The fallback procedure of Dutch Customs, risks and opportunities.

One size fits none.

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Acknowledgment

Four years ago I asked myself what my future should be and what would make me happy. An important outcome of my question was following a study to broaden my view and to investigate whether the role of manager still suited my personality. I then made the choice to follow the Master's in Custom and Supply Chain Compliance. This brought me to a completely different world. My substantive knowledge of all pillars that are discussed in this master was nil.

Thanks to the possibilities that the customs have offered me, I have been able to acquire a lot of knowledge in a short period of time. Many thanks go to the customs regions Customs Schiphol Passengers for offering the possibilities and to the Amsterdam Customs region, the (Business Contact Point) in particular, for providing guidance on the substantive themes. This allowed me to apply the theory of this Master course in practice. In the last phase of my graduation I worked a lot with Elliot Donata and Dick Romp from Customs in the werkgroep inventarisatie knelpunten noodprocedure (working group inventory bottlenecks fallback procedure) project. Here I was already able to share my vision and findings that I had found in the graduation process. Because this ran parallel, some recommendations from my thesis have been adopted. These may be implemented in due course.

Due to the corona period, a lot of flexibility was required from the organization of this process. Suddenly we had to follow the lessons online and a new dynamic was created. My compliments go to the people who made all this possible. My supervisors, Frank Heijmann (Customs Expert), and Joris Hulstijn (University of Luxembourg), during my graduation process deserve credit for keeping my focus sharp to work towards my goal and for all the substantive advice to deliver this product.

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This education would not have been possible at all with the support of my family. They also had to make the necessary sacrifices when I was busy with the course and didn't have much time to spend with them. So time management was also crucial for the home situation.

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Executive summary

Economic operators have to deal with customs formalities when transporting goods across borders. The Union Customs Code has been drawn up by the European Commission, which includes relevant legal articles. This also applies to the regulations to communicate electronically about cross-border transactions. This development will be further expanded in the coming years with more systems and applications prescribed by the European Commission.

Dutch Customs has also implemented these regulations in various systems, including the AGS declaration system. Agreements have been made with the umbrella organizations that represent the economic operators for the availability of this application. In recent years, the system has become more unstable and no longer meets the minimum availability. A manual fallback procedure has been set up for this that can be used temporarily.

This manual procedure has an impact on the organization of customs and the supply chain due to, for example, extra staffing, delays in the supply chain and breach of compliance. In addition, the number of declaration rules has increased in recent years and will continue to grow with the forthcoming introduction of Douane Management system (DMS).

In this thesis, the current manual fallback procedure is investigated according to the following research question:

By what method can the flow of goods and the logistics process be hindered as little as possible within regulatory supervision and compliance in the event of a malfunction/breakdown of digital communication with the customs?

The 3 sub questions have been formulated to contribute to answering the research question:

- Can a disruption/failure of the customs systems be remedied effectively and efficiently by using the current fallback procedure?
- Can the submitting parties be categorized in a period of disruption/failure, with specific handling for each category?
- Are there procedures within other Member States and/or industries that are best practices for the Dutch customs in the event of disruption/failure?

In order to answer these questions, different research methods have been used. First, research was done into relevant literature and documents. The focus here has been on the enforcement strategies and future visions of them in order to be able to draw a conclusion that is also appropriate for these visions. The basis of these strategies is the legislation that determines the outcome. To answer this practical case, semi-structured interviews were held with internal and external stakeholders. Questions were asked about the operation of the manual fallback procedure, the legal basis, the consequences for operations and communication. For further substantiation of the conclusions and recommendations, an impact analysis and data analysis have been performed on various data sets, with an emphasis on the duration of the disruptions, the number of reports in this process and the personnel consequences.

From this literature, interviews and data analysis, conclusions and recommendations have been made for the short and long term that answer the research question and sub questions. The answer to the main question is to find the solution (artifact) in a redundancy solution for the current AGS and future DMS system. The arguments for these choices are the impact on operations, finance and compliance for both customs and economic operator. Due to the high requirements and many developments in the IT field, partly prompted by the European Commission, this is a long-term solution. That is why recommendations have also been included that can be realized in the short term and that partly answer the research question. It is a contribution (artifact) but not the desired solution and for that reason more of an intermediate solution before the structural solution

is realized. This solution is aimed at AEO permit holders[1] and is a derivative of the Pushing Boundaries vision[2] of the Dutch customs and best practices of other countries for the regular process. In the fallback procedure, the AEO permit holders receive a direct and automatic answer via a specially equipped e-mail box. This declaration must be submitted with an email address that meets the following requirements numberpermitAEO@domainnamecompany.nl. For the other economic operators, the commodity codes in the fallback determine a time block in which the declaration may be submitted.

To make the fallback function better, there are other recommendations for customs that include:

- Setting up a crisis organization.
- Drafting and implementing new work instructions.
- Ensuring completion of the fallback procedure/ feedback for economic operator.
- EBU (the unity of policy and implementation)
- Sign up to the NHD's mailing.

The economic operators are asked to exercise restraint when using the fallback procedure and to use it only for urgent shipments and perishable goods. In addition, the economic operator will have to improve the returns so that they are submitted without errors and complete with underlying documents.

[1] The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016 page 85-86.
[2] Dutch customs, 2014, enforcement vision Pushing Boundaries.

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Abbreviations

AB	Aangifte Behandeling
AEO	Authorised Economic Operator
AEOC	AEO – customs simplifications
AEOS	AEO – Security and Safety
CORE	Consistently Optimised Resilient Ecosystem project
DA	Commission Delegated Regulation (EU) 2015/2446
DCP	Douane Centrale Processen
DLTC	Douane Landelijk Tactisch Centrum
DMS	Douane Management Systeem
DNP	Digitale Noodprocedure
DRH	Douane Rotterdam Haven
EBU	Eenheid van Beleid en Uitvoering
ECS	Export Control System
EiDR	Entry into the Declarant's Records
EMCS	Excise Movement and Control System
ENS	Entry Summary Declaration
EVO	Eigen Vervoerders Organisatie
FENEX	De Nederlandse organisatie voor expeditie en logistiek
GPA	Geautomatiseerde Periodieke Aangifte
HHB	Handhavingsbeleid
IA	Commission Implementing Regulation (EU) 2015/2447
IIAA	Inschrijving in de aangevers administratie
KLM	Koninklijke Luchtvaartmaatschappij
MRN	Movement Reference Number
NCTS	New Computerized Transit System
NHD	Nationale Helpdesk
NVWA	Nederlandse Voedsel en Warenautoriteit
ODB	Overleg Douane Bedrijfsleven
PLATO	Plannen en Toedelen
SLA’s	Service Level Agreements

TG&R	Toezicht Goederen & Risico
TLN	Transport en Logistiek Nederland
UCC	Regulation (EU) No 952/2013 of the European Parliament and of the council
WCO	World Customs Organization

1 Introduction

The internationalization and globalization of trade requires a well-coordinated and organized supply chain to add value to the products and full fill the customer's request. The supply chain is a pre-tuned process that is sensitive to disruptions. Disruption of the supply chain can be caused by various reasons as delays in transport, delay in supply of goods, insufficient stock management and border controls of government services have consequences for the implementation of the supply chain. Any breach or intervention leads to increased costs and additional time for supply chain execution. Global supply chains require highly coordinated flow of goods, services, information and cash within and across national boundaries[3]. The effect of any delay in the chain may have a snowball effect[4] or ripple effect[5]. The supply chain includes in addition to the manufacturers and suppliers other parties involved in this process. The parties can be retailers, warehouses and transporters.[6] A supply chain must have strategic fit based on the three layers in the decision making hierarchy[7] (fig. 1.1). The first layer is about which positioning of the factory and warehouses to optimize the flow of goods from the suppliers to the factory and the positioning of the warehouses in relation to the market to be served. The second layer is about the transport from the factory to a consolidation centre. From that centre the goods must be transported from the port of departure to the port of arrival and in the end to a warehouse. The locations are determined on the basis of criteria such as cost price and the greatest added value for the customer. The third layer is about the inland transport network. There are options as transport by train, barge, road and combinations of these.

Cross-border traffic in relation to customs handling is also an important part of this decision-making hierarchy. The cooperation with customs, the speed of settlement and compliance largely can determine the choice of countries to be included in the supply chain. Dutch Customs strives for a facilitating role, as much as possible, in which disruption of the logistical process and the administrative burden remain limited.

If goods are imported, exported or transported in the Netherlands, then the regulations drawn up in the EU and the local regulations of the Netherlands must be complied with. These laws and regulations also apply to other customs operations. In the Netherlands use is currently made of the Aangiftesysteem (AGS) for import and export declarations. This system will be replaced by the Douane Management Systeem (DMS) in 2023 at the latest. . The implementation of DMS must be completed no later than October 26, 2023[8]. This immediately phases out AGS. The focus of this thesis is on the import and export of goods out of the EU via the Netherlands.

As an enforcement organisation, Dutch Customs has the task of supervising the flow of goods. The competitive position of the Netherlands as a logistics country and entry/exit point for the European Union (EU) is an important advisor for enforcement policy. One of the most important objectives in this enforcement is to facilitate the economic operator[9], a person who, in the course of his or her business, is involved in activities covered by the customs legislation, and to cause as little infringement/disruption in the logistics process as possible in addition to the core task.

[3] Mentzer, J, 2001, Defining Supply Chain Management, Page 18
[4] Świerczek, A, 2012; The impact of supply chain integration on the "snowball effect" in the transmission of disruptions: An empirical evaluation of the model, page 90
[5] Ivanov, D, 2017, Simulation-based ripple effect modelling in the supply chain, page 2084
[6] Chopra, S, 2019, Supply chain management. Page 15
[7] Veenstra, A.W, 2019, International Trade, Global Supply Chains and Compliance. Page 134
[8] Dutch customs, Douane voor bedrijven. Implementation scheme DMS 4.0.
[9] UCC article 5 par. 5 Page 13

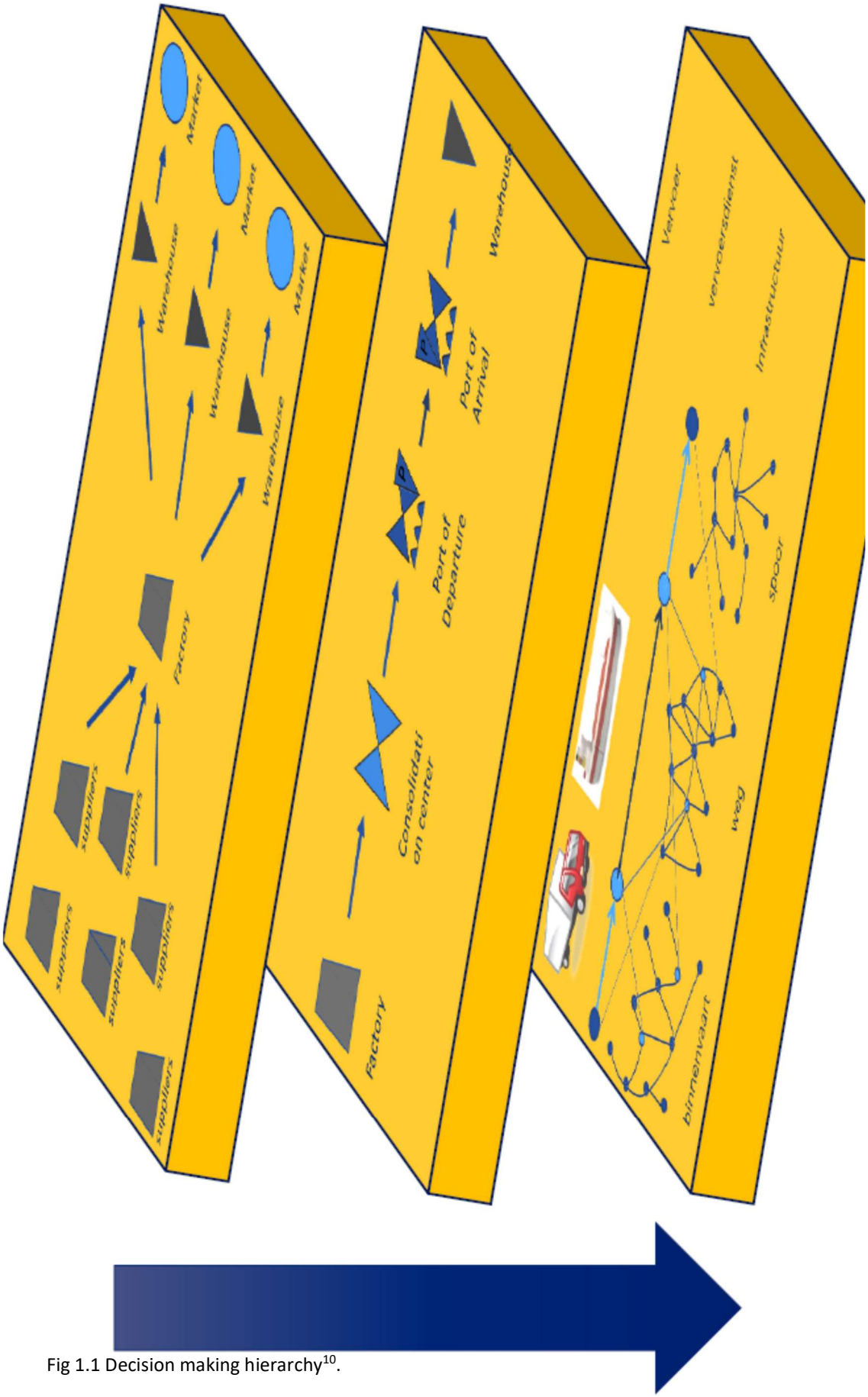

Fig 1.1 Decision making hierarchy[10].

[10] Veenstra, A.W, 2019, International Trade, Global Supply Chains and Compliance. Page 134

From an EU perspective, an objective is to carry out customs operations electronically as much as possible. These objectives have been laid down in EU customs legislation[11] and included in the development plan for automation for customs authorities. Due to disruptions in the IT systems, there are periods of less or no availability of declaration systems for import and export declarations. These disruptions may have arisen from the declarant, from the side of customs or from the connectivity (stations) between the customs and the declarant . We distinguish between planned and unplanned disruptions.

The deployment of the fallback[12] process[13] is laid down in a manual that was established in the ODB (Overleg Douane Bedrijfsleven (Customs business consultation) [14]) under the name Communicatieprotocol onbeschikbaarheid douanesystemen[15](Communication protocol unavailability customs systems). Unavailability of a Customs system is the case if electronic message traffic is not possible between Customs and the companies. The protocol may be applied if it is not possible for the economic operator to submit an electronic declaration or to receive return messages of a submitted declaration. The process of this fallback is taxing for all involved, both customs and economic operator have an extra workload. This study examines the current AGS fallback procedure and the future DMS for import and export declarations. The objective is to come up with improvement proposals that may be applied within the Union Customs Code (UCC) legislation. With these recommendations we aim for a solid measure with a limited impact for the various stakeholders. In order to be as complete as possible in the recommendations, best practices from other industries and Member States are included in the research.

1.1. Summary chapter introduction

Electronic message traffic between customs and economic operators is increasingly implemented within the European Union. From a decision-making hierarchy, the supply chain becomes more efficient and effective in order to add as much value as possible for customers. When electronic message traffic is disrupted, this has direct consequences for the effectiveness and efficiency in the supply chain. A manual fallback procedure is the current means of limiting the impact of the disruption as much as possible. This remedy is further investigated in this thesis. The objective is to come up with improvement proposals that may be applied within the UCC legislation and to be as complete as possible in the recommendations.

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[11] UCC Considerations par. 5 Page 1.
[12] Cambridge dictionary Fallback meaning, https://dictionary.cambridge.org/dictionary/english/fallback
[13] Irish tax and customs. Fallback meaning, Fallback is the process by which goods are manually cleared by Revenue for import or export where an interruption to an electronic system occurs. Fallback should only be used for consignments requiring urgent release. Traders should continue to lodge customs declarations but may not receive a response message. https://www.revenue.ie/en/customs/businesses/electronic-systems/aep/customs-fallback-service.aspx#:~:text=Fallback%20is%20the%20process%20by,not%20receive%20a%20response%20message.
[14] Nederlandse Douane, 2021, Inrichting en protocol Overleg Douane bedrijfsleven.
[15] Nederlandse Douane, 2022, Nationale Helpdesk, Communicatieprotocol Onbeschikbaarheid Douanesystemen.

2 Problem definition and research questions

2.1 Problem analysis

When goods are imported or exported in the Netherlands under a customs procedure, companies submit a declaration in AGS. Customs carries out checks on this declaration on the basis of this declaration. The outcome of this check can lead to different scenarios. These scenarios are that the goods have to be physically checked, administrative check on the documents or no further check. The physical and administrative control has an extra effect on the supply chain, which means that extra time is needed to get the goods to the final destination. Due to the time-critical process, limiting the control and its duration is important for the economic operators and for the Netherlands to maintain a strong competitive position.

In order to maintain this good competitive position, Dutch customs strives to carry out as many checks as possible with as little disruption to the logistics process as possible. For this, and based on the UCC, a lot of communication takes place through computer systems. The declaration process has also been digitized.

When the fallback procedure is in place a declaration is being send by email instead of an electronic declaration. This manual declaration is an administrative burden and delays the time-critical process of the supply chain. The declarant has to fill in a PDF document and send it by email. An email must be sent for each declaration, it is not possible to send it in bulk. The subject line of this email must refer to the fallback procedure, the declaration number and the Local Reference Number.

After the manually submitted declaration has been checked by customs, the declarant will receive feedback at the previously used email address. Submitting the manual declaration, the assessment by customs and the response by customs take considerably longer than the regular electronic process. The feedback is equal to the possible outcomes with a normal electronic declaration as included in figure 2.1 Simplified diagram of declaration process and risk analysis outcome.

In the summer of 2022, there has been more disruption to customs systems than in other periods. The declaration system in particular has been unavailable several times and for longer periods to enter regular declarations. Figure 2.2 is an overview of the availability of customs systems over the past 12 months. The standard that has been agreed on the availability of the customs systems has been set at 98%. The red areas are the months where the standard of 98% was not met. This standard has been achieved during the green months. The second column in the diagram shows the availability of the declaration system. The average availability is 96,1 per cent. This resulted in complains of economic operators and increasing delay of the logistics in the Netherlands. The umbrella organizations involved in the logistics process have jointly sent a letter to the responsible State Secretary containing the wishes and concerns about the declaration process and the use of the fallback procedure[16]. The media reported the situation extensively in the newspapers which resulted in political attention. At the end of the summer, Dutch Customs informed the Minister responsible for Dutch customs about the current situation, the causes of the disruptions and temporary and structural solutions. In addition, the resulting situation was discussed in the Customs Industry Consultation (ODB) meeting. During these consultations, concrete agreements about solutions were made for the short term and a commitment was made for a suitable structural solution in the long term. This thesis is about that long-term solution.

[16] Letter EvoFenedex and other umbrella organizations, 2022.

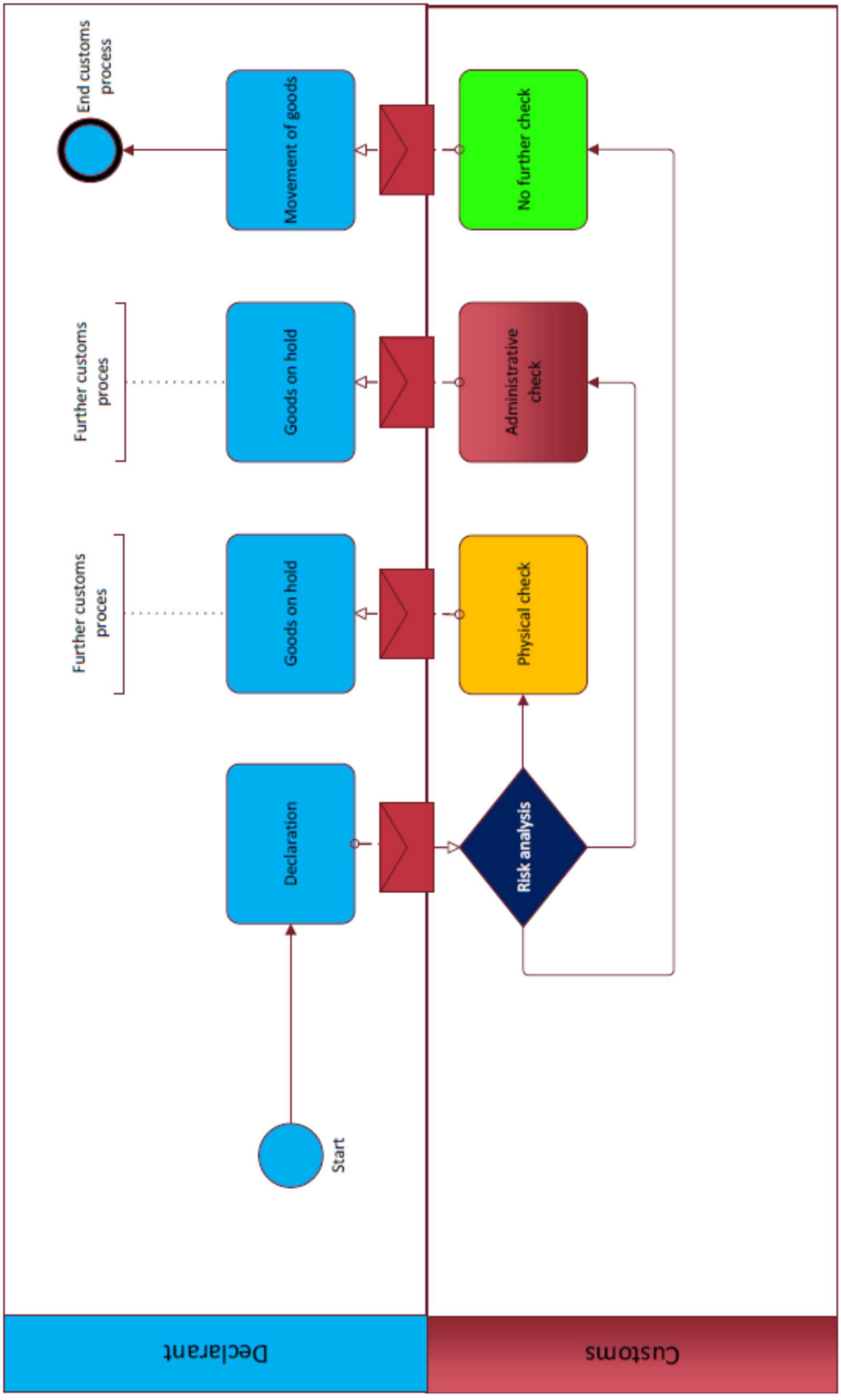

Fig. 2.1 Simplified diagram of declaration process and risk analysis outcome.

