactie 4: -
   c) hoe denk je over de systematiek
   Reactie 1: Goed, duidelijk model. Wel te eenzijdig vanuit douane perspectief. Bij een bredere aanvliegroute kan het model als een standaard voor bedrijven en toezichthouders worden uitgewerkt.
   Reactie 2: Zou tot een werkbaar systeem kunnen leiden
   Reactie 3: Lastig is dat bij de ontvangst en de verzending het van/naar principe geldt maar bij issues niet. Ik weet helaas geen oplossing maar het maakt het wel ingewikkeld en ook voor de vaststelling van opeenvolging van regelingen weet ik niet of dit kan worden vastgesteld.
   Reactie 4: -

8.	Is het conceptueel model specifiek genoeg (volledigheid is geen criterium)	1	2	3	4	5	6	7	8	9	10
9.	Is het conceptueel model acceptabel als basis voor het uitvoeren van audits	1	2	3	4	5	6	7	8	9	10
10.	Is het conceptueel model realistisch genoeg om als basis te dienen voor verdere ontwikkeling bij audit files	1	2	3	4	5	6	7	8	9	10
11.	Is het conceptueel model volgens jouw voldoende uitbreidbaar	1	2	3	4	5	6	7	8	9	10

* Kleur het vakje wat voor jou van toepassing is (0 = geheel niet en 10 is geheel wel)

12. Over het algemeen: wat is jouw advies? Geen bezwaar / opmerkingen / voldoet

Reactie 1: Het model voldoet m.i echter het is zeer complex om te komen tot een universeel model dat voor alle bedrijven gebruikt kan worden. Binnen het model ben ik wel voorstander van het gebruik van transactie subtype zodat je een nadere onderverdeling kunt maken.
Reactie 2: Voor het doel voldoende
Reactie 3 en 4: -

13. Wat wil je verder nog kwijt?

Reactie 1: Een model allen voor de Douane is lastig te realiseren, tracht het model breder te trekken.

14. Wat betekent dit model / aanpak voor het bedrijf volgens jou? Waar zullen zij vooral tegen aanlopen?
Het koppelen van movements aan transactiecodes is mi zeer complex en ik verwacht dat bedrijven hier tegen problemen gaan aanlopen. Het koppelen van de juiste data aan de transactiecodes is ook complex.

Het RGS is in 2012 gebracht als een idee.
Op basis daarvan is aan privaat-publieke partijen gevraagd wat ze er van vonden en of ze hun kennis en ervaring en mogelijk commerciële voorspong wilden delen.
Als je dat voor elkaar hebt kost het nog veel energie om iedereen vanuit zijn eigen verdienmodel (douane ook!) mee te laten doen, maar het zal het zeker waard zijn.

Appendix F. Interview Mr. L. Alewijnse June 28th, 2017

In this interview the main goal concerns the validation of the conceptual model for customs transaction codes Figure 26.

The questions are: Is the approach of the process from problem identification to the conceptual model for customs transaction codes correct. This from the perspectives customs supervision (legal, professional), auditing (profession technical) and standardization. Further is the model complete, or is data missing or unnecessary. And if the model is complete, is the white spot (customs warehouse) also filled in.

Finally, the validation ends with a meeting with Mr. Alewijnse. Mr. Alewijnse is a specialist in the fields of standardization, auditing, and customs supervision. In the past, he was involved in the development of the SAF-T of the OECD. Also, he participates in the development of the ADCS from the ISO. Further, he is the developer of the application GeautomatiseerdePeriodieke Aangifte and the Electronic Periodic Declaration.

He agreed with the approach of the problem and the end-product the conceptual model for customs transaction codes. The conceptual model is technical and legally correct. Also, the conceptual model for the goods movements (physical movements) is complete. For the handlings (administrative movements) with the goods, businesses should be consulted. Further, he recommends to set up a proper documentation of the conceptual model and to outsource it to a maintenance group.

The conceptual model for customs transaction codes is not the main result of this research. The main result concerns standardization. Standardization as a first step, followed by harmonization. As Mr. Alewijnse claims there is, at this moment, a need for standardization. The NVWA has expressed this need. Also, software vendors and businesses express this need, considering, for example, the demand for SAF-T. Not only in the Netherlands this development is recognized. Worldwide, Mr. Alewijnse sees an increase of the implementations of SAF-T. Precisely because that need is clear, and implementation (of such a standard) is not possible by a single stakeholder, it is time to introduce this to the International Organization for Standardization. The International Organization for Standardization can bring the different stakeholders together and develop a standard that will also reveal harmonization of (customs) transaction codes. M. Alewijnse advises starting to standardize with the smallest common part and slowly grow to the greatest common divisor.

During this interview, it becomes clear that the audit file does not have eternal life. Standardization, on the other hand, seems to have that more. This becomes clear in Figure 28. The figure shows the development of (customs) audit in the past 20 years and possible future according to Mr. Alewijnse and the author.

See FIGURE 28

First Dutch customs checked data-oriented. For some years ago, the system based approach, a term from accountancy, was taken over by the Dutch customs and translated into System Based Auditing. This because customs could not handle the volume of data. However, the customs also had to do something with data, and found the solution in sampling.

This was the case until Customs manages the volume of data. Also, data analysis (including process mining) became popular. From that moment on, all data was available again in the tool (own computer). Then the tooling became a problem, the volume of data increased, and the interpretation

of the data differed per company. To solve this, standards are required, standards for necessary data and standard data analysis. The transition of data analysis and standards is the period in which Dutch Customs is now (red in Figure 28).

For the future, and the standards are arranged, the question arises why this is not in the core packages (of the companies). If so, it allows for the development of continuous monitoring and auditing. A further step would then be (logical) to standardize the visualization of continuous monitoring and auditing, known as standardized shared dashboards. This dashboard applies for the whole field of customs supervision and other supervisors. In short, the audit shifts from post audits to actual (continuous) audits. Standards, like this conceptual model for customs transaction codes, are necessary to continue this development.

[i] Mr L. Alewijnse is IT-auditor and (certified) Accountant and employed at the Dutch Customs (are Roosendaal). He is the founder of the Electronic Periodic Declaration (EPD) and developer of the customs application GPA. He also has been involved in the development of the standard SAF-T of the OECD and is now engaged in the development of the ISO-ADC. He has a lot of experience in supporting companies with implementing EPD and in post audits.