Maand	Jaar	Binnenbrengen; Uitgaan; Proviand	Aangifte-behandeling	Vervoer	Accijnsgoederen vervoer	Gemiddelde per maand
December	2021	100,0	90,6	99,6	100,0	97,6
Januari	2022	98,9	96,7	98,9	98,9	98,4
Februari	2022	99,0	96,7	98,9	99,0	98,4
Maart	2022	97,6	96,1	97,6	97,6	97,2
April	2022	99,7	99,3	99,6	96,5	98,8
Mei	2022	99,2	94,7	98,9	99,2	98,0
Juni	2022	98,7	96,4	96,5	97,8	97,4
Juli	2022	96,9	93,4	98,5	98,3	96,8
Augustus	2022	98,9	98,7	99,5	100,0	99,3
September	2022	97,9	95,8	98,5	98,0	97,6
Oktober	2022	99,6	98,5	99,2	98,5	99,0
November	2022	99,4	96,6	99,6	99,9	98,9
Gemiddeld		98,8	96,1	98,8	98,6	98,1

Fig. 2.2 Overview availability of customs systems.

This research aims to investigate how to make sure the declaration process is disrupted as little as possible by describing a solution that is workable for all those involved and legally valid. This goal must be applicable for the current system but also for after the introduction of DMS. Another sub-goal is to take other developments into account and to investigate whether a connection can be made with these developments in any way. An example of a possible solution can be the Pushing Boundaries enforcement vision based on smart enforcement and smooth logistics[17]. Another solution can be an IT facility used in the period of disruption. This facility should realize a fast recovery of information and data stream. There are opportunities here to possibly also realize the goals overview of the goods, risk analysis and time.

2.2 Research Question and sub questions

Research question:

By what method can the flow of goods and the logistics process be hindered as little as possible within regulatory supervision and compliance in the event of a malfunction/breakdown of digital communication with the customs?

Sub Questions:

Sub question 1: Can a disruption/failure of the customs systems be remedied effectively and efficiently by using the current fallback procedure?

[17] Heijmann, F ; Peters, J, 2022, Customs, Inside Anywhere, Insight Everywhere. Page 77

Sub question 2: Can the submitting parties be categorized in a period of disruption/failure, with specific handling for each category?

Sub question 3: Are there procedures within other Member States and/or industries that are best practices for the Dutch customs in the event of disruption/failure?

2.3 Motivation (i.e. contribution) of thesis

The Netherlands has developed from history as a trading country. The main ports of Rotterdam and Amsterdam Airport Schiphol make the Netherlands one of the largest gateways to the EU. To facilitate this process as much as possible, the Dutch government strives for the best possible service extension. Because the IT facilities are dated and there is an enormous growth in declarations from the logistics process, the customs systems are less reliable. The Staatssecretaris has made commitments to facilitate trade as much as possible by means of the fallback in the event of disruptions.

With this thesis, the goal is to facilitate manual fallback declarations as much as possible by removing or reducing the administrative burden. The higher goal is to hinder the logistics process as little as possible and to carry out good risk analyses and all this by complying with European customs legislation, UCC.

2.4 Research objectives

The objectives of this thesis are aimed identify potential solution designs based on literature for the current fallback procedure. These potential solution contribute in such a way that the alternative to the regular process does not form an obstacle and does not entail a great deal of additional administrative burden. Making a distinction in the fallback process can make a possible contribution to speeding up the process and increasing the quality of the risk analysis. This distinction can be made, for example, on the (non)-AEO status, the mode of transport, countries of origin and/or destination, HS codes, a combination of these aspects or possibly new insights.

2.5 Research design

In this report we investigate an existing fallback procedure in practice. The objective is to clarify whether this procedure meets the wishes of all parties involved in this process or are there improvements to be made

The method of design science fits best with this research because it deals with a concrete problem, the deployment of the fallback procedure and the impact from practice. During the research, a new design will be created based on literature, legislation and discussions with stakeholders. The approach is based on the method of Wieringa[18]. This design will lead to a fallback procedure which is based on the current fallback procedure with better interaction with the context. The fallback procedure for the declarant system is in this research interacting with the supply chain and customs law. The supply chain disruption must be minimized at most and compliance achieved. In this situation the context is according to a methodology towards a 'desired' situation. The ‘desired’ situation will be evaluated and generalizations to other domains discussed.

In conducting the research to get a result as mentioned above I will make use of several different research methods. I will define the stakeholders as internal and external stakeholders. These stakeholders are for example: Customs, declarants, shipbrokers, stevedores, terminals, transport companies.

[18] Wieringa, R, 2014, Design Science Methodology for Information Systems and Software Engineering.

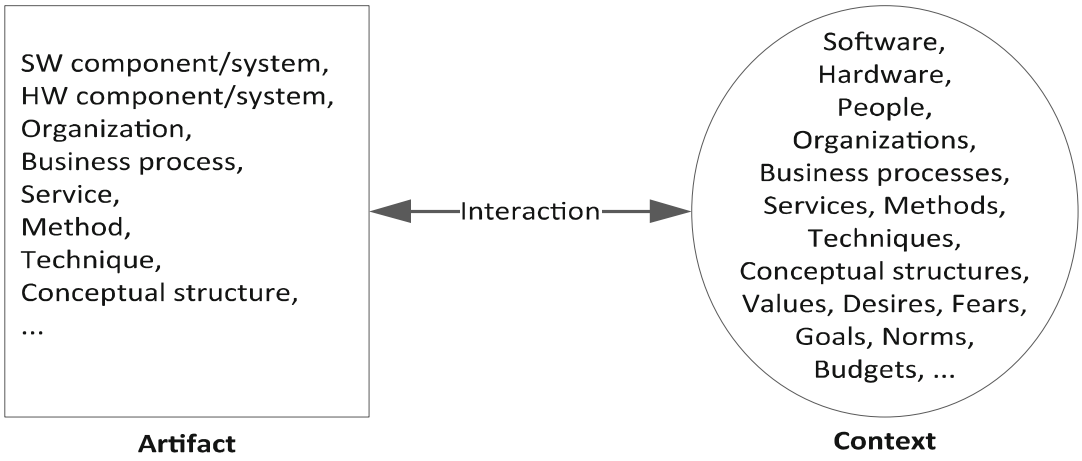

Figure 2.3 System in Context (Wieringa, 2014; page 4)

All internal stakeholders are from the customs organization. Within the Dutch customs several departments are involved in this process, see figure 2.4. An important reason for dividing the work over several departments is segregation of duties as an outcome of the integrity project within the Dutch customs. Interviews with IM, Handhavingsbeleid and AB to give a better sight of the problem internal within the Dutch customs. The necessary information will be obtained by using a non-structured way of interviewing. Using this method creates a better overview of the activities per department and of customs as a whole.

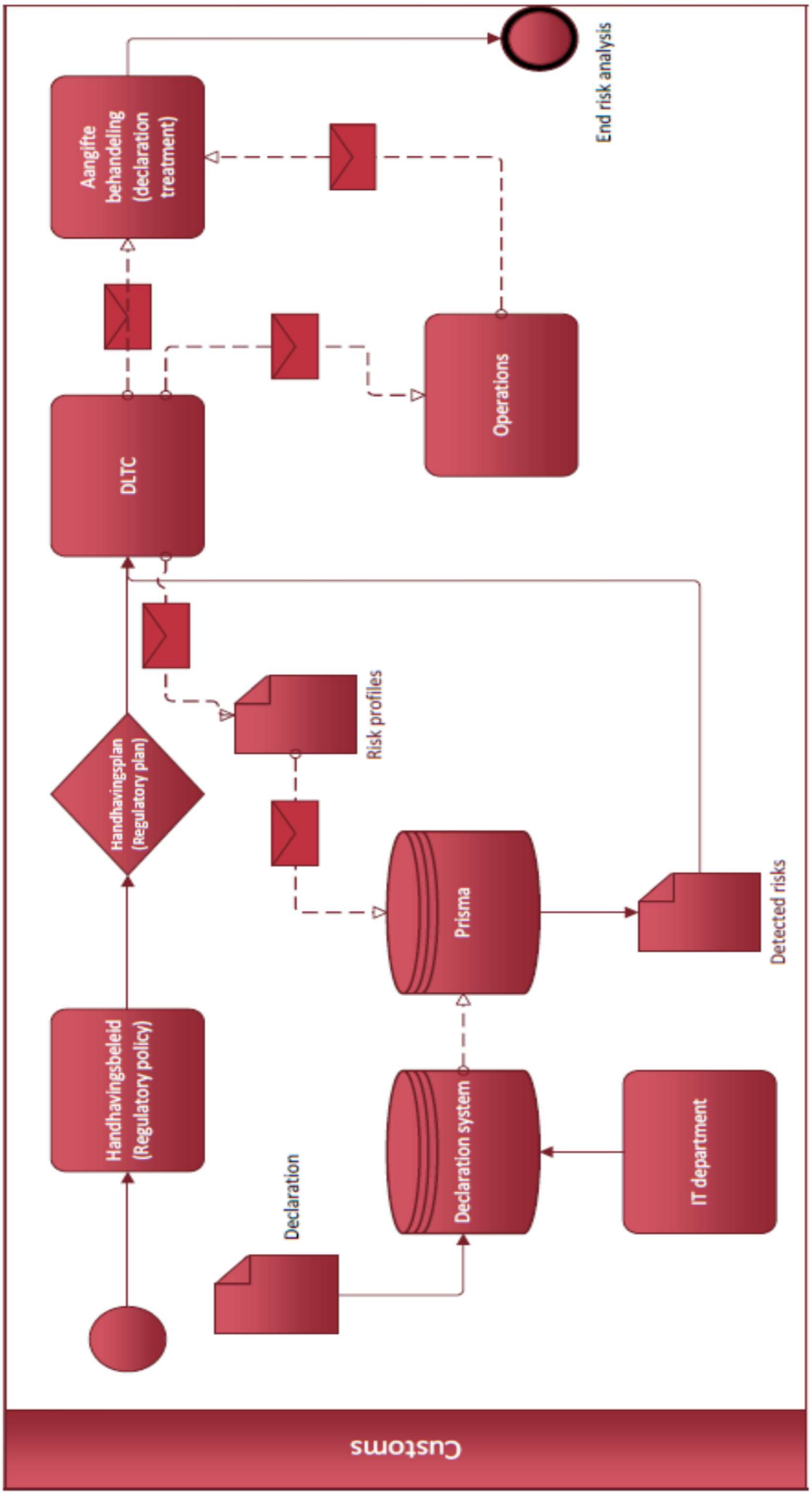

Figure 2.4 Departments involved in aangifte process Dutch customs.

2.6 Structure of thesis

In order to be able to answer the research questions in this thesis, a form and approach has been chosen to arrive at a weighted answer. The introduction provides an overview of the impact of a disruption. This was done by explaining how to establish a supply chain.

	Description	Research question	Deliverable
Chapter 1	Introduction	Main	Background, supply chain development.
Chapter 3	Literature research	Sub question 1	Legislation, MRA's.
Chapter 3	Literature research	Sub question 2	AEO, frameworks.
Chapter 3	Literature research	Sub question 3	Fallback world wide.
Chapter 4	Research approach	All	Approach for answering RQ
Chapter 5	Outcome Interviews	All	Current impact and solutions future
Chapter 5	Data analysis	Sub questions 1 and 2	Data analysis size impact.
Chapter 6	Contribution	All	General contribution in addition to the wording RQ.
Chapter 7	Recommendations	All	Answering RQ and final word.

Table 2.1 Answering research question in combination with chapters.

Chapter 3 includes a literature analysis. This research has been set up broadly by investigating current legislation, developments and visions within the domain of customs. These developments can be global, within the EU or in an individual country. In addition, scientific documents that can contribute to solving this practical problem were examined. Chapter 4 is about the approach and which kind of methods are used to give a provide a well-founded answer to the research questions. The chapter that follows contains an elaboration of the investigations and their results. This is a representation of the interviews, data analysis and literature. The contribution of this research and the recommendations that emerged in the previous chapters are explained and substantiated in the following 2 chapters.

2.7 Summary chapter problem definition and research questions.

The research question in this thesis is: By what method can the flow of goods and the logistics process be hindered as little as possible within regulatory supervision and compliance in the event of a malfunction/breakdown of digital communication with the customs? In addition, there are 3 sub questions that contribute to answering this question. By conducting interviews, internally and externally, data analysis and literature research, the current solution is further investigated and an artifact and recommendations follow.

3 Review of literature

3.1 Literature related to the problem definition

In the review of the literature, a structure has been made that is relevant to the fallback procedure. First of all, the emphasis will be placed on the legislation that applies and describes electronic messaging. Subsequently, the AEO status and the facilities that this certification provides will be discussed. Various working programs and frameworks have been developed that can contribute to the development of transparency, visibility and traceability of goods. All this based on good data sharing. The different approaches and origins are processed in this analysis. Just like the approach of other countries when the fallback has to be initiated due to a disruption in the regular electronic declaration system.

Figure 3.1 Literature related to fallback procedure.

The Dutch vision of enforcement, the future vision of this, the Dutch political discussion about Customs and IT issues, the developments of customs within the EU, wise persons group and other relevant documents have also been taken into account.

3.2.1 Electronic communication

As of May 1, 2016, the UCC applies as customs law for the twenty-seven member states of the European Union (EU). The law contains regulations for cross-border goods that are involved in goods that are imported, exported, cleared and forwarded. In addition to the UCC, there is also the Delegated Act (DA) and the Implementing Act (IA) which all are related to customs matters arising from cross-border trade.

The aim of the operation of the UCC is to facilitate the flow of goods within the EU as well as possible and for shipments arriving or departing from the EU. Of course with the rights arising from these transactions and other associated costs.

The creation of the UCC is closely related to the World Trade Organization (WTO) and the World Customs Organization (WCO). The WTO is the international organization whose primary purpose is to open trade for the benefit of all[19]. The ultimate goal of the WTO is to achieve free trade between signatories though international trade agreements of which their rules are binding. The WCO represents 184 Customs administrations across the globe that collectively process approximately 98% of world trade. The WCO is the only international organization with competence in Customs matters and can rightly call itself the voice of the international Customs community as the global centre of Customs expertise[20].

The UCC strives for as much electronic data transfer. By using electronic data transfer as much as possible, the EU has information about the goods and money flows that can be used for remittances, better management of the goods flows and the further development of the EU. The following is included in the UCC about the exchange of information:

> ***Article 6 par. 1 Means for the exchange and storage of information and common data requirements[21]***
>
> *1. All exchanges of information, such as declarations, applications or decisions, between customs authorities and between economic operators and customs authorities, and the storage of such information, as required under the customs legislation, shall be made using electronic data-processing techniques.*

For the transfer and storage of this information it is necessary that these data are identical in the different Member States. Article 6 paragraph 2 has been drawn up for this purpose:

> ***UCC Article 6 par. 2[22]***
>
> *2. Common data requirements shall be drawn up for the purpose of the exchange and storage of information referred to in paragraph 1.*

The same UCC article also includes the situations in which deviations from the regular electronic transfer of data may be made. These exceptions may be permanent or temporary. The permanent arrangement applies when the electronic data transfer process is not possible or justifies a deviation. Article 6.3b applies to the use of the fallback procedure. This concerns a temporary disruption of the customs systems or of the economic operator's systems.

[19] WTO overview; https://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm
[20] WCO overview; https://www.wcoomd.org/en/about-us/what-is-the-wco/discover-the-wco.aspx
[21] UCC Article 6 par. 1 page 15.
[22] UCC article 6 par. 2 page 15.

UCC Article 6 par. 3 sub. B[23]

Means for the exchange and storage of information, other than the electronic data-processing techniques referred to in paragraph 1, may be used as follows:

(b) on a temporary basis, in the event of a temporary failure of the computerised system of the customs authorities or of the economic operators.

Based on article 6.3b it is permitted to exchange data and/or information in a way other than electronically. In the event of AGS disruption or a disruption at an economic operator, an alternative may be used as a formal declaration . The alternative that may be used if the electronic declaration system fails is also included in the UCC and related legal texts. The aim is to achieve unambiguous data transfer, which is included as a condition in the aforementioned article 6.1 of the UCC. The description and conditions of this paper declaration are set out in Annex B-01 of the DA[24]. Customs has developed a nooddocument[25] for the fallback procedure in the Netherlands in which the necessary data must be entered. This is a standardized form and is derived from the data set used in the regular declaration process. This manual declaration must be submitted by the declarant by sending an email message with the data set as an attachment.

Another component that plays an important role in addition to collecting data is risk[26]. These risks range from financial, not correctly applying Union or national measures or endangering the security of the EU and its citizens. In order to correctly assess this form of risk management[27], the data elements are tested for various risk factors and a risk check can be carried out on a random basis, for example through an administrative or physical check.

3.1.2 Authorised Economic Operator

According to article 5 par. 5 of the UCC, an authorized economic operator is an economic operator that is considered compliant. This demonstrable compliance[28] means that the authorized economic operator is eligible for facilities throughout the EU for its customs-related activities. There is a distinction in this status of authorised economic operator for customs simplifications (AEOC), security and safety (AEOS) or both. The AEO guidelines contain conditions and criteria[29] to become an Authorised Economic Operator which are included in Fig. 3.1.

[23] UCC Article 6 par. 3 sub. B page 15.
[24] DA Annex B-01 page 227.
[25] Belastingdienst Form fallback procedure Dutch Customs; https://download.belastingdienst.nl/douane/docs/bijlage_noodprocedure_ags_aangiften_ten_invoer_do1741b5fol.pdf

[26] UCC article 5 par. 7 page 13.
[27] UCC article 5 par. 25 page 14.
[28] Oxford dictionary; Compliance is to act in accordance with a wish or command.
[29] The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016, page 12.

Authorised Economic Operator (AEO)

Conditions and criteria	AEOC	AEOS	Reference UCC/UCC IA	Guidelines Part
Economic Operator	X	X	Art. 5 (5) UCC	1.II.1
Established in the Customs Territory of the Union	X	X	Art. 5 (31) UCC	1.II.2
Compliance	X	X	Art. 39 a) UCC Art. 24 UCC IA	2.I
Appropriate Record Keeping	X	X	Art. 39 b) UCC Art. 25 UCC IA	2.II
Financial Solvency	X	X	Art. 39 c) UCC Art. 26 UCC IA	2.III
Practical Standards of Competence and Professional Qualification	X		Art. 39 d) UCC Art. 27 UCC IA	2.IV
Security & Safety		X	Art. 39 e) UCC Art. 28 UCC IA	2.V

Table 3.1 AEO guidelines conditions and criteria. (page 12)

The type of status determines whether an authorized economic operator can take maximum advantage of the wide application of customs simplifications or of security-related simplifications. These authorised economic operator should also have advantages in the control sphere in the sense of fewer physical and document-based controls. These benefits can also be applied under the fallback procedure. There are risk indicators, such as the country of origin, which can still lead to checks despite the economic operator's AEO status. In addition, customs authorities also decide to check consignments from an AEO in case of control obligations, for example related to product safety, in accordance with other EU legislation. Figure 3.2[30] shows the benefits that an Authorized Economic Operator has based on its status, AEO security and safety or AEO Customs simplification, which arise from the legislation.

[30] Nederlandse Douane, Landelijk kantoor en Handhavingsbeleid, 2022; page 3 AEO staalkaart

Advantages	AEOC	AEOS	Reference
Easier access to customs simplifications	X		Art. 38 (5) UCC
Fewer physical and document-based - security related - related to other customs legislation	 X	X	Art. 24 (1) UCC DA Art. 38 (6) UCC
Prior notice in case of selection for (safety-related) physical check		X	Art. 24 (2) UCC DA Art. 38 (6) UCC
Prior notification in case of selection for customs control; - security related - related to other customs legislation	 X	X	Art. 24 (3) UCC DA Art. 38 (6) UCC
Will be checked with priority if selected for a check	X	X	Art. 24 (4) UCC DA Art. 38 (6) UCC
Can request that a customs consignment be checked at a specific place	X	X	Art. 24 (4) UCC DA Art. 38 (6) UCC
Mutual recognition with third countries		X	MRA-overeenkomsten Art. 38 (7) UCC

Table 3.2 Advantages AEOC and AEOS.

3.1.3 Compliance and Risks

The AEO permit holder is assumed to be compliant with customs legislation and regulations. This is based on the previous check when the AEO authorization was granted. The proof of reliability is checked periodically by checking the business process. The economic operator is personally responsible for ensuring that the internal controls are correctly performed, monitoring the results of the business process and ensuring that this process is adjusted if necessary[31].

All the aforementioned approaches to risk analysis and certification originate from the willingness of the economic operator to be compliant. Many economic operators have incorporated compliance into their core values. For AEO permit holders it is a condition to regularly monitor compliance through internal checks, to record imperfections and to take measures to stop and prevent undesirable situations in the future.

In order to meet the compliance criteria, it is important that Customs has the preconditions in order. With the current fallback procedure additional manual actions are expected from the economic operator/AEO permit holder. Compliance can be negatively affected by these extra actions.

[31] Heijmann, F ; Peters, J, 2022, Customs, Inside Anywhere, Insight Everywhere. Page 191

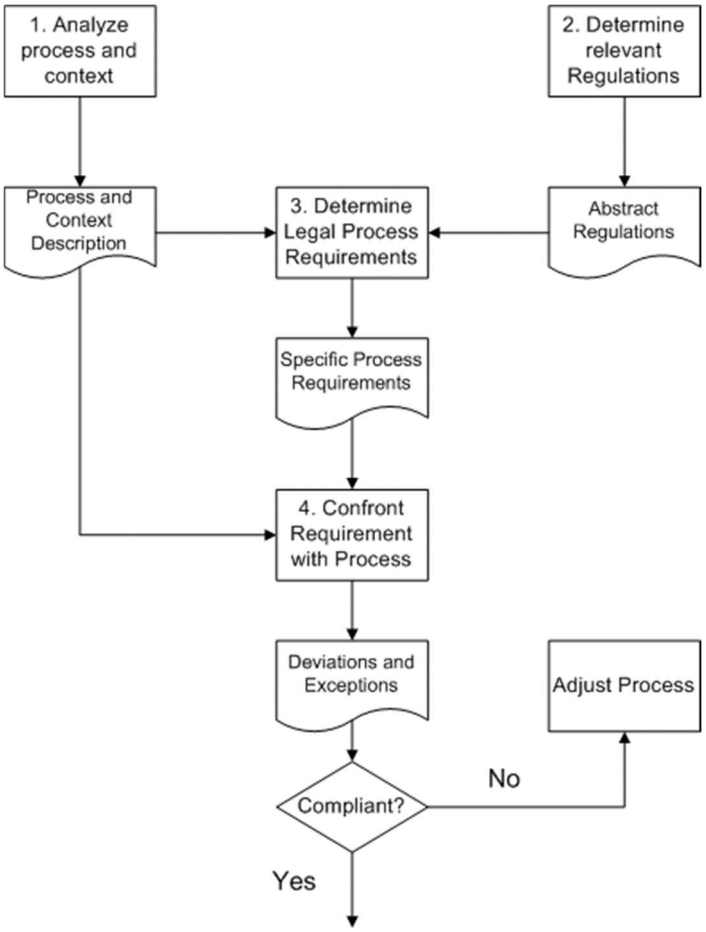

Figure 3.2 Fokkema & Hulstijn 2011 Compliance process

As a result, the AEO permit holder gets the predetermined benefits and customs takes a risk with this economic operator. This risk is defined in the AEO guidelines as: “the probability that an action or event will adversely affect an organisation's ability to be compliant with the AEO requirements and criteria”[32]. In this approach, probability and impact are taken into account. These two factors determine the degree of risk, which are shown in figure 3.3.

[32] The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016, page 85-86.

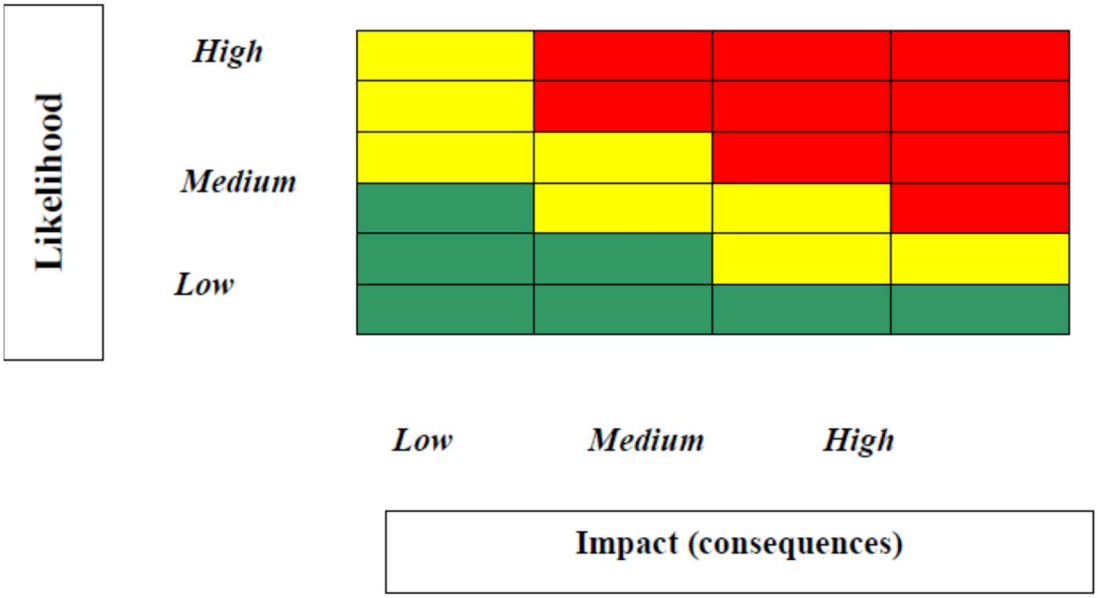

Figure 3.3 risk matrix AEO guidelines, page 86[33].

In the procedure for the AEO permit, a condition is to take measures to identify risks, probability and impact, and to take measures to limit this risk as much as possible. The following is included about this in the AEO guidelines. The economic operator should have procedures and measures in place to:

- clearly set out the assets and objectives at stake (i.e. for AEO it is clear that what is important is to have the objective of being compliant with the customs rules and securing its supply chain);
- identify the threats that can put in danger assets and objectives set out;
- continuously monitor whether its own assets are threatened by those identified threats;
- assess the risk related to his or her role in the international supply chain in accordance with its business model;
- cover this risks by taking action and implementing adequate procedures; and
- monitor the effectiveness of the procedures implemented.

The Nationaal Coördinator Terrorismebestrijding en Veiligheid (National Coordinator for Counterterrorism and Security) has divided vital processes for the Netherlands into two categories, A and B.[34] This classification is related to the damage and impact resulting from a disruption of a vital process. Category B includes internet access and data traffic as vital processes with economic consequences.

The customs declaration process could possibly be part of this in the event of a long-term disruption that disrupts the supply chain in such a way that social disruption occurs, major economic damage and (food) safety is endangered.

[33] The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016, page 85-86.
[34] Nationaal coördinator Terrorismebestrijding en Veiligheid, Overzicht vitale processen; https://www.nctv.nl/onderwerpen/vitale-infrastructuur/overzicht-vitale-processen

3.2 Academic Literature

The standard set by customs for the availability of the systems has been under enormous pressure since December 2021 (fig. 2.3). The reliability is not satisfactory and the resilience[35] of the system is also low.

Customs requires compliance from economic operators and in particular from AEO permit holders. In order to be able to continue to comply as an economic operator, customs can be expected to make a substantial contribution to this in order to allow preconditions to be met. Customs does require compliance with the law, but has no formal responsibility for the process aspects that the economic operator must take into account to be compliant[36]. These compliance aspects are:

- Terms (timeframes). Technical, organizational and legal terms are important in processes.
- Transfers. Transfer of information and/or data and the shift of the process flow between actors indicate a shift in responsibilities and may have to be accompanied by monitoring and confirmation of the transfer.
- Messages. Messages like reports, notifications and decisions represent the communication between actors (e.g. citizen/company, government agencies).
- Responsibilities. A process is owned by one or several actors, this can be indicated in law.
- Other process requirements. Other process requirements may also be demanded by law.

Due to the regulations and articles from the UCC, it can be concluded that an electronic declaration is a mandatory part of the process in the supply chain. The disruption that occurs in that process, the unavailability of the declaration system, creates a gap between the legislation and the process. The fallback is an alternative solution for this, but it can have consequences for compliance due to disturbed message flows (manually) and the transfer of responsibility in the timeframes.

3.3 Selected key articles for case analysis

3.3.1 Communicatieprotocol Onbeschikbaarheid Douanesystemen

(Communication protocol unavailability customs declaration systems)

Since October 2012 there is a Communicatieprotocol Onbeschikbaarheid Douanesystemen[37] (Communication protocol unavailability customs declaration systems). This is a protocol that has been drawn up in 2012 in mutual cooperation between Customs and umbrella organisations. This protocol includes agreements on the method of communication of planned and unplanned disruptions. These disruptions can occur at customs, software supplier or at the economic operator.

[35] Hollnagel, E, 2011, Resilience engineering in practice, a guidebook.
[36] Fokkema, W; Hulstijn J, 2011. Process compliance in public information chains.
[37] Nederlandse Douane, 2022, Nationale Helpdesk, Communicatieprotocol Onbeschikbaarheid Douanesystemen.

Cause disturbance at:		Planned Unavailability	Unplanned Unavailability
Customs		General fallback	General fallback
Economic operator		Individual fallback	Individual fallback
Software supplier		Individual fallback	Individual fallback

Figure 3.4 Deploy general or individual fallback procedure.

In the event of a malfunction on the customs side, planned or unplanned, and the fallback procedure applies, this is a general fallback procedure for all companies. If the disruption is on the side of the economic operator or on the side of the software supplier, as a result of which a regular declaration can no longer be submitted electronically, permission can be given on an individual basis by Customs for the use of the fallback procedure. This unavailability can be planned or unplanned. The standard 'nooddocument' applies to both the general and individual fallback procedure.

3.3.2 Political discussion disruptions IT systems Dutch Customs

In August of 2022, a letter was sent from the business community to Staatsecretaris Aukje de Vries, who is responsible for customs. In this letter, she has been called upon to solve the disruptions of the service's IT systems in the short term. This letter was sent because there were major and long-lasting disruptions in the period from May 2022 to July 2022 (Fig. 2.3 Overview availability of customs systems). The letter emphasizes that the trade position of the Netherlands could come under pressure as a result of the disruptions. Because the impact on the logistics chain is so great, they point out that ships may avoid the Dutch port because of these disruptions. Solutions are required for the short and long term. For the short term, the request is to create the necessary preconditions, such as expansion of the capacity of the systems and sufficient qualified knowledge. For the long term it is crucial to the robustness of the systems. Investments for the current problems and for a robust system in the future are necessary according to this letter. Soon after this letter, the State Secretary visited the port of Rotterdam to discuss the concerns of the business community in a personal meeting. During this working visit, an agreement was made to look together from ODB-IT to improve the fallback process where possible. The current fallback procedure is not sufficient for the number of declarations that are submitted daily via AGS.

Since July 2022, the Staatsecretaris has been informing the Tweede Kamer with a so-called stand van zaken brief (status letter). This letter was previously announced as a successor to the progress reporting which was issued periodically. In the first stand van zaken brief (status letter) the Staatsecretaris refers to the introduction of the UCC in 2016 and the task of carrying out customs formalities electronically as much as possible. This transition must be fully realized by 2025. For Customs' long-term IV portfolio, supply and demand is the rule greatly exceeds. This is due to tightness in the labour market, which makes it difficult to find well-qualified personnel and the need for automation far exceeds the available capacity. There are several automation projects that run alongside the UCC trajectory. Brexit and the increase in e-commerce are some examples of this. The regular maintenance and renewal of existing systems are also added.

In November, a member of the Tweede Kamer submitted a motion on the IT agenda of the Belastingdienst. This motion is aimed at gaining more insight into the choices that are made because of the excess demand compared to the supply. Specifically, this motion included the following information in the Belastingplan:

– the status of the renewal of the ICT systems in parts and available capacity;

– the consequences of the proposals submitted for ICT and whether these proposals will lighten or strengthen ICT;

– a qualification of the proposals submitted with regard to the impact on society compared to the impact on ICT.

In the second stand van zaken brief (status letter) the Staatsecretaris will follow up on the aforementioned motion and indicate in detail which choices have been made. All this based on the available capacity and the exceeding demand. In addition to the planned implementation of the UCC, directives and other developments, there have also been impacts as a result of the war in Ukraine. As a result, the sanction measures and purchasing power measures on excise duties have been given priority over previous agenda items. For 2022, it has been decided to (temporarily) prioritize the IT agenda more clearly and to meet the demand limit to suit the available offer. Periodic prioritization of the IT agenda contributes to transparency about the choices that are being made.

This stand van zaken brief (status letter) also elaborates on the disruption problem and the discussions that have been held about it. The State Secretary explains that, in consultation with the ODB, a task force has been set up to investigate the fallback procedure and come up with possible solutions. The results are expected in the first quarter of 2023. Among other things, the content of this thesis will be included in the results.

3.3.3 Other member states, countries and other best practices

The Finnish customs[38] and customs from Belgium[39] use a fallback procedure. In terms of content, this procedure is very similar to the working method used by Dutch Customs[40]. The reporting of the disruption and its follow-up is the same as is the time limit that has been included to declare the fallback after one hour. This format is in the most EU member state applicable due to the legislation about paper based declarations in annex B-01 of the DA[41]. Minor adjustments or local interpretation aside, the data to be supplied is the same.

Irish Customs had a different approach during the first period of the BREXIT[42]. First of all, they distinguished short, medium and long disturbances. There is a time associated with this for each process. The fallback procedure can be used per time block. With import, for example, the first goods that can be used within the hour are medical goods that are described. In the subsequent time block, live animals and perishable goods, among other things, may use the fallback. The release of the goods takes place by supplying several documents with an extensive data set.

As a result of BREXIT, a lot of customs changes have occurred in cross-border flows of goods between the EU and the UK. In France there is a lot of goods traffic to the UK. The France customs has several fallback procedures specific for the trade with the UK[43]. What is particularly striking is the separation that is applied in advance, in the event of a malfunction on the English side, using stickers . The responsibility for this process lies with the partners (ferry companies, ports and Eurotunnel) involved in this cross-border freight traffic.

[38] Finnish customs, Fallback; https://tulli.fi/en/about-e-services/fallback-procedures
[39] Belgian customs Fallback;
https://financien.belgium.be/nl/douane_accijnzen/ondernemingen/noodprocedures-da

[40] Dutch customs Fallback;
https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/douane_voor_bedrijven/naslagwerken_en_overige_informatie/noodprocedures_douane/noodprocedures_douane_cluster
[41] DA Annex B-01 page 227.
[42] Irish customs Fallback, https://brexitlegal.ie/fallback-system-it-failure/
[43] France customs Fallback import; https://www.douane.gouv.fr/sites/default/files/2021-03/29/note-to-operators-fiche-1-fallback-procedure-si-brexit.pdf

They identify the trucks with stickers :

- a green sticker for empty trucks and trucks carrying postal freight, which can borrow the green line “authorized exit” on disembarking,
- an orange sticker for trucks which are directed to the customs parking by default,
- an orange sticker, with an “SPS” (Sanitary and Phytosanitary) inscription, for trucks carrying SPS goods, which are directed to the SIVEP (Sub directorate Veterinary and Phytosanitary) parking on disembarking.

The declarant is the one who is responsible to inform the drivers of these trucks when they are allowed to leave the parking place.

The Ugandan authorities have drawn up a schedule listing the disruptions and what to do in those situations[44]. There, too, a distinction is made in the type of goods, whereby, for example, perishable goods have priority in handling in a specific time frame.

Hospitals have become more and more IT-dependent organizations over the years. Many actions are only possible through IT applications, such as for viewing patient data, making appointments, passing on laboratory results and issuing medicines. The MUMC+ is an academic hospital in the Netherlands where patient care is the core task. This task is supported by IT solutions. In September 2022, a major IT disruption occurred simultaneously with a telephony outage[45]. As a result, it was not possible to view patient data and the mutual means of communication had disappeared. The hospital has several fallbacks for the individual incidents, some of which were unavailable due to these outages. The lessons learned from this outage relate to back-up communication systems for telephony and internal internet sites. Familiarity with the content of the fallback procedures was insufficient, which makes training particularly essential for critical scenarios. In its research into IT disruptions in hospitals, de onderzoeksraad voor veilgheid (the Dutch Safety Board) also endorses the need to better prepare crisis organizations for the specific characteristics of IT failure, both with the aid of detailed planning and through training and exercises[46].

[44] Fallback Uganda customs; https://ugandatrades.go.ug/media/The%20SCT%20Process%20Manual%20-(URA)%20V-1%20(12-09-2019)(1)(1).pdf
[45] FMT gezondheidszorg, 2022, Belangrijkste les ICT-storing MUMC+: wees voorbereid!
[46] Onderzoeksraad voor de veiligheid, 2022, Patiëntveiligheid bij ICT-uitval in ziekenhuizen.

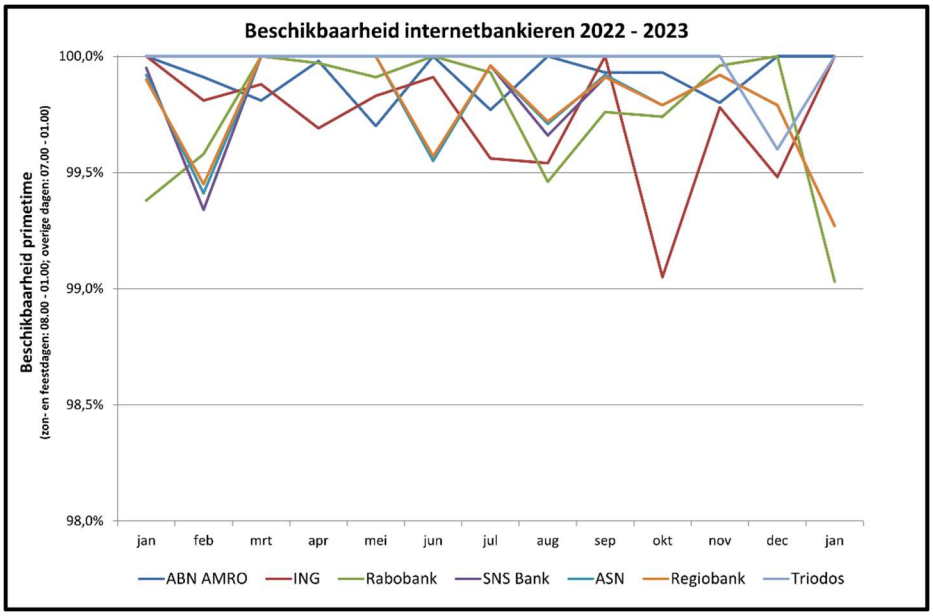

Figure 3.5 Beschikbaarheid internetbankieren 2022-2023[47]

Digital payments are the main stream of financial transactions in the Netherlands. This makes this a crucial process that should not be subject to disruptions. In the Netherlands, this availability is 99.5% over the past 12 months[48]. If scheduled maintenance has to take place, this will be carried out during night hours. This is outside the so-called prime time hours when electronic banking is used the most. Besides the disruptions, banking traffic also has threats of sabotage and hacks of the system. The banking industry has various programs to prepare for this and to optimally secure the applications. This form of cybercrime is countered, among other things, by the TIBER[49] (Threat Intelligence Based Ethical Red-teaming) program of the Dutch Central Bank. In this program test attacks are carried out for the resilience of the banks.

ProRail is the main partners for the Dutch Railways with regard to the timetable. In addition, ProRail provides various applications for displaying the train run, moving the points, enabling adjustments to the timetable and for communication during incidents[50]. ProRail distinguishes between hardware failures and software disruptions. Despite the fact that redundancy has been built in, it is possible that train traffic has to be (partially) shut down.

On April 3, 2022, there was a major disruption of the IT systems, as a result of which it was decided to shut down all train traffic in the Netherlands for that time. The evaluation[51] shows that the NS does have fallback procedures, which were unavailable or outdated, among other things due to the disruption, and the impact of this disruption was incorrectly estimated, as a result of which choices were delayed too long. One of the 11 recommendations that have been made is thinking in scenarios (worst case, most likely, best case). The scenario is due to an incorrect assessment of the disruption that the outage would last longer than expected received little attention, not even on the day itself prepared for this scenario.

[47] Betaal vereniging, Beschikbaarheid internetbankieren 2022-2023.
[48] Betaal vereniging, Beschikbaarheid internetbankieren 2022-2023.
[49] De Nederlandse Bank, TIBER program; https://www.dnb.nl/voor-de-sector/betalingsverkeer/tiber-nl/
[50] ProRail, ICT storingen; https://www.prorail.nl/reizen/storingen/ict-storingen
[51] COT Instituut voor Veiligheids- en Crisismanagement. (Institute for Security and Crisis Management), 2022, Digitaal gestrand.

There seems to be an optimism bias here, an underestimation of it problem and overconfidence in the solution. The following standards for business critical IT systems are determined on:

- The systems must always be available;
- A maximum of 2 high-priority disruptions per month;
- Recovery Time Objective (RTO) of 0 hours (99.95% available);
- Recovery Point Objective (RPO) of 0 (no data loss).

Furthermore, the architecture of the systems is a continuous area of attention in order to realize the requested continuity standards. It's part of this be able to quickly switch to backup facilities if necessary.

3.4 Enforcement policy visions

3.4.1 WCO SAFE framework

The customs authorities are introducing more and more applications to which the economic operators must be connected in order to be compliant with customs formalities. In international border crossing trade, traceability[52], transparency and visibility are important for identifying the goods being transported. Transparency [53] in this context is a state in which information is made clear and easily available to certain actors. Export systems have been the poor relation despite the importance of 'strategic' exports, high value VAT and excise goods and the export of stolen goods such as expensive vehicles in order to finance organised crime and terrorism[54]. Various initiatives have been taken to increase visibility and traceability. These initiatives have been taken within the EU and beyond. Partly due to the attacks in New York in 2001, steps were taken to get a better grip on cross-border shipments and their contents by submitting an Entry Summary Declaration[55] (ENS) declaration in advance. Because of this declaration, loading of the shipments must be delayed until the receiving country has approved the declaration. Mutual Recognition Arrangements/Agreements can also contribute in data sharing between countries within the EU but most of all outside the EU. The development of regional Customs union AEO programmes and plurilateral MRA's based on the SAFE Framework could facilitate the mutual recognition and harmonization of AEO status across the world[56]. As a collection, the European Union has concluded agreements with Norway, Switzerland, Japan, United States China and the United Kingdom[57]. An AEO permit holder company can qualify for facilities when exporting to the countries with which an MRA has been concluded.

Sharing correct data is of great importance to make risk analyses easier for customs and to disrupt the logistics process as little as possible. The EU's enforcement policy is aimed at facilitating trade as much as possible. In order to realize this, the cooperation of the economic operators is necessary. Sharing data in the supply chain is a difficult issue to solve. The conflicting interests, the unwillingness to disclose the cost price, weight, quantity, is the basis for this. The opposing economic interests are too great for this.

[52] Gardner et al, 2018, Transparency and sustainability in global commodity supply chains,; Traceability information . Page 165
[53] Gardner et al, 2018, Transparency and sustainability in global commodity supply chains,; Traceability information . Page 164
[54] Hesket, D, 2010, World customs journal, volume 4; Weaknesses in the supply chain: who packed the box?

[55] UCC article 5 par. 9. page 13.
[56] WCO, 2021, SAFE Framework of Standards, MRA's. Page 37.
[57] Dutch customs, Handboek Douane, 2016, Mutual recognition Arrangements, hoofdstuk 2.50.00 par. 6.

The WCO has had it since 2005 SAFE standards framework[58] to secure and facilitate global trade. The SAFE instrument is for safety standards in the supply chain to create a closer cooperation between Customs and the business community. The SAFE instrument has made a change in the way Customs works. Where previously a check was set up when the goods crossed the border, this approach is aimed at carrying out the check at the earliest possible stage and throughout the entire logistics chain. The framework is built on three pillars, Customs to Customs, Customs to Business and Customs to other Government Agencies. These three pillars involve all those involved in the supply chain and cross-border transactions. In addition to these three pillars, there are 5 elements that are applied by the three pillars. With the introduction of the SAFE framework, Customs is better able to maintain efficient administrative supervision and detect risks. Thanks to this improved supervision, customs do not unnecessarily infringe the logistics chain and thus contribute to a faster and more predictable supply chain.

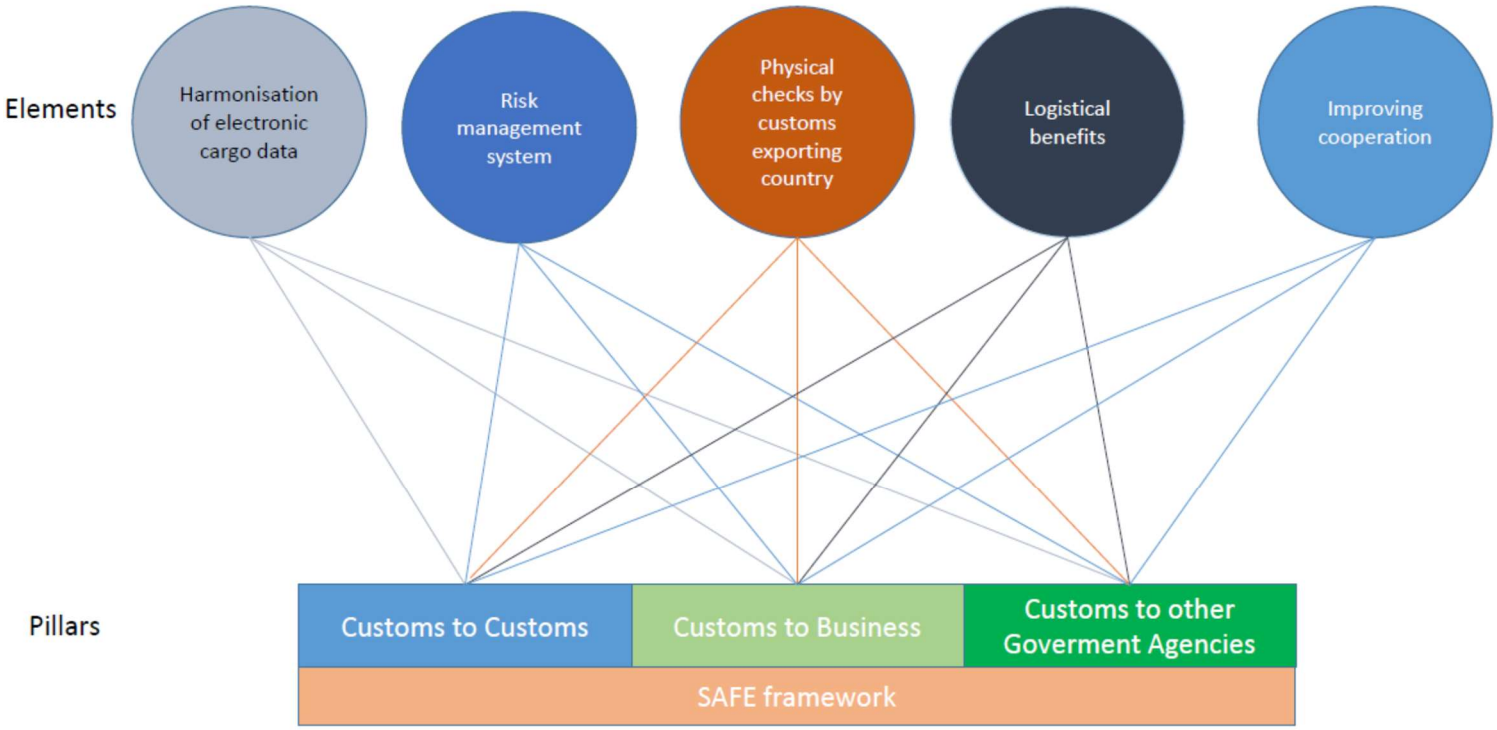

Figure 3.6 WCO SAFE framework pillars and elements.

3.4.2 Data Pipeline Concept

In June 2018, the WCO drew up the Integrated supply chain management (ISCM) guidelines[59]. These guidelines have been drawn up partly because developments in international trade and as a follow up of the SAFE framework. An example of this integrated supply chain is Customs-to-Customs information sharing. Due to the increase in ICT use, more data is available that can be exchanged between customs authorities or other government services. A data pipeline can therefore contribute to improving risk analysis and speeding up the process. The data pipeline is a concept of proof from the Consistently Optimised Resilient Ecosystem (CORE) project[60].

[58] WCO, 2021, SAFE Framework of Standards.
[59] WCO, June 2022, Customs Guidelines on Integrated Supply Chain Management (ISCM guidelines).
[60] Consistently Optimised Resilient Ecosystem (CORE) project; http://www.coreproject.eu/ page 11

The concept of the data pipeline is based on providing benefits to all stakeholders involved. These stakeholders operate across the various parts of the supply chain such as banks, the transportation industry, government agencies and regulatory enforcers. The data pipeline contributes to reducing the vulnerability to disruption (caused by natural disasters, terrorism or other forms of unwanted or illegal activity)[61]. By sharing the data, it can also contribute to keeping data available in case of IT disruptions.The data pipeline has two main principles. The first is the use, collect and sharing of the original trade data, preferably from the sender. This data is also made available and used by authorized parties in the trading network to improve their business operations based on the piggybacking principle[62]. This principle is aimed at the reuse of available company data and data flows in the international supply chain for purposes other than those for which they were originally intended, including for control and (legal) compliance purposes[63]. The declarants are currently submitting declarations or providing information to government services on the basis of the so-called Data Push approach[64]. A shift can be applied in the data pipeline whereby government services switch to the Pull approach to information. In this case, it is therefore the government service that can pull the necessary information from the data pipeline. Customs can also use this data from the data pipeline for decals under the fallback procedure. The second core principle in the integrated data pipeline concept is to determine when the shipment and the data set associated with this shipment are complete. In this context, these are called dt synchronization points. These synchronization points determine when shared information should be available to parties in international transactions[65].

[61] WCO, June 2022, Customs Guidelines on Integrated Supply Chain Management (ISCM guidelines). Page 18
[62] Tan, Y.H., et al, 2011. Accelerating global supply chains with IT-innovation: ITAIDE tools and methods. Piggybacking principle. Page 21.
[63] Baida, Z., et al, 2008, Rethinking EU trade procedures, The Beer Living Lab. Electronic Markets, 18(1), 53-64.

[64] Tan, Y.H., et al, 2011. Accelerating global supply chains with IT-innovation: ITAIDE tools and methods. Piggybacking principle. Page 5
[65] Consistently Optimised Resilient Ecosystem (CORE) project; http://www.coreproject.eu/ Page 11

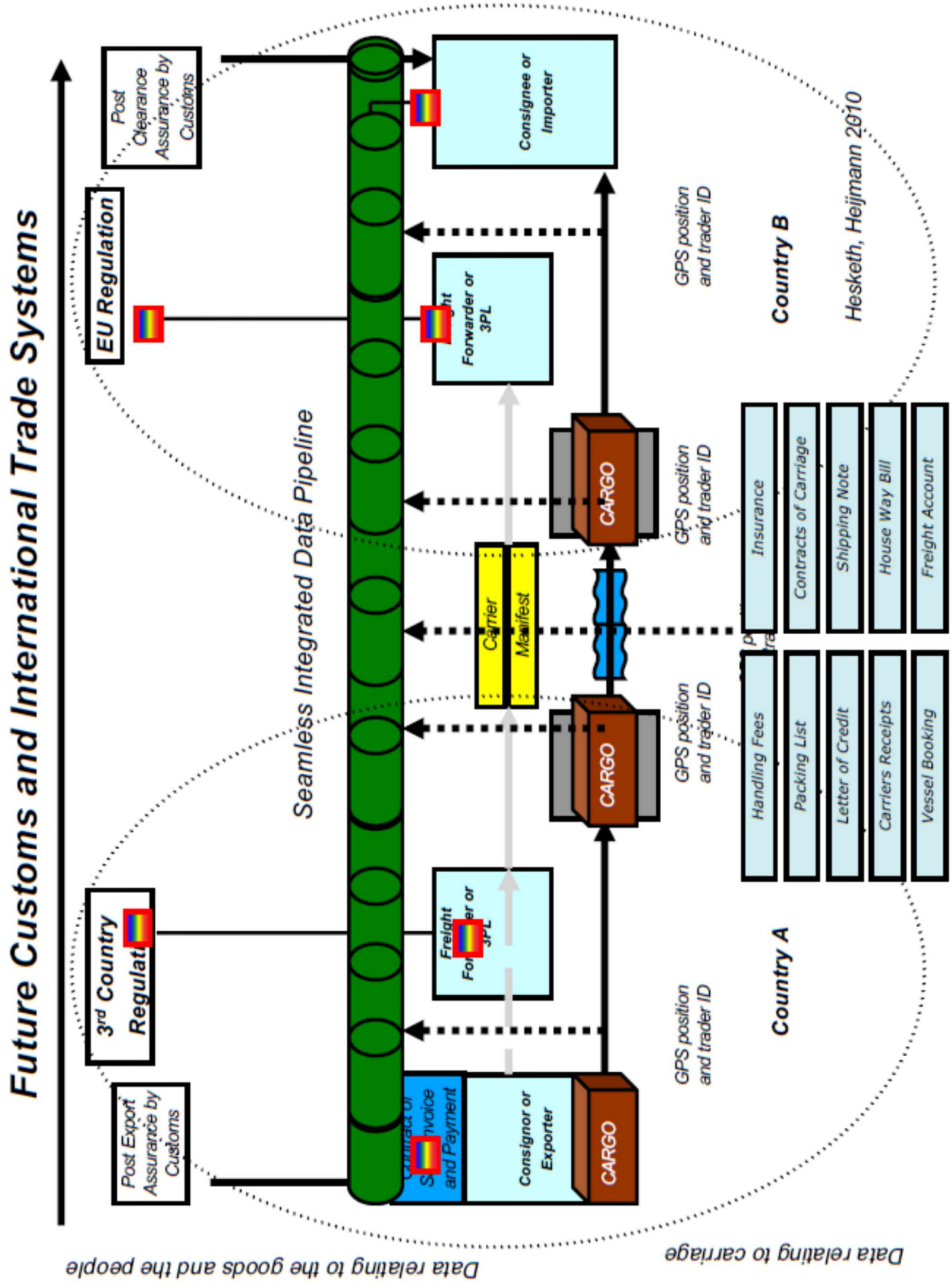

Figure 3.7 Seamless Integrated Data Pipeline Concept Hesketh, Heijmann.

3.4.3 Pushing Boundaries

In addition to these concepts, Dutch Customs has developed an extension of this approach in which supervision and enforcement are geared to the market participant. In the paper Customs enforcement vision Pushing Boundaries from 2014[66], Customs started working on an innovative way of monitoring the continuously growing flow of goods. The vision of Pushing Boundaries is based on a layered enforcement model. This means that a distinction is made between reliable companies with fewer checks and fewer infringements of the logistics process. On the other hand, the unknown companies are eligible for these checks. This form of supervision is determined by the availability and accuracy of information about this logistics chain, from the economic operator and the type of goods in this process. In order to be able to enforce in the right way, the right means of control can be used on the basis of the shipment and available information.

In the enforcement strategy, the economic operator and the supply chain are divided into 3 different flows. This subdivision is based on the available information from this flow of goods and the reliability of the economic operator. As mentioned earlier, an AEOS, AEOC or both certified company is more reliable in advance than an unknown economic operator. The difference in the flows are[67]:

- The blue flow of goods for unknown entrepreneurs: customs generally carries out checks at the border, based on risk selection and analysis.
- The green flow of goods for demonstrably reliable economic operators, or 'trusted traders': customs carries out observations - where possible outside the logistics process - to check the correctness of the actions. The operation of the internal control measures of AEO permit holders is, in short, only determined after cyclical supervision (audit), reassessment or another form of periodic review. If it turns out that this effect is sufficient, is there proven reliability and is enforcement in accordance with the principles of green flow[68]. It is a system based approach focused on the general goods flow and not on individual goods transactions.
- The yellow flow of goods is for smart and secure trade lanes: Customs works to make complete trade lanes secure, based in part on the automated collection and exchange of all relevant goods-related data of each party within such a trade lane.

In line with the Pushing Boundaries vision, the Dutch Customs also wants to adjust the klantmanagement process before 2025. The focus in klantmanagement is shifting more towards company-oriented supervision instead of declaration-oriented and physical supervision (Figure 3.9). The mutual reason for this approach is the increase in the number of declarations and the desire to implement this in an effective and efficient manner. The economic operators that are compliant will then have less control and the focus of customs can be directed to the less reliable companies. This working method is represented in the triangle in which the service is the largest task that Customs has set itself. Supervision is the next step in the enforcement strategy. In this vision, detection is to a small extent the work of customs because compliance has been promoted in the bottom two layers in such a way that detection is limited.

[66] Dutch customs, 2014, enforcement vision Pushing Boundaries.
[67] Dutch customs, 2014, enforcement vision Pushing Boundaries. Page 6.
[68] Dutch customs, 2014, enforcement vision Pushing Boundaries. Page 27.

Figure 3.8 Enforcement vision Dutch Customs Pushing Boundaries

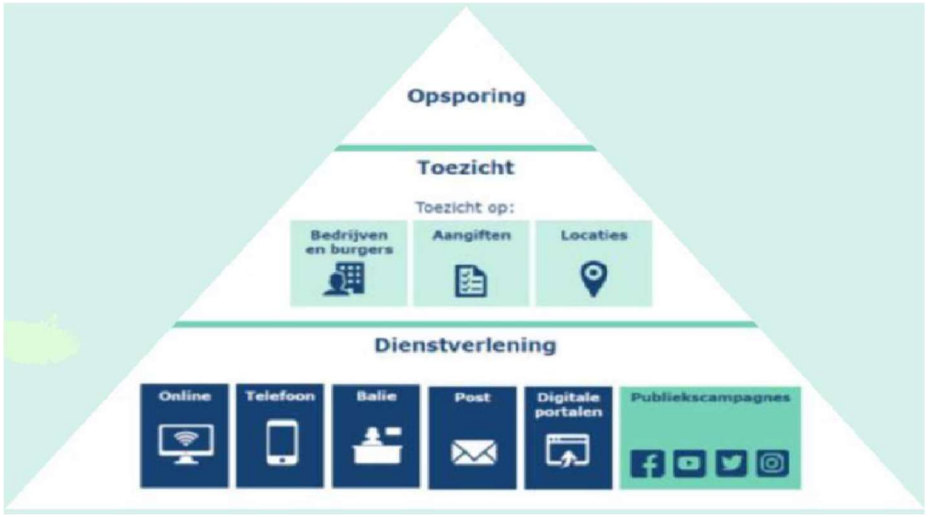

Figure 3.9 Triangle of Enforcement Klantmangement.

This approach of the economic operators as Customs wants to do in the future is very similar to the enforcement strategy that is depicted in the pyramid of Ayres and Braithwaite[69]. The representation of this pyramid is based on the willingness to comply of the economic operator on the one hand and on the other hand the measures that the enforcement service deploys to promote compliance or, if there is resistance from the economic operator, to force compliance with the regulations.

[69] Braithwaite, J, 2016, Responsive regulation: transcending the deregulation debate. Enforcement strategy. 38

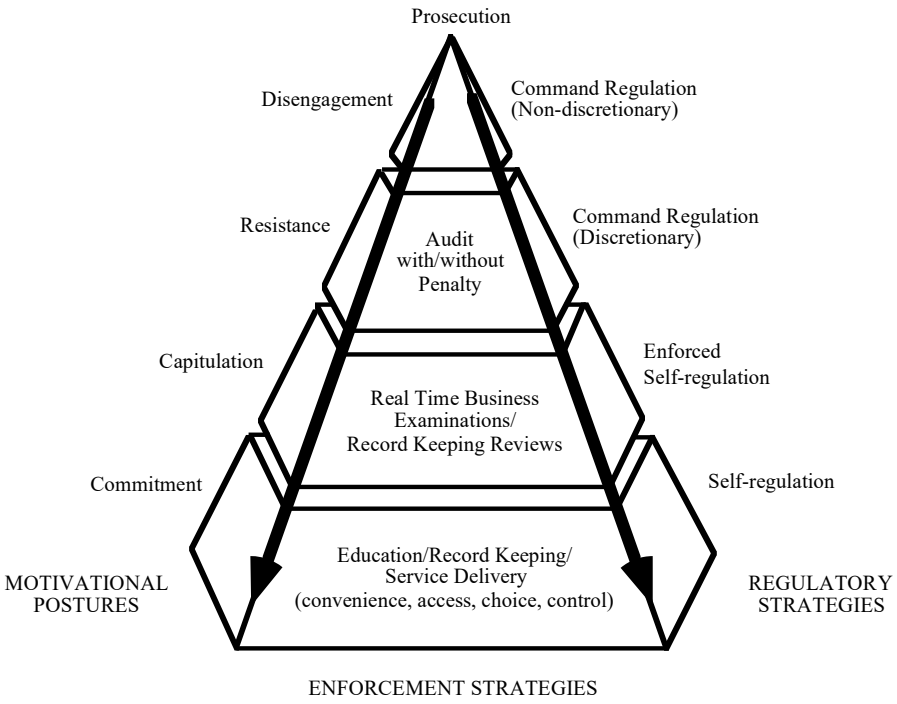

Figure 3.10 Enforcement strategy, Ayres and Braithwaite 1992.

3.4.4 Wise Persons Group

In 2021, in addition to the aforementioned projects and initiatives, a Wise Persons Group was set up as a result of the document[70] by Angela von der Leyen, who at the time opted for President of the European Commission. It has included the following intention in this document:

It is time to take the Customs Union to the next level, equipping it with a stronger framework that will allow us to better protect our citizens and our single market. I will propose a bold package for an integrated European approach to reinforce customs risk management and support effective controls by the Member States.

The Wise Persons Group first investigated the current state of affairs, which means that an intervention must be made to prepare the Customs Union for the future. The document was drafted is entitled, Putting more Union in the European Customs[71].

In this report there are 3 route causes for the conclusion that the Customs Union is not "fit for purpose":

1. Major changes in technology and trade, such as volume and e-commerce, have exacerbated existing problems.
2. Expectations about the role of customs have changed dramatically. These expectations are from the core tasks to new demands of citizens - sustainability, safety, human rights, health - and safety issues.
3. The systematic lack of common implementation of customs measures, differences in control priorities and differences in methods and sanctions for non-compliance. Mutual information exchange is substandard.

Based on these route causes, a number of recommendations, 10 in total, have been developed to prepare the Customs Union for the future and to counter the current shortcomings. Among these 10 recommendations are

[70] European Commission, Von der Leyen, 2019, A Union that strives for more, My agenda for Europe.
[71] European Commission, 2022, Wise Persons Group report.

a few that are directly related to the fallback process or can contribute to a development in this area. Recommendation 1 monitors adjustments in, among other things, the UCC and should focus on the process, responsibility and liability. Recommendation 2 deals extensively with the subject of data. The quality of this must be improved by, among other things, obtaining the data at the source.

This data must be made accessible by a central point that is accessible to multiple users and government departments. The third recommendation is in line with this by creating a framework in which the member states and other government departments have access to the data through mutual exchange. A custom agency is the fourth point where this organization must supervise an EU-wide Risk management framework. In addition, supervise Authorized Economic Operators. This organization is also responsible for data management involving the trustworthiness, rigorous validation and sharing of centrally stored data. The fifth recommendation is the system-based approach in order to provide better supervision and keep economic operators in compliance. The AEO permit holders are checked for compliance, but can also use the benefits of the certification, such as accelerated passage of the goods and fewer physical checks. The last recommendation that can be directly linked to the fallback process is the training, resource and equipe de customs to be able to continue to follow developments.

Figure 3.11 Wise Persons group 10 recommendations.

3.5 Summary Chapter 3 Review of literature.

The UCC prescribes that message traffic is electronic and, based on the various enforcement visions, the aim is also to further digitize the data transfer in order to increase visibility, transparency and the possibility of sharing the data. Economic operators are increasingly striving for compliance, which means that an AEO permit is one of the options, with which a more flexible enforcement strategy can be applied and the risk for customs is acceptable. Customs does require compliance with the law, but has no formal responsibility for the process aspects that the economic operator must take into account to be compliant. In the Netherlands, the pressure on customs is increasing due to the disruptions in the IT systems and, as a result, the frequent use of the fallback procedure drawn up by the ODB. This fallback is often used in the same way by other countries from the DA Annex B-01. There are also fallback procedures that make a subdivision into goods and assign time blocks to them. Other service providers have crisis organizations that come into operation in the event of IT disruptions, for example. Due to the ever-increasing flow of goods, the importance of good enforcement has also increased. Various visions have been developed for this, the agreement being that sharing data is crucial. This data sharing is between customers, customs and other governments. These various enforcement visions have been drawn up by, among others, the EU, the wise persons group and the Dutch customs authorities. The commonality in all these visions is the sharing of data by all parties involved in the supply chain and governments.

4 Research approach

This thesis has been developed according to a predetermined approach. The elaboration of the current fallback is a practical subject that has been researched taking into account the environment and the knowledge that has now been gathered on this subject. The influence of people, organizations and technology together determine the environment of this artifact. Foundations, such as the various legislations, and the research methodologies form the knowledge base. Literature research, interviews, data analysis, risk impact analyses and best practices will work towards a recommendation that provides answers to the research questions and is applicable in practice.

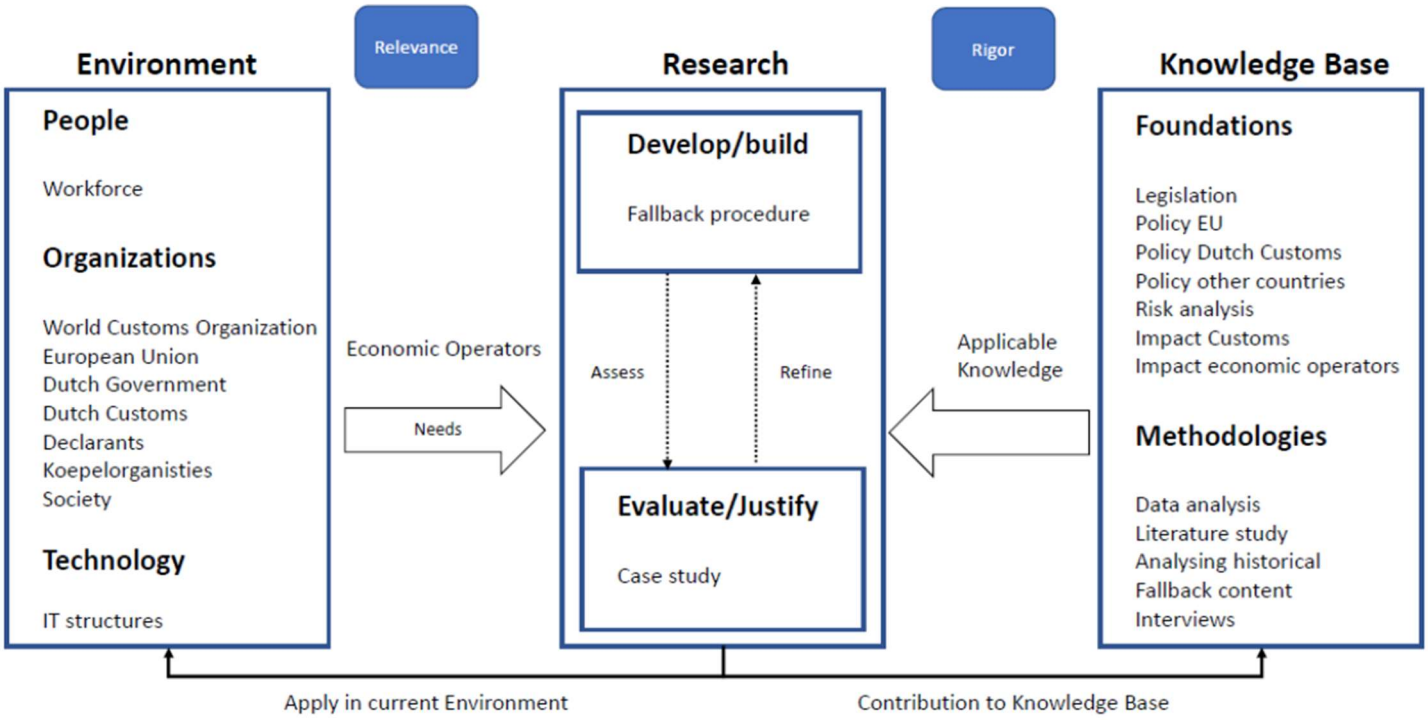

Figure 4.1 Set-up research. Based on Hevner et al, 2004

The fallback procedure is built on requirements arising from legislation and the vision of customs enforcement. By conducting the interviews, it is examined what the actual effect is in practice compared to the ideal set-up. The legislative aspect is further investigated partly through the interviews but mainly through the literature review. The enforcement visions are examined in the literature study. This approach and additional literature make it possible to answer the research questions. In this answer, the outcome of the data analysis provides the necessary substantiation.

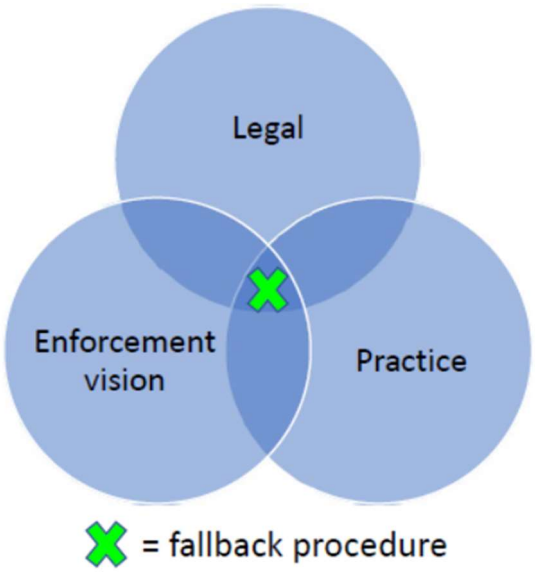

Figure 4.2 Component model Legal, Enforcement Vision and Practice.

4.1 Sample and data description

4.1.1 Data

The data used for this research is a data set[72] that originated from AGS. The data set was obtained in consultation with the customs sponsor. In appendix 9.15 there is an extensive explanation of the data set and the approach to this data. This is to clarify the analysis. All declarations with the code NP500 that are included in a file between September 2021 and August 2022. A distinction is made between import and export declarations in separate data sets. The code NP500 must be used for a declaration in AGS if a manual declaration has been submitted at an earlier stage for this same shipment in the fallback process and has also been handled as such. All submitted fallback declarations that have not been approved have not been processed. For these shipments, the declarants could submit a regular declaration once the system was operational again. A total of 51,546 import declarations were submitted in the indicated period for which the data were received and were also processed as such. The number of manual fallback declarations not approved/processed has not been included in this study. For export declarations, too, data was only analysed from completely processed fallback declarations, a total of 25,795. This data has been analysed in section 5.2.1. The number of companies that do not use the fallback procedure and wait for the system to be restored is not included in the data analysis. This analysis could possibly be further investigated in another study.

4.2 Set up of research approach

4.2.1 Literature

The literature has first been researched into the legislation that applies to this specific subject. In addition, an analysis of the associated regulations was carried out, such as the granting of a permit to an Authorized Economic Operator and the resulting conditions. Furthermore, the risk and impact of non-compliant behaviour are explained. In the following section, the agreements made by and for Dutch Customs include those with the business community. As mentioned earlier, the disruptions have such an impact on the economic operators that this subject has also been brought up in the political arena. A literature study was also carried out to indicate the seriousness in a good way. To answer research sub question 3, fallback procedures of other member states, countries and economic operators have been investigated in order to make a comparison with

[72] Permission from the customs sponsor to use this data set to perform an analysis. Permission in my possession and available upon request. Use of data set limited by keeping customer data hidden.

the Dutch approach and derive best practices. In case of other relevant documents or related to the topic of this thesis are also included.

Enforcement policy visions have been included in this in order to put developments within the customs field in the right perspective. These developments can be within the EU or in an even wider context.

4.2.2 Interview

Next to the literature a significant number of interviews were conducted. These interviews were mostly semi-structured because there was already some information about the topic. The main purpose was to collect rich data, in particular from users, implementers and specialists in the various areas in this process.

By using this interview approach it is possible to respond to the answers of the interviewee in addition to the pre-defined questions during the interview and ask follow-up questions. This makes it possible to go deeper into themes.

	General	Contribute to answer the research question (RQ) or Sub-question (SQ) 1-3
1	When and how will you be informed about the disruption and the start of the fallback procedure?	RQ, SQ1
2	Can the current fallback be applied properly during a disruption?	RQ, SQ1
3	What are your recommendations and possible adjustments for the current fallback procedure?	All
4	What points for improvement do you see for the fallback procedure?	All
	Specific	
5	Which legislation is the basis of the fallback procedure? (Customs)	SQ 1-3
6	What activities do you perform during the fallback procedure?	RQ, SQ1
7	Is work based on an instruction during the fallback procedure?	RQ, SQ1
8	If so, what does this procedure look like?	RQ, SQ1
9	Why were previous initiatives not further implemented?	SQ 1-3
10	What advantages can the Authorized Economic Operators license holders have during the fallback procedure?	SQ2, SQ3

Table 4.1 Setup semi structured interview.

The interviews focused in particular on the effect of the fallback in general for customs and the economic operators, the mutual cooperation and cohesion at customs internally and externally with economic operators, the points for improvement for customs and economic operators, communication at customs internally and proposals for improvement. The main purpose of these interviews is to investigate how the fallback procedure works in practice.

The list of interviewees was further expanded during the process due to the results of previous interviews and could possibly contribute to answering the research questions. The interviews held for this study were conducted internally at customs and externally at economic operators. In addition, there has been participation in consultations between customs and umbrella organizations on this subject.

In a broader context, there have also been internal consultations at Customs, which have been participated in as part of this investigation. The interviewees from Customs work in the various parts of the organization, which means that IT, legislation, internal procedures and implementation in practice can be discussed on the basis of risk analyses. The companies that were visited have a wide range of activities that, in addition to these problems, can also provide insights into alternative solutions.

Name	Function	Organization
General meeting companies effected by fallback	Divers	Divers
Customs internal consultation	Divers	Customs
Interviewee 1	Team leader NHD	Customs
Interviewee 2	Former project leader	Customs
Interviewee 3 and 4	Technical coaches AB	Customs
Divers	Staff DLTC import	Customs
Divers	Staff DLTC export	Customs
Interviewee 5 and 6	Staff handhavingsbeleid	Customs
Interviewee 6	Customs affairs manager	DHL
Interviewee 7	Manager border control & regulatory affairs KLM Cargo	KLM
Interviewee 8 and 9	Consultants	Software suppliers
Interviewee 10 and 11	Account managers software suppliers	Customs
Interviewee 12	AEO expert	Customs

Table 4.2 List of interviewees.

4.3 Validity and reliability of the methodology

The recommendations of this thesis are discussed internally at customs and in consultation with the business community, ODB-IT. If the various authorities agree with the substantive proposals, Customs will have to proceed with implementation. The research and the recommendations have been validated by the agreement in the consultation and the implementation. This consultation took place on 16-03-2023 in the form of an ODB-IT. A brief overview and the results of this consultation are included in the appendix chapter 9.1 Meeting umbrella organizations economic operators and ODB-IT.

4.4 Summary Chapter 4 Research approach

The research approach of this thesis consists of several methods. Research has been done into the data set, semi-structured interviews have been held and literature has been researched. The outcome of these 3 elements is tested for impact on customs and economic operators.

5 Research results and analysis

5.1 Presentation of the outcome of the research approach

5.1.1 Outcome of interviews.

5.1.1.1 Customs internal procedures

Dutch Customs and the economic operators are highly dependent on the automation of the various processes. The declaration program AGS is currently the program for submitting declarations for import and export. As of the end of October 2023, DMS is fully implemented according to the current schedule. At that time, the DMS application completely replaced the AGS system. The DMS implementation means that besides AGS also other matters will be cancelled. One of the most important in the tax return process is the expiry of the Geautomatiseerde Periodieke Aangifte (GPA). If a company has a bonded warehouse, they usually submit their declaration monthly via the GPA afterwards. This means that an extra time-bound flow is added and the number of declarations will increase just as with a failure, the number of fallbacks can increase..

Customs strives for availability of the customs systems based on percentages. Agreements have been made about this with the ODB. These agreements also include how and when communication will take place if there is a disruption. These agreements are laid down in the communicatieprotocol onbeschikbaarheid douane systemen[73] (Communication protocol unavailability customs declaration systems) for the unavailability of customs systems (interview question 7 and 8). A disruption can be a planned or an unplanned disruption. The planned disruptions relate to regular and extra maintenance of the systems. The unplanned unavailability is a result of an unforeseen disruption. All fallback procedures of customs that have been worked out under the communication protocol are shown in figure 5.1 . This thesis focuses on the fallback procedures indicated in yellow.

When a disruption occurs at customs, the economic operators has often noticed this earlier (interview question 1). They work continuously with the programs to submit the declarations. If they encounter problems with the customs applications, they can contact the NHD. This is the most common way in which a disturbance was signalled. The process when the disturbance of AGS has occurred and the involved parties are scheduled in figure 5.2.

[73] Nederlandse Douane, 2022, Nationale Helpdesk, Communicatieprotocol Onbeschikbaarheid Douanesystemen.

Fig. 5.1 Scheme communication plan, fallback procedures and documents.

Fig. 5.2: Message flow NHD in case of disturbance.

The following pages provide a detailed explanation of the current working method of DLTC and AB in the event of the fallback procedure, as deduced from the interviews held. This explanation has been expanded to provide a good picture of the practice and implementation in this process. (interview questions 6,7 and 8)

In case of a disruption of the systems the NHD is the department to take action to investigate the cause of the disruption. This is carried out by the functional managers (figure 5.2). On the basis of the initial investigation, the NHD communicates via the website and by means of an email to which you can subscribe[74] that the disruption has been identified and is being investigated. This free email service is available for all the applications of the customs (interview question 6 and 7).

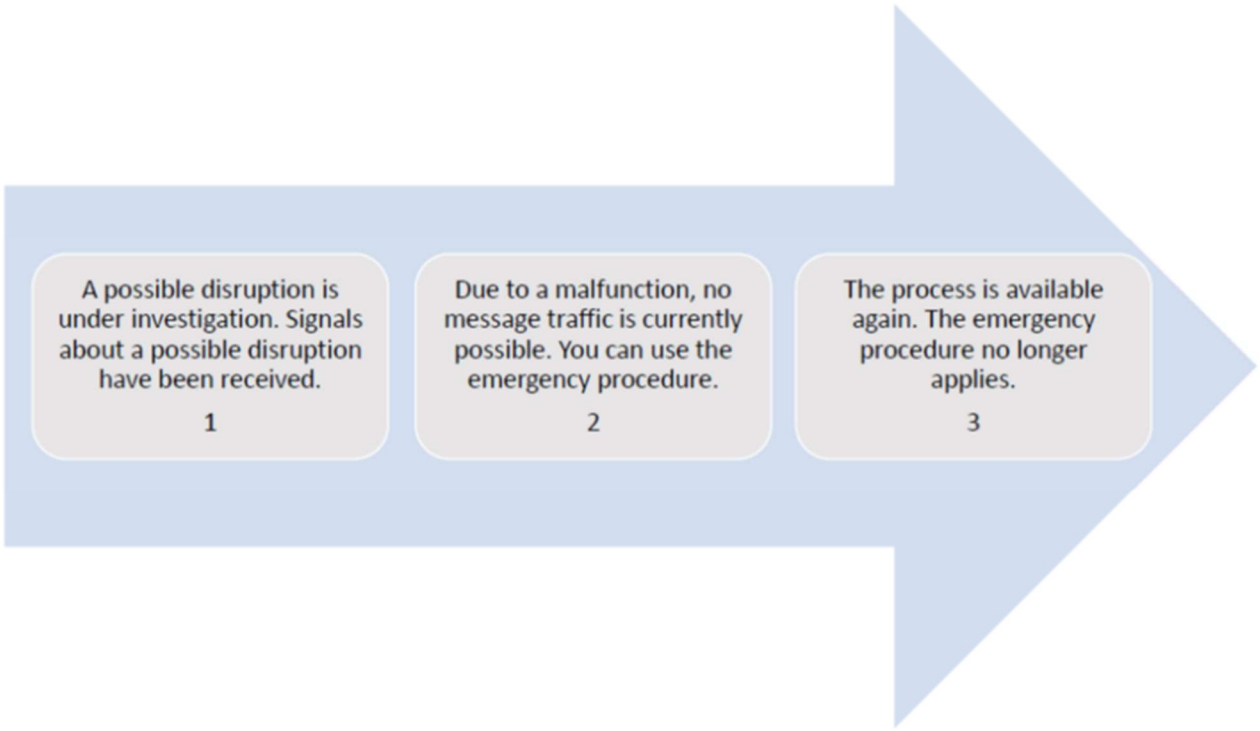

Figure 5.3: Different stages in messages NHD in case of disruption.

The NHD communicates about the investigation into the disruption (fig. 5.1 1). Depending on the complexity, the fallback procedure may be used after an hour (fig. 5.1 2). The NHD communicates this in a separate message. When the disruption has ended and the fallback procedure may no longer be applied, a separate message is sent. (fig. 5.1 3) (interview question 7 and 8)

During the fallback procedure, companies can submit a manual declaration to AB by sending an email with a PDF document with the requested data set as an attachment. The manual declarations are an extra unforeseen task for AB for which no extra staff has been set up. This is at the expense of regular activities. These fallback declarations are handled by various departments of AB or DLTC. This variation depends on the region, Rotterdam and Schiphol Cargo, where the declaration arrives, and the type of declaration (interview question 5 and 6). Import and export declarations are handled by different departments. The location of the goods is leading for the place of declaration.

[74] Nederlandse Douane, Service to register for the email service.

5.1.1.1.1 Import

This declaration is handled by AB or by the DLTC. This depends on the type of goods for which a declaration is made and in which region the declaration is processed. In the Rotterdam region, all declarations are processed by the DLTC. The processing of the fallback procedure is done by the customs colleagues who, in the regular process, allocate the risk selections to the department that must investigate this risk. In the case of the fallback procedure, there is no crisis organization that coordinates or partially takes over the work.

There is no Eenheid van Beleid en Uitvoering (EBU) (Unity of policy and implementation) which leads to different working methods for a company that files a declaration in the different regions. The content of the declaration is the same, the handling of the declaration differs per region. This difference is partly due to the response times that have been agreed per modality. The cargo that goes on planes has a shorter lead time than, for example, deep sea shipments. The outcome of the manual check can lead to 3 outcomes (interview question 5). Or the goods may be removed immediately, a physical check will follow based on a PLATO assignment or further substantiation of the declaration with documents will be requested. The additional documents are requested and tested by AB Breda. The outcome of the check of AB Breda can result in an permission to move the goods or the import isn't allowed.

For the Schiphol Cargo region, there is a distinction between perishable goods and the other declarations. The perishable goods are assessed by AB. The other declarations are handled by the DLTC. ((interview question 6, 7 and 8)

In the event that the DLTC assesses the declaration that leads to a physical check, this department creates a PLATO (plannen en toedelen) assignment. This is a description of the check that must be performed. This check can be a sample of the goods, visually determining whether they are the correct goods indicated by means of the commodity code or a check on the volume and/or weight. The outcome of this check is fed back to the DLTC by means of PLATO. Based on this outcome, the DLTC issues a message to the declarant that the goods may be removed. In the event that the outcome of the declaration check by the DLTC requires an administrative check, the DLTC will forward this to the AB department for further processing. AB will communicate with this declarant and request additional substantiation of the declaration. If this request is complied with, permission for the removal can be communicated by AB.

When it comes to perishable products, there is often time pressure due to the short response time in the airfreight process. AB handles these declarations and shipments at Schiphol Cargo. The declarant gets an agree to the removal of the goods in the declaration. Or the customs want a further addition to the transferred documents of this shipment. The last is the physical check by the physical supervision department by creating a PLATO order. In the latter two cases, removal can take place if the request for substantiation or the physical check is approved.

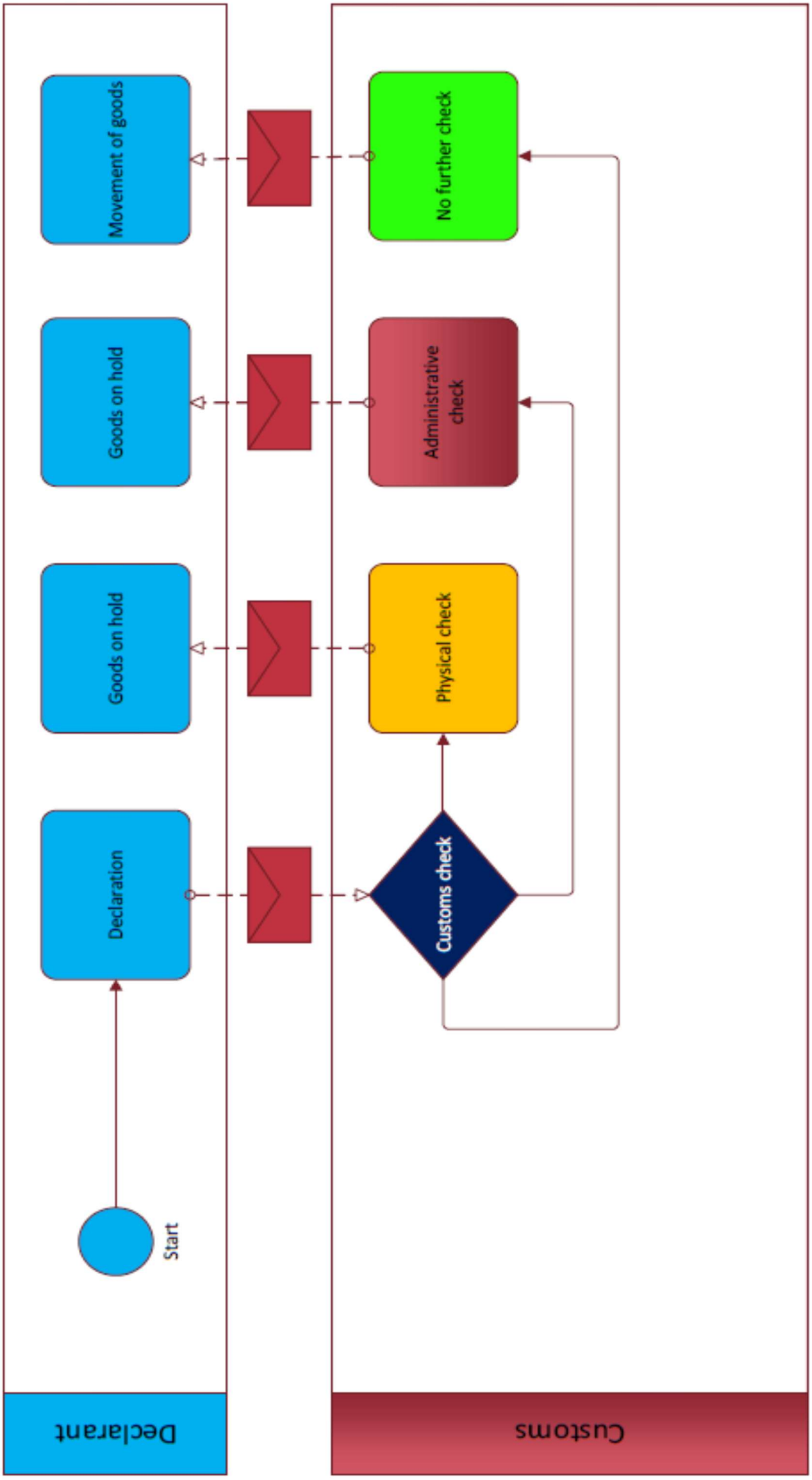

Figure 5.4: Fallback DLTC/AB DRH

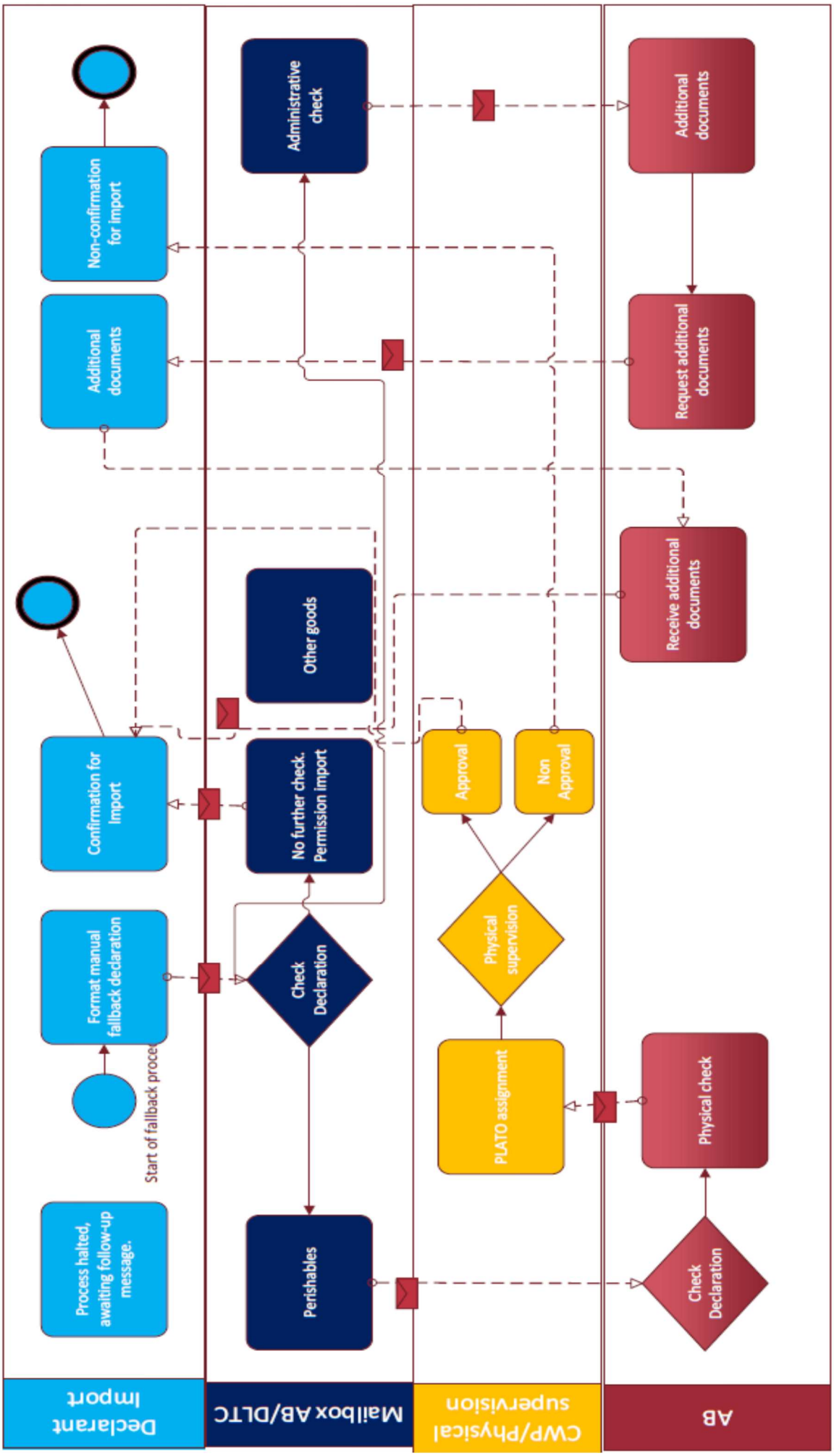

Figure 5.5: Fallback DLTC/AB DSC

5.1.1.1.2 Export

The export department DLTC Rotterdam assesses the risks that apply to outgoing goods. In the current time, with the sanction measures, this is a crucial department. The European Union, and in this case the Netherlands in particular, want to prevent sanctioned goods from being exported. In the situation that the declaration systems are operational, the declarations are checked on the basis of profiles. This is done manually during the fallback procedure. The interview showed that this check is based on experience and knowledge of the sanctioned countries (interview question 7 and 8). The contents of the risk profiles that are used under the normal situation are not known to the employees. The work instruction also seemed to be unknown and differed from the previously obtained joint work instruction from the DLTC and AB. The EBU principle does not apply to other departments involved in the same process. The existence of the NHD mail service and the subscription to it is also unknown. The information about the use of the fallback procedure is heard from colleagues and companies. This department works reactively to the situation that has arisen and is not at the information level to react quickly in a situation of the fallback procedure. Also within this process there is no calamity organization that can be deployed (interview question 2,3 and 4).

When the fallback procedure has to be used, the employee must first create folders in the mailbox. This process is not pre-arranged. In addition, not every employee is authorized to perform these actions. The fallback declarations arrive in a shared mailbox with AB. The DLTC employee retrieves the declarations from there and drags them to the created new folders. A copy of this will be copied into the personal inbox. All these actions are manual activities in preparation for the actual assessment of the declarations in the fallback procedure. (interview question 4, 5 and 6)

The declarations submitted must meet certain criteria and supported by underlying documents. The quality of the submitted applications is insufficient in 10-20% of the cases and are returned to the applicant. The employee indicated that assessing an invoice is a specialty and that they feel insufficiently competent to properly assess an invoice .

For each fallback submitted, the DLTC takes between 10 and 15 minutes to make a decision. It can happen on a busy day that, for example, 400 manual declarations cannot be processed.

Ending the fallback becomes clear to the employees because the normal workflow in which they work restarts. In this indirect way they are informed.

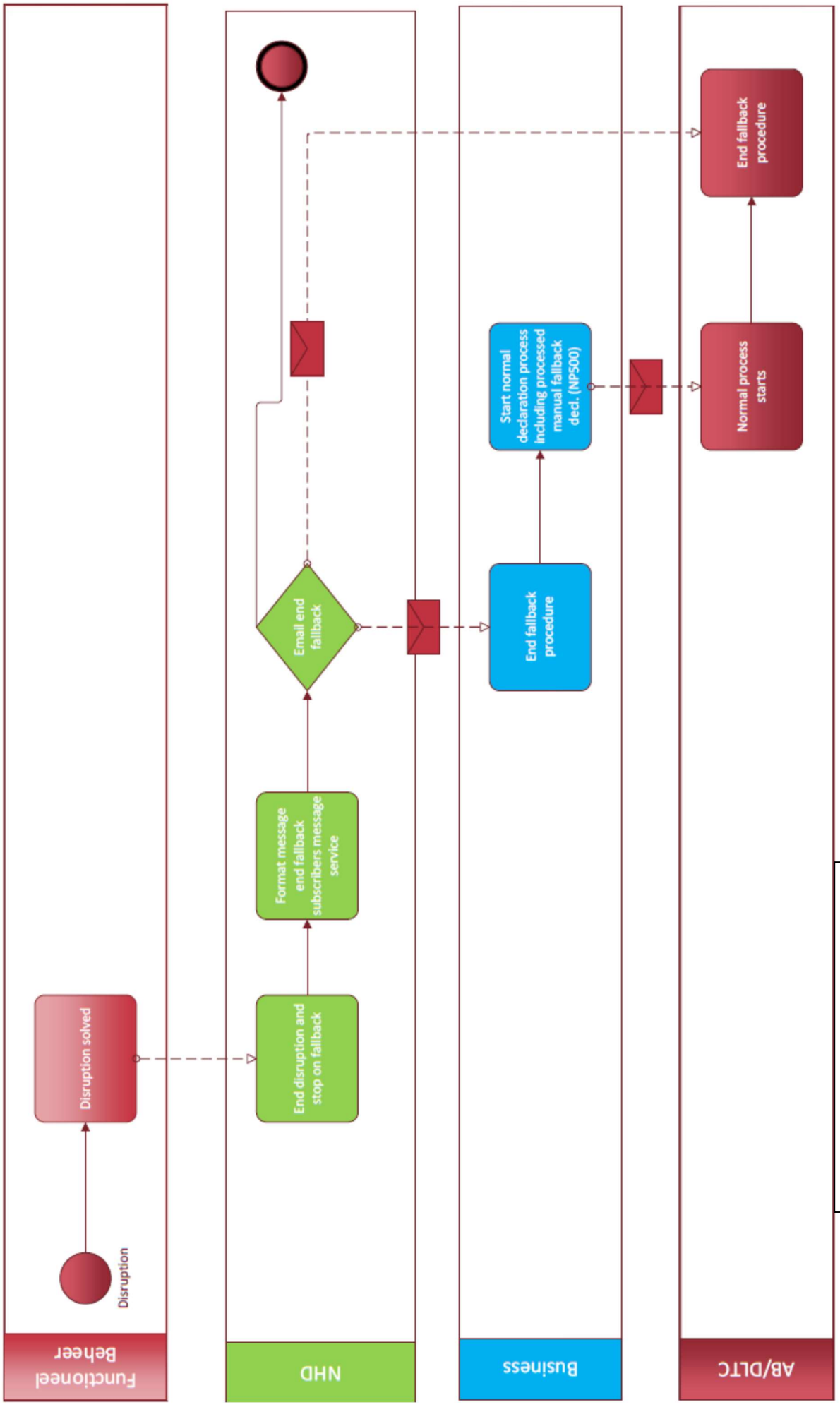

Figure 5.6 End of fallback process

5.1.1.2 Communication

The logistics process is a tight organization with a tight time schedule between the various links in the chain. Transport by ferry ships, especially to England, is experiencing a lot of time loss from the disruptions. This is partly because the supply chain in that process has had to adjust in recent years as a result of BREXIT. This process also had to comply with customs formalities, in contrast to the period when the UK was still part of the EU. The loading of the trailers and the actual shipping to the UK is in a short time frame with little or no room to accommodate disruptions.

When a disruption occurs, the parties involved want to be able to switch as quickly as possible and limit the disruption as much as possible. In the fallback procedure, there are complaints about the manner of communication from the NHD (interview question 1 and 4). In order to maintain control in the process and to be able to make the right choices, there is a need for time indications in the event of a disruption. (interview question 2) If time frames for updates are mentioned in the communication from the NHD, then a submitter can better assess whether he should use the fallback or whether he can wait for an update in which the disruption may have been resolved. Now the deployment of the fallback is possible one hour after the disruption has been detected. This hour is an outcome of the communicatieprotocol onbeschikbaarheid douane systemen[75] (Communication protocol unavailability customs declaration systems). This has been drawn up and approved by the participants of the ODB.

5.1.1.3 AEO status

In addition to the substantive comments about the current fallback procedure, the companies would also like to benefit from the AEO status (interview question 10). The companies that have invested money in achieving and maintaining the AEO experience little benefit from this. Giving insight into the administration and being able to track shipments also applies to shipments under the fallback procedure. If more use is made of this by customs in the event of disruptions to the customs systems, the shipment can still be searched for in the administration. On export, the goods are certainly already gone with this set-up. However, in many cases a physical check can be carried out afterwards during import and storage. Within customs, a movement is underway for the 'normal' process that focuses on more targeted controls, enforcement vision, within an integrated supply chain[76]. With this approach the trusted traders receives considerably less checks. This is based on the Pushing Boundaries[77] concept of the Dutch customs. This concept has not yet been implemented in the processes of Dutch customs. Preparations to start working in this way for imports in the normal procedure are currently underway.

5.1.1.4 Digitalisation in the fallback procedure

In the past, internal Customs investigated what a good solution is for the fallback procedure. In these studies, the Digitale Noodvoorziening Douane for Customs has been proposed. These studies date from 2014 and 2018. Despite valid considerations such as the crucial importance of AGS, the cash position of the Netherlands and the increase in the number of declarations, no decision has been made to digitize the process (interview question 9). The main reason was the full portfolio of the IV chain and the investment of money and capacity.

The question that is currently important in digitization is what data does customs need? How is this data processed? And what is the outcome of this. From the point of view of the software suppliers, what came out in the interview, a change should take place. At this moment all data is being 'pushed'. Also data that is not

[75] Nederlandse Douane, 2022, Nationale Helpdesk, Communicatieprotocol Onbeschikbaarheid Douanesystemen.
[76] WCO, June 2022, Customs Guidelines on Integrated Supply Chain Management (ISCM guidelines).
[77] Dutch customs, 2014, enforcement vision Pushing Boundaries.

used. Due to the increase in declarations and in the future the adjustment of the GPA, an enormous amount of data is created. They prefer a 'pull' option where customs only request the necessary data.

In previous proposals the option of an XML file has come forward. This option was also mentioned in the interviews (interview question 4). This is viewed differently by stakeholders. All data is sent from the declaration program of the submitter via the XML message. Customs must be set up in this option to read these files. In addition, in this variant the question is what has already been mentioned what Customs does with this data. You may be creating an unnecessarily large flow of data.

5.2.1 Data analysis.

In the analysis of the data, research was done into the number of failures in a period of 3 months. In this data set, a distinction is made between the type of disruption, planned and unplanned. In addition to this distinction, the duration of the outage is categorized into blocks of time. the cause of the disturbance is also included in the data set but not further analysed because the scope of this thesis was not established there.

Next to that research of the disturbance, research has been carried out into the disruptions over a period of 12 months and the declarations made therein that can be related to a previously submitted written declaration. These are the NP500 declarations. In this study, a distinction is made according to the place of declaration and the type of goods is specified. The data set contained more fields that were not included in the scope for this thesis. This includes the number of articles per declaration and the weight, number of the consignment, goods description, country of destination, country of departure and country of origin, delivery conditions and address details of the declarant. These data have therefore not been further investigated.

5.2.1.1 Average duration downtime AGS

As mentioned earlier, a distinction is made between planned and unplanned unavailability. In this analysis, a subdivision has been made in the case of unplanned unavailability between maintenance and disruption. The table below shows the figures over a period of six months, including the number of disruptions per category and the average duration of the unavailability. This duration of unavailability is also subdivided into time blocks of 2 hours up to 6 hours. The unavailability that is longer than six hours is included in a group. This subdivision has been made to clarify how long the disruptions last in general and what the duration is per category. Of all unavailability moments, 38% was communicated in advance with the business community in accordance with the customs systems unavailability protocol. All but one of these maintenance moments were during the weekend. 52% of all outages are resolved within 4 hours of the outage occurring. Of these disruptions, 22% is planned maintenance and known in advance to the declarants with the possibility to anticipate this. The remaining 30 percent is an outcome of unforeseen unavailability.

		Average duration of the disruption	0 till 2 hours	2 till 4 hours	4 till 6 hour	longer
Planned maintenance	21	04:53	3	9	3	6
Unplanned maintenance	3	02:04	1	2	0	0
Disturbances	31	06:16	7	7	8	9
Total number of disturbances	55	05:39	11	18	11	15

Table 5.1 Sort and duration of disruption.

For the numerical analysis, research was done into the declarations submitted in AGS with the code NP500. This code refers to the fact that this declaration has previously been submitted manually and has been processed in this way. The total amount of declarations in AGS for in almost 700 million declarations[78]. In principle, these declarations are only used for the static data. They are no longer used for the risk analysis because this analysis was carried out in the first phase of the fallback procedure. In this analysis, only the

[78] Nederlandse Douane, juni 2022, Kerncijfers aantal verwerkte aangiften voor import , export, exit en transit.

economic operators that made use of the fallback were investigated. It is possible that another study can investigate the effect of companies that never use the fallback and wait until the regular process can be used again. This was stated in the discussions on this subject, during the major consultations with the business community. That economic operators do not want to be confronted with the duplication of work and the possible administrative burden afterwards and therefore have to shut down their own process.

For the analysis, declarations were used in the data from the period September 2021 to August 2022. The data relate to import and export declarations submitted to the declaration points on the Maasvlakte in Rotterdam and to Schiphol Cargo. In order to also gain insight into the impact on the shipments of perishable goods and live animals, derived from the approach of the Irish customs authorities, the analysis also made a distinction based on HS codes[79] in addition to the total number. Sections 1 and 2, chapters 1 to 14, have been selected in the analysis related to the content of these chapters.

5.2.1.2 Export fallback declarations

The number of export declarations in 2022 was 28.009.623 as a total. In the data set 25.795 declaration lines were submitted for the export process with the NP500 code. So 0,09% of all declaration were made in the fallback procedure. Of these 25.795 NP500 declaration 64% were made at the Rotterdam Maasvlakte declaration desk. These declarations are applicable for all kinds of modalities of transport. The main flow of goods are by ship, short sea and deep sea, in this area. The area of Amsterdam Airport and Seaport have with the main port of Schiphol an large flow, and therefore declarations, in airfreight. What is striking in this overview of the analysis is that the goods from Amsterdam Airport/Seaport, with an HS code from chapters 1-14, represent a significant percentage of the total of export declarations in the fallback procedure (25%). This amounts to 69% of all fallback export declarations that fall within the HS codes mentioned, which are reported to the Amsterdam Airport/Seaport office. Also striking is the percentage of the NP500 declarations in relation to the total duration of the disruptions as previously shared in the overview availability of customs systems (Fig. 2.3). There was an availability of 96.1 of the systems. The percentage of declarations under the fallback procedure of 0.09% is then disproportionate. In absolute terms, a number of around one million declarations is more in line with total amount of export declarations because of the unavailability of 3.9% of AGS.

Total export declarations NP 500		25795	
Declaration point	Amsterdam Airport/Seaport		Maasvlakte
absolut number export declarations NP500	9277		16518
Percentage total export declarations NP 500	36%		64%
Total export declarations HS code chapter 1-14		9315	
absolut number export declarations NP500 HS chapter 1-14	6438		2877
Percentage total export declarations NP 500 HS chapter 1-14	69%		31%
HS chapter 1-14 export declarations of the total NP500 declarations	25%		11%

Table 5.2 NP500 export declarations

5.2.1.3 Import fallback declarations

The number of import declarations in 2022 was 29.863.983 as a total. In the data set 51.546 declaration lines were submitted for the export process with the NP500 code. So 0,17% of all declaration were made in the fallback procedure. In this representation of the numbers, other things immediately stand out than in the export analysis. To begin with, the number of declarations with an HS code from chapter 1 till chapter 14 is considerably lower than in the export analysis. Now it is 3% and 1% respectively for Amsterdam Airport/Seaport and the Rotterdam Maasvlakte. It should immediately be noted that 83% of this is imported by Amsterdam Airport/Seaport. Despite this increase, the total number of declarations with the NP500 code is in a

[79] SDU, Gebruikstarief & Toelichting, HS codes https://www.inenuitvoer.nl/gebruikstarief

different proportion, in which Rotterdam Maasvlakte makes relatively more use of the import fallback. Also striking is the percentage of the NP500 declarations in relation to the total duration of the disruptions as previously shared in the overview availability of customs systems (Fig. 2.3). There was an availability of 96.1 of the systems. The percentage of declarations under the fallback procedure of 0.17% is then disproportionate. In absolute terms, a number of around one point one million declarations is more in line with total amount of export declarations because of the unavailability of 3.9% of AGS.

Total import declarations NP 500		51546	
Declaration point	Amsterdam Airport/Seaport		Maasvlakte
absolut number import declarations NP500	9277		42269
Percentage total import declarations NP 500	18%		82%
Total import declarations HS code chapter 1-14		2097	
absolut number import declarations NP500 HS chapter 1-14	1742		355
Percentage total import declarations NP 500 HS chapter 1-14	83%		17%
HS chapter 1-14 import declaration of the total NP500 declarations	3%		1%

Table 5.3 NP500 import declarations

5.2.1.4 Manual handling in time

As the import and export figures show, more than 77,000 manual declarations were submitted in the 12-month period of the data set. It emerged from the interviews that per fallback declaration between 10 and 15 minut.es is needed to properly assess the application. This amounts to a maximum of 6 fallback declarations per hour per employee.

If these declarations would be seen as a regular and uniform workflow, then at least 7 full-time employees are required to handle this process.

77341 fallback declarations : 6 handling declarations per hour = 12890 hours work stock.

12890 hours work stock : 1822[80] workable hours for a full-time employee = 7 full-time employees

It is of the utmost importance for the logistics chain to quickly obtain clarity about the submitted fall-back. At these peak times, a multiple of the 7 employees resulting from the calculation must be deployed. Due to the lack of the calamity organization, this solution is not available and the processing time of the declarations is longer than in the agreed response times.

In the scenario in which all declarations are submitted under fallback during a disruption, 1.1 million import declarations and 1 million export declarations have to be processed manually. To illustrate the consequences for the risk analysis, the calculation below has been made as a comparison with the current situation.

2.100.000 fallback declarations : 6 handling declarations per hour = 350.000 hours work stock.

350.000 hours work stock : 1822[81] workable hours for a full-time employee = 192 full-time employees

The 191 full time employees is based on the current numbers over the last period. As mentioned earlier, DMS will be implemented in 2023 and the number of declaration rules will increase considerably. The calculation for the deployment of personnel for the fallback at that time has not been taken into account for this thesis. But

[80] P-direkt, working hours for 2023; https://www.p-direkt.nl/informatie-rijkspersoneel-2020/mijn-werk/huidig-dienstverband/arbeidsduur-en-werktijden/arbeidstijdpatroon

[81] P-direkt, working hours for 2023; https://www.p-direkt.nl/informatie-rijkspersoneel-2020/mijn-werk/huidig-dienstverband/arbeidsduur-en-werktijden/arbeidstijdpatroon

the calculation based on the available figures of the fallback in AGS and the deployment of 191 full-time employees already indicates that this is an impossible task for the manually service at peak times.

5.3 Impact customs and economic operators manual fallback or electronic fallback

The literature research, interviews and data research have created a picture of the moments when the declaration systems are unavailable and what solutions could be, the manual fallback procedure or an electronic fallback. The impact of this choice can be divided into 3 main themes: Operations, Finance and Compliance. These themes are subdivided into sub themes that can be linked to customs or the economic operator. The subthemes have received a rating of Low (L), Medium (M) or High (H) impact. The impact analysis has been set up for the short and longer term.

5.3.1 Impact operations

The impact for the supply chain is currently significant for the economic operator with the manual fallback procedure. This is because it deviates from the regular process and requires adjustment from the economic operator. By introducing an electronic declaration, a link can be made with the economic operator's system, limiting the impact in that process. An example of this is a switch that can be converted when the alternative application must be used. The quality of the declarations in the regular process remains high and in some cases mediocre in the electronic version. Not all returns are submitted correctly and are automatically returned. So no major impact is expected in that area. The investigation has shown that many incomplete declarations are submitted with manual forms, fields are not filled in in the form or underlying documents are not attached. That quality can be referred to as low.

	Customs	Economic Operator		Manual Fallback		Electronic Fallback
Operations						
		Impact supply chain operations		**H**		**L**
		Quality declarations		**L**		**H/M**
	Impact customs operations			**H**		**L**
	Quality risk Analysis			**L**		**H**
Finance						
		Costs delay in supply chain		**H**		**L**
	Costs development buffer solution			**-**		**H**
	short-term financial consequences			**H**		**H**
	Long-term financial consequences			**H**		**L**
Compliance						
		Compliant declarations		**L**		**H/M**
	Recognize incorrect decalrations			**L**		**H**

Table 5.4 Impact manual and electronic fallback customs and economic operators.

The data analysis has shown that the current manual fallback procedure requires a considerable amount of personnel. This commitment will increase further in the future with the expected development of the number of declaration rules. The calculations as made have not been reduced to peak moments, which the fallback is. The impact for the current manual procedure, with good quality execution, is high. This extra work is no longer required with an electronic solution. Due to this manual control, the quality is low, in contrast to the electronic control of the risk profiles and algorithms.

5.3.1 Impact finance

Related to the delay in the supply chain are the costs for the economic operator. The more unavailability of the customs systems, the greater the financial consequences. These costs arise from the 'snowball effect'[82]. This thesis has not been calculated in terms of amounts. But the knowledge that schedules have to be adjusted due to delays, drivers have to be available at other times, storage costs are rising and performance contracts cannot be met, make this increase plausible. With the redundancy solution, this impact is negligible compared to the regular process in the supply chain.

Customs incurs costs for developing an alternative buffer. These are difficult to estimate because it has to be further specified what the system must comply with. These costs are included in this overview as short-term. This was partly done to make it clear that the investment will have long-term effects for customs. Although there is time pressure to realize it, a well-considered and stable system is the most important thing as an alternative to the current unstable systems.

As the data analysis has shown that in the current situation (sort term financial consequences) there are already high costs, especially for personnel, to carry out the risk analysis. The overview of the costs shows that the investment of an redundancy declaration system is financially more profitable than maintaining the current manual fallback procedure.

5.3.1 Impact compliance

By having to adjust the processes at the economic operators ad hoc, this may have followed for the compliance standard. When filling in the fallback manually, errors can still be made unknowingly. With the redundancy solution, this risk is less great and the standard of the companies will be met. The valuation of M/H is included because not all companies are equally compliant in the current process. That is why this display corresponds to the results of the regular process when AGS is operational.

For customs, the alternative electronic system contributes to an increase in the quality of the verification of the declarations. In the manual fallback procedure, limited attention is paid and errors can quickly be overlooked. That impact is less present in the digital version

5.4 Summary Chapter 5 Research results and analysis

Several customs departments are involved in processing declarations for import or export. This expands even further when using the fallback. Due to the different modalities, there is a difference in, among other things, the response times in the handling. It emerged from the interviews that the departments have little or no contact with each other during the fallback procedure and that a lot of information does not reach the parties involved, such as the message of a disruption and the use of the fallback. Due to the increase in workload and the non-scaling up of occupation, declarations remain unanswered. In addition, inquiries were made about the status of the AEO permit holder and the requirements that the EU sets for the data set for the fallback. Several initiatives have already been taken within customs to optimize the fallback. The results of this have also been investigated.

Based on a data set of NP500 declarations, an analysis was carried out on the number of declarations related to the fallback procedure. This made it clear that the volume does not seem to match the number from the regular process. A comparison was made between the declaration offices and a closer look was taken at the type of goods. This showed that Schiphol submits more declarations for perishable goods during the fallback. This may be due to the time-critical process of air freight. This is also the explanation for the difference in response times used by customs in handling. The data has shown that the deployment of personnel for

[82] Świerczek, A, 2012; The impact of supply chain integration on the “snowball effect” in the transmission of disruptions: An empirical evaluation of the model. Page 90

handling the fallback is considerable in the current situation and that this is actually impossible if the manual fallback declarations increase further or even generate the same number as during the regular process.

In the impact analysis, a general picture is that the short-term costs of implementing an redundancy solution are higher for customs. The introduction of this system has resulted in better quality of controls, lower personnel costs, less impact for the supply chain and higher compliance.

6 Contribution for research and practice

The contribution of the thesis can be seen in three ways. First of all, it contributes to the internal organization of customs. It also contributes to the fallback procedure in which the members of the ODB are served. Finally, there is a third, external contribution that is important for economic operators in the supply chain as a whole.

In this thesis, most of the contributions are for customs. These are aimed at organizational and policy implementation. To maintain the credibility of the service, they will have to implement improvements. According to this study, this credibility is based on high-quality checks and the facilitation of economic operators by providing high-quality services. In the short term, this thesis contributes to strengthening the internal organization of customs, the communication about this process and reduction of the administrative burden.

The approach in this thesis allows Customs to further develop the fallback procedure and focus it on the future. With the increase in the number of declarations per year and the further development of the electronic environment dictated for the UCC, customs will also have to follow the fallback in this development. These solutions cannot be realized in the short term, so this study makes a difference in contributions to the fallback for the short and long term. The short term focuses on adjustments within the current manual fallback procedure. For the long term, a digital solution is unavoidable.

For the members of the ODB and all other economic operators, this thesis can contribute to improving the services of the customs authorities. In order to realize this, the economic operators' own basic attitude in the process must also be critically examined as long as a manual procedure remains applicable. A good assessment of whether the use of the fallback and the correct delivery of the data set can speed up the process. The contribution from this thesis will also focus on developments from customs and the availability of data by economic operators. The AEO permit holders can contribute to simplifying the fallback process with their organized internal operations.

7 Conclusions and Recommendations

7.1 Answer to research questions

This section will deal with the answer to the research question and the sub questions. This will be further elaborated in recommendations in the subsequent section 7.2. The current manual fallback procedure is an undesirable solution for an undesirable situation for the business community and customs. AEO companies are treated equally with non-AEO companies as opposed to the regular process where they have benefits.. Due to the extra administrative burden, the work that the fallback entails exceeds the capacity of customs, resulting in poorer risk analysis. If economic operators have to adjust the standard process as a result of a disruption, there is an unintended higher risk of non-compliance. This manual procedure is also not in line with the vision and approach of the European Union to further digitize message traffic. Through extensive literature research, with a focus on legislation and enforcement visions, interviews and data analysis, answers have been found for the research question and sub questions below. When answering the questions, two artifacts were designed that help answer the research questions. These artifacts are included in the recommendations for customs. The short-term recommendation will most likely be adopted in a pilot that Customs intends to hold. The long-term solution is still under consideration. This consultation focuses in particular on the way in which the proposal can be developed. Can this be developed internally or should it be outsourced?

The main research question of this thesis is:

By what method can the flow of goods and the logistics process be hindered as little as possible within regulatory supervision and compliance in the event of a malfunction/breakdown of digital communication with the customs?

In order to answer this question properly, a split into short and (medium) long term is necessary. This choice has to be made because of the urgency, politics and business are having extensive discussions, and the possibilities to adjust the fallback. This distinction was mainly established by the literature research and the data analysis. The development of electronic message traffic and data sharing from the enforcement visions and the regulations from the UCC make an electronic fallback inevitable. Facts that support this conclusion arising from the research are the high number of declarations, the expected growth in the coming years, the increase due to the phasing out of the GPA, the financial impact for customs and economic operators of the manual procedure, the promotion of compliance at the economic operator, the ability to perform a high-quality risk analysis, fewer personnel efforts, less impact in the supply chain and the speed of the process. Primarily, the answer to the research question is the long term solution that is an extension of the legal articles of the UCC that focus on electronic messaging[83]. Partly in relation to the expected increase in the number of declarations. In the current situation of disruptions at customs, a large part of the burden, an adjustment of the processes at an economic operator in the form of a manual declaration, is placed on the economic operators. The fallback procedure should be for exceptional cases, but with an availability of 96.1%, this is no longer exceptional. By deviating from the internal processes of economic operators, the risk non-compliant behaviour can increase due to the following aspects of processes: terms and timeframes, transfer of information, dossiers and responsibility, message exchange, actors and responsibilities, and other operational process requirements[84]. And the last argument, but certainly one of the most important, is the far-reaching developments in the field of data sharing. Most enforcement visions are aimed at making the data available digitally by the economic operators. If you ask this as a government service, then good facilities must also be provided to contribute to this. For that reason alone, the digital redundant solution should be realized. These

[83] UCC Article 6 page 15.
[84] Fokkema, W; Hulstijn J, 2011. Process compliance in public information chains.

arguments form the basis for building a declaration system for the future that serves as an alternative to the regular process. This returns the responsibility to customs to support the Dutch economy by facilitating the economic operators in their business operations.

Since there is already enormous pressure on the IT department of customs to comply with the requirements of the EU. Is the primary solution not feasible for the short term. In order to answer the research question in the short term, solutions must be sought within the current fallback procedure. These solutions can be found in the different views on data sharing, the AEO permit and the Dutch view on Pushing Boundaries[85].

With the data analysis in chapter 5, the current number of disruptions in combination with the average processing time is practically impossible to implement according to the standard risk analysis that customs strives for. A solution to this discrepancy can be sought in the AEO permit holders, which has been established to be reliable economic operators. An AEO permit holder has, as it has become apparent from research during the permit application, demonstrably had compliant behaviour in the last 3 years. Article 38 UCC[86] and Article 24 DA[87] lay down that an AEO shall be subject to fewer physical and document-based controls than other economic operators in respect of customs controls, according to the type of authorisation granted. In the current fallback procedure, these benefits expire and all declarations are treated equally. For the short term, adjusting the fallback based on the type of declarant, AEO or non-AEO, is the best solution. The administrative check afterwards makes it possible to determine non-compliant behaviour of these AEO declarants. Customs can focus more on the risks associated with unknown and less well-known declarants (Non-AEO). This enforcement strategy is also part of the future vision of klantmanagement (customer management) in the regular process. This method of verification can also apply to fallback declarations.

Sub question 1:

Can a disruption/failure of the customs systems be remedied effectively and efficient by using a fallback procedure?

The answer to this research question is a resounding yes, provided it is an electronic solution in line with the current tax return programmes. As indicated in the answer to the main research question, the number of reports has increased substantially in recent years. The development of DMS and the disappearance of the GPA will also increase the number of daily transactions. This makes the current manual fallback procedure with the risk analysis or a variant thereof not suitable for the long term. The analysis in chapter 5 on the deployment of personnel alone is sufficient reason to develop an electronic alternative. As can be seen from the enforcement visions, the focus in the future will be on data sharing and the further development of electronic messaging. Due to this development, the conclusion can also be drawn that the manual process is increasingly being phased out. In order to create robust safeguards, a redundant facility will have to be created that makes manual operation completely superfluous. This fallback will have to be set up in such a way that the nuisance of the economic operators remains limited in the fallback procedure and compliance is guaranteed.

Sub question 2:

Can the submitting parties be categorized in a period of disruption/failure, with specific handling for each category?

My conclusion is that this is possible through legislation and through the various enforcement strategies. One of the findings from the interviews is that the current fallback already differentiates in modality. The airfreight response time is half an hour shorter than the deep-sea declarations.

[85] Dutch customs, 2014, enforcement vision Pushing Boundaries.
[86] UCC Article 38 par. 6 page 24.
[87] DA Article 24 par. 1 page 18.

In the regular process, benefits are given to the AEO permit holders[88], which are included in table 3.2. These benefits vary for AEOS and AEOC permit holders. These benefits are granted because the company has been labelled as reliable because it has proven to be compliant in the past, the past 3 years, the solvability is in order, employs skilled personnel and has an appropriate administration. The research for this thesis has shown that the benefits that apply in the regular process are not applied in the fallback. The conclusion from this thesis is that the AEO permit holders should also benefit from the use of an emergency procedure. On the one hand, because the AEOs are regarded as reliable and represent an acceptable risk. On the other hand, Customs has no extra staff to carry out the risk analysis manually. By designating the AEO companies as an acceptable risk, scope is created to deploy customs personnel at the high-risk companies. The AEO companies can always be checked afterwards in the administration. Within the current fallback, you internally create a reduction in the burden by keeping the AEO permit holders uncontrollable in the manual process of approximately 20%. Due to the conditions imposed on AEO permit holders and the research in this thesis, it is justifiable to make the distinction between companies where the AEO permit in the fallback determines the degree of risk analysis.

The various future visions on enforcement also write about an approach based on reliability, visibility and transparency. Dutch customs Pushing Boundaries vision within the regular process is an example. The import is divided in to groups of Here the enforcement strategy is aimed at retrospective control, system-based control and not focussing on the individual shipments. The import declaration flow is divided into 3 groups, trusted traders, unknown traders and the smart and safe trade lane. This vision has a similar approach as the SAFE framework in which the check on the goods is carried out in earliest possible stage and throughout the entire logistics chain. Due to this approach customs is better able to maintain efficient administrative supervision and detect risks.

In the ISCM[89] guidelines information is customs-to-customs information shared. In this vision is the use, collect and sharing of the original trade data the mindset. This data is also made available and used by authorized parties in the trading network to improve their business operations based on the piggybacking[90] principle.

Due to the conditions imposed on an AEO company and the developments in the field of data sharing, no risk analysis for these AEO permit holders is justified in the fallback. This creates a distinction between AEO companies and non-AEO companies.

For a further split in the process, please refer to the answer to sub question 3.

Sub question 3:

Are there procedures within other Member States and/or industries that are best practices for the Dutch customs in the event of disruption/failure?

During this investigation other forms of the fallback at customs authorities were found and best practices were found that can contribute to this specific situation. In most member states is the manual paper fallback procedure similar to the Dutch approach. This paper fallback arises from Annex B-01 of the DA[91]. This includes the data set that must be supplied. Ireland[92] has had a different working method for a while and Uganda[93] still

[88] The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016, page 12.
[89] WCO, June 2022, Customs Guidelines on Integrated Supply Chain Management (ISCM guidelines).
[90] Tan, Y.H., et al, 2011. Accelerating global supply chains with IT-innovation: ITAIDE tools and methods. Piggybacking principle. Page 21.
[91] DA Annex B-01 page 227.
[92] Irish customs Fallback, https://brexitlegal.ie/fallback-system-it-failure/
[93] Uganda customs Fallback, https://ugandatrades.go.ug/media/The%20SCT%20Process%20Manual%20-(URA)%20V-1%20(12-09-2019)(1)(1).pdf

works in this way. A distinction is made here based on the HS commodity code and subdivided into time blocks. This gives priority to, for example, live animals and perishable goods.

Redundancy solutions are used by NS and ProRail, among others, to guarantee rail transport. But in addition to these physical measures, there are also other elements that are of value to customs in this case. In particular, the disruptions at the hospitals have led to organizational recommendations. This should include communication, protocols and structuring the crisis organization. In that sense, Customs does not have a set plan for the use of the fallback procedure, including all departments involved.

In fact, the answer to this sub question is yes, there are best practices in other countries that can be applied for the fallback in the Netherlands. The distinction in HS codes and working with time blocks can contribute to making the procedures run more efficiently. Due to the difference in HS codes, there is less supply of fallback declarations in the first hours. During the disruptions that last less than two hours, 20% of all disruptions, the supply decreases and the response is faster. Taking into account the answer to sub question 2, where a distinction could be made based on AEO status, the supply will decrease substantially in the first hours. An elaboration of these scenarios is included in the short-term recommendations (Figure 7.2 Fallback recommendation on flow and HS code). In particular, it emerged from the interviews that the current set-up of the fallback procedure is different. There is no crisis organization and the work instructions differ. Much can be learned from the literature and best practices of other organizations to better set up customs for the manual fallback. Recommendations for this are also included.

7.2 Recommendations

7.2.1 Long term customs internal recommendation

In answering the research questions and from the research, interviews and literature, the pressure that rests on the IT department has already been discussed. This is caused by the occupation and the demands made by the EU to develop more electronic messaging. Nevertheless, the most important recommendation from the research is to **develop an artifact as an digital solution** (redundancy solution) that replaces the current manual fallback procedure. The reasons for this is the high number of declarations, the expected growth in the coming years, the increase due to the phasing out of the GPA, the financial impact for customs and economic operators of the manual procedure, the promotion of compliance at the economic operator, the ability to perform a high-quality risk analysis, fewer personnel efforts, less impact in the supply chain and the speed of the process. It must also be concluded from the interviews that the manual fallback cannot be used as a solution. Internally, this solution is a qualitative deterioration of the risk analysis and vision of services. In addition, a manual procedure is not in accordance with the future vision of Customs, Pushing Boundaries[94], where system-based auditing will be applied.

This thesis has not further investigated which technical specifications this redundancy solution must meet. The most important thing is that a proper risk analysis can be carried out in which it can quickly be made clear to the economic operator whether he has been selected for an audit or not. Based on cost and occupancy issues, I recommend only doing this check on the data set. This application can then be linked to the declaration system. The declarations are buffered in this application and only analysed for risk. The calculation of any customs costs will be carried out by the declaration program. The data is being send from the buffer to AGS/DMS as soon as the declaration program is operational again. The scheme below, figure 7.1, shows the flow of declarations in the event of a disruption when a buffer application is implemented. To prevent the declarations from the buffer system from being passed through the risk selection twice, they must be coded from the buffer system, so that these declarations do not go through the risk analysis of Prisma from AGS/DMS for a second check. The procedure from the buffer program is the same as the regular process with the 3 variants of outcomes. An administrative check, a physical check or no check. This buffer application applies to

[94] Dutch customs, 2014, enforcement vision Pushing Boundaries.

all declarants. The AEO status does not determine participation in advance. In the process of the risk analysis, the current advantages of the AEO permit holders do apply.

Due to all recent disruptions and the pressure exerted by the umbrella organisations, including those with political responsibility, this is also the time for customs to take concrete steps to develop a redundancy solution. Although there is little or no capacity within the own IT organization to develop new systems, there may be an opportunity to have this facility developed by external commercial companies. This allows the necessary time savings to be achieved and the internal capacity to be used to make the current systems more stable.

7.2.2. Short term customs internal recommendations

During the investigation it was established that several departments are involved in the fallback process. There is little or no evidence of mutual coordination in the activities from the interviews. Much of the coordination is already based on the informal circuit. There is no broad consultation about this process in which all the departments, AB, DLTC, Handhavingsbeleid and others involved are present. Customs should appoint a business owner to provide more guidance on this. This business owner will have to manage the fallback procedure at a strategic level. Normally this strategic manager is for long-term policy like the first recommendation of the electronic declaration. But for the short and medium term, this manager is also important for now in connection with restoring the process. Choices have to be made and coordinated with the economic operators. This requires a mandate from Customs. In addition to the strategic business owner, an operational manager is also recommended.

The table below contains recommendations that are linked to the managers at strategic and operational level. These recommendations also indicate the timeframe within which they must be elaborated. This is short (S) and Long (L) term.

	Strategic Manager	Operational Manager	Chapter
Development for long term (IT solution)	L		7.2.1
Setting up a crisis organization	S	S	7.2.2
Further development of fallback procedure	S	S	7.2.2
EBU (Unity of policy and implementation) by modality.	S	S	7.2.2
Manage work instructions	S	S	7.2.2
Ensure completion of the fallback procedure		S	7.2.2
stimulate/direct to subscribe mailing communication NHD		S	7.2.2
Guiding economic operators to be restrained with the fallback procedure		S	7.2.3
Focus on correct declarations under the fallback procedure		S	7.2.3

Table 7.1 Recommendations, division of tasks and implementation period.

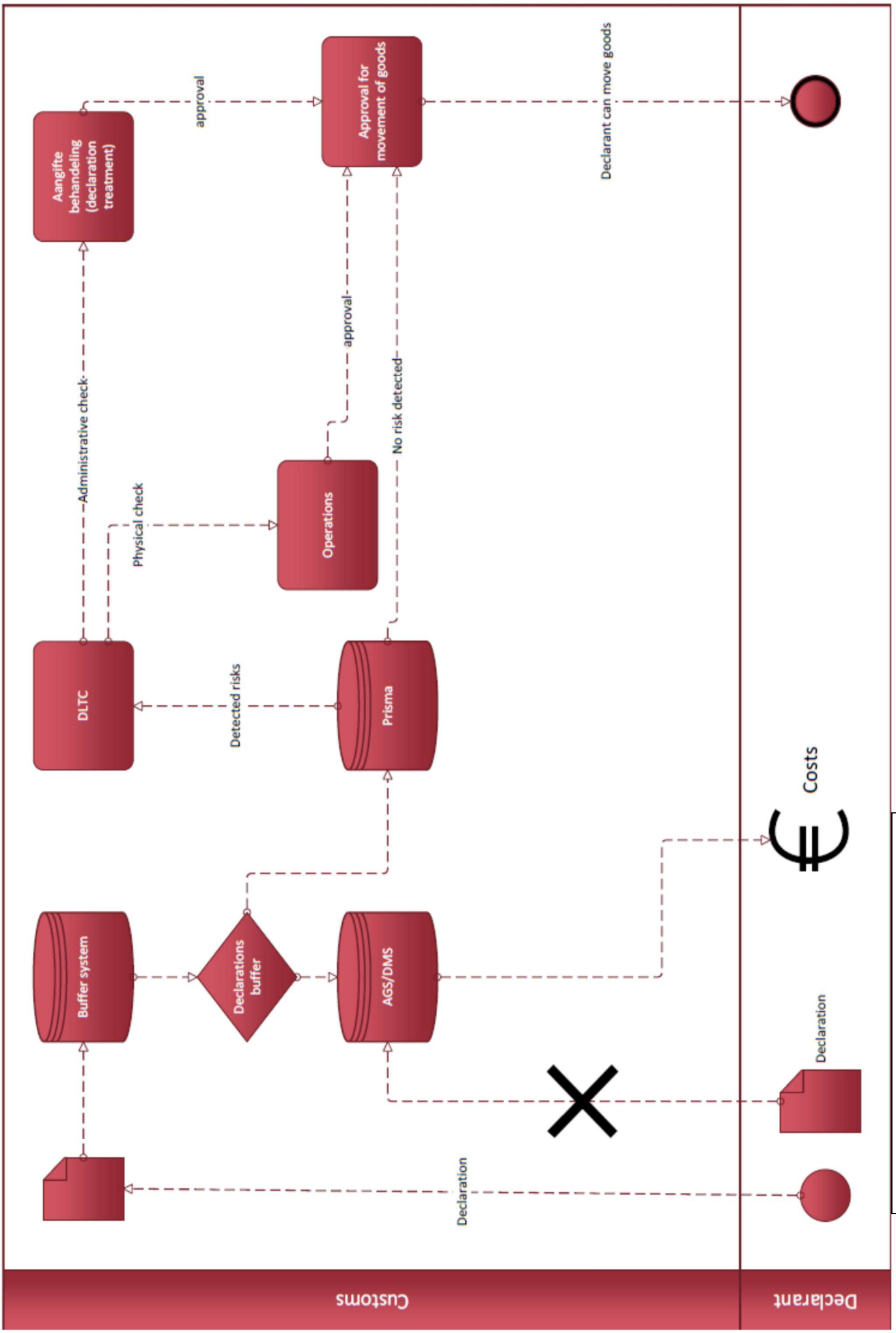

Figure 7.1 Scheme declarations buffer system

It has become clear from the literature about hospitals[95] [96] and the care for patients that a crisis organization is important to allow the process to continue in the event of a disruption. It can be deduced from the interviews that, in the event of a failure of the declaration system, no actions are set up that could be regarded as a crisis organisation. Measures have emerged in the field of ICT, but this is not the case in the operational setting, the handling of the manual fallback declaration. For this reason, the development of **a crisis organization** in the short term is recommended to supervise the entire process. The focus is to remedy the disruption that has arisen as quickly as possible. But a plan must also be drawn up for the executive departments. In the current situation, there is no deployment of extra staff in the AB and DLTC departments to carry out manual work, despite the fact that the workload is exceptionally increasing. In the calculations in chapter 5, calculations have been made of the recent disturbances. These calculations give reason to deploy personnel at the time of the disruption to handle the fallback effectively and efficiently. Without extra effort, the objectives of risk analysis and good services for the business community are not possible. The communication structure will also have to be included in the crisis plan. Now, as far as the interviewee has said, there is little or no contact between the departments that have to carry out the fallback procedure.

Even though Customs deploys extra staff for the manual handling of the fallback procedure, the workload is still large, especially if all companies do immediately submit fallback declarations according to the normal declaration pattern. This calculation is also included in chapter 5 and could result in a number of 2.1 million declarations. To reduce this number and not disrupt the logistics process too much, it is recommended to make **an artifact with adaptation to the current fallback**. This adjustment can be based on a combination of legislation , AEO permit , future vision of customs and best practices from other countries . All these elements combined lead to the following recommendation (Figure 7.2):

- A distinction between AEO permit holders and the non-AEO companies.
- A direct and automatic answer when submitting the fallback declaration for the AEO permit holders.
- For the non-AEO companies, a distinction is made on HS codes in predetermined time blocks.

In this proposal, all economic operators must submit a manual declaration. This is a regulation from the DA Annex B-01[97] in which the data set is described. Based on the Pushing Boundaries vision[98] and AEO guidelines, declarants with an AEO permit immediately receive approval for the removal of the shipments. In order to prevent misuse and to be able to properly carry out the possibility for a retrospective check, these designated declarants must e-mail the fallback from a pre-known e-mail address. This is not according to the proposal of 16-03-2023 of the umbrella organizations. The proposal is to include the permit number of the AEO permit holder in this email address in connection with traceability and check afterwards. In this way, for each AEO permit, it is possible to determine which declarations have been submitted afterwards and abuse is less easy by using someone else's number. Now there is a combination of the permit number and the name of the economic operator in an email address. The email address would then be structured as follows: numberpermitAEO@domainnamecompany.nl. The pre-registered email addresses must be whitelisted or be answered through an automatic routine for this dedicated fallback mailbox for AEO permit holders . These shipments will be checked afterwards on the basis of the system-based audit principle as seen in the Pushing Boundaries vision and the vision of klantmangement of the Dutch customs. This concept applies to both import and export.

[95] FMT gezondheidszorg, 2022, Belangrijkste les ICT-storing MUMC+: wees voorbereid!
[96] Onderzoeksraad voor de veiligheid, 2022, Patiëntveiligheid bij ICT-uitval in ziekenhuizen.
[97] DA Annex B-01 page 227.
[98] Dutch customs, 2014, enforcement vision Pushing Boundaries. Page 29.

The fallback procedure for non-AEO permit holder has also been advised to adapt to the concept of Ireland and Uganda. These countries have/had a distinction based on HS code. To keep the volume workable for Dutch customs, a separation for the first 14 chapters, sections 1 and 2, is sufficient to give live animals and perishable goods priority over the other chapters as much as possible. In the first two hours, these are 20% of all disruptions, declarations may be submitted for these first 14 chapters. With this limitation of fallback declarations, time has been set aside to give customs the opportunity to set up the organization required to handle the manual check in the fallback procedure. If the disruption lasts longer than two hours a declaration may also be submitted for the remaining chapters.

In order to be able to carry out the process better internally, practice issues have emerged based on the outcomes of the interviews that can be resolved in a short period of time. First of all, there is variation in the **work instructions** as substantive differences and dates of publication. The management of the work instructions will have to be entrusted to a responsible person who regularly reassesses these instructions. The operational manager will have to monitor the work instructions and, where necessary, take the initiative to adjust them. If the recommendation of the adjustment is adopted in the fallback procedure, it is advisable to set up the work instruction completely again. In the discussions with economic operators, it was mentioned several times that submitted declarations in the fallback were not processed. This is in line with internal interviews at Customs, which were unable to answer all fallback declarations. These unanswered returns are archived in a subfolder of the email box. The work instruction must include that all declarations must be answered. **Ensuring completion of the fallback procedure** is also included in the instruction to the economic operators, which refers to a response from Customs. The standard answer of unprocessed declarations could look like this:

Dear declarant, unfortunately we were unable to process your fallback declaration. The declaration system is now operational again. We request that you submit your declaration via the declaration system as if it were a new declaration. It is not permitted to use the code NP500 in this declaration. We consider your submitted fallback declaration as not sent. Sorry for the inconvenience.

By using this text, all fallback declarations that have not been processed will expire. By including them as a new declaration, the process for this declaration is normalized and the risk analysis is handled via electronic message traffic. By starting the regular procedure for these declarations, the lead time is shorter for all parties involved and the quality of the risk analysis is higher.

The work instruction will also contribute to **EBU (the unity of policy and implementation)**. A distinction can be made by modality/region. Air freight has a faster lead time than, for example, deep sea. This distinction must be explicitly explained so that all involved understand why this distinction has been made. The final recommendation is for staff to **sign up to the NHD's mailing** about disruptions. It emerged from the interviews that customs personnel are insufficiently familiar with this. As a result, they are often not aware of a disruption and they obtain this information in other ways. This can be done through internal or external channels. The operational manager can inform all employees involved in the fallback procedure about the possibility. After that, it will have to be ensured that it is actually used by the staff.

7.2.3 Economic Operators recommendations

In addition to the internal customs recommendations, there is still profit to be made for the economic operators. This does appeal to the patience of the economic operators. It is already included in the instructions to use the fallback procedure only in necessary situations. Because it is impossible to determine whether the right choices are made here, a shipment often consists of different products with different urgencies, it is a call for restraint to reduce the number of fallback declarations and only use them in case of urgency. In addition, it emerged from the interviews that the fallback declaration is often not immediately submitted correctly or that additional documents are missing. This also leads to the call to submit the declarations correctly and with underlying documents. This can speed up the handling and the goods can be moved sooner.

7.3 Theoretical and empirical conclusions from the research

This thesis includes literature on the supply chain in general and visions for the future that can be related to the declaration process, compliance and fallback procedures. The contribution that this piece makes is the further need for data sharing and the opportunity to share it. Thanks to this transparency, the supply chain can continue as a seamless flow in the future, even in the event of a fallback procedure. The necessary data for this can be obtained from other sources.

7.4 Limitations and directions for further research

Due to the focus on the fallback procedure and its current operation and limitation, research themes have not been investigated. Although the overall conclusion of this thesis is aimed at the implementation of an alternative application that functions as a redundant next to AGS and in the future next to DMS, further research could be done on the part of the economic operator to see how much time there is in the supply chain to accommodate delays. As a start of the investigation, the data can be analysed from the declaration system at the moments immediately after the end of the fallback procedure. It can then be concluded from this whether it is possible to wait before submitting the declaration. It is also interesting to see whether this has been at the expense of the compliant attitude of the economic operator. This can provide an even better picture of the risk that arises in the event of unavailability of declaration systems.

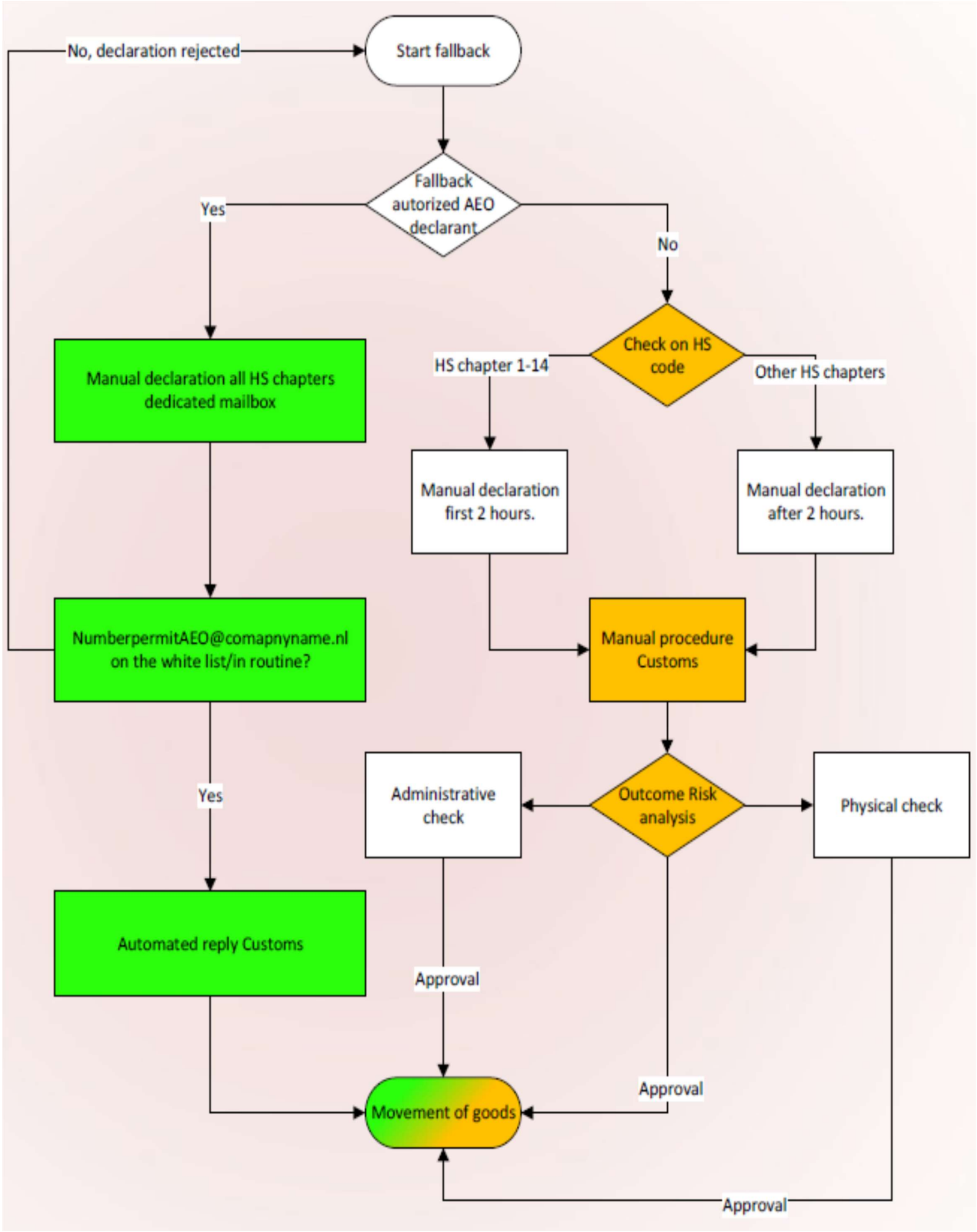

Figure 7.2 Fallback recommendation on flow and HS code.

List of References

8.1 Scientific articles and books

Baida, Z., Rukanova, B., Liu, J., and Tan, Y.H., 2008. Rethinking EU trade procedures, The Beer Living Lab. Electronic Markets, 18(1), 53-64.

Braithwaite, J, 2016, Responsive regulation: transcending the deregulation debate. Enforcement strategy, http://johnbraithwaite.com/wp-content/uploads/2016/06/Responsive-Regulation-Transce.pdf

Chopra, S 2019, Supply chain management. Page 15

Fokkema, W; Hulstijn J, 2011. Process compliance in public information chains. https://www.academia.edu/26379371/Process_compliance_in_public_information_chains

Gardner et al, 2018, Transparency and sustainability in global commodity supply chains,; Traceability information . Page 165

Heijmann, F ; Peters, J, 2022, Customs, Inside Anywhere, Insight Everywhere. Page 77, 191

Hesket, D, 2010 World customs journal, volume 4; Weaknesses in the supply chain: who packed the box? https://worldcustomsjournal.org/Archives/Volume%204,%20Number%202%20(Sep%202010)/00%20Complete%20Issue%20WCJ_Volume_4_Number_2.pdf#page=9

Hollnagel, E, 2011, Resilience engineering in practice, a guidebook.

Ivanov, D 2017, Simulation-based ripple effect modelling in the supply chain, page 2084

Mentzer, J 2001 Defining Supply Chain Management, Page 18

Świerczek, A 2012; The impact of supply chain integration on the "snowball effect" in the transmission of disruptions: An empirical evaluation of the model, page 90

Tan, Y.-H., Bjørn-Andersen, N., Klein, S., Rukanova, B. (Eds.), 2011, Accelerating Global Supply Chains with IT-Innovation. ITAIDE Tools and Methods. Berlin: Springer.

Veenstra, A.W, 2019, International Trade, Global Supply Chains and Compliance. Page 134

Wieringa, R, 2014, Design Science Methodology for Information Systems and Software Engineering.

8.2 Legislation

Commission Delegated Regulation (EU) 2015/2446.

Commission Implementing Regulation (EU) 2015/2447

Regulation (EU) No 952/2013 of the European Parliament and of the council

8.3 Government documents; Custom, European Commission and WCO documents

Belastingdienst Form fallback procedure Dutch Customs; https://download.belastingdienst.nl/douane/docs/bijlage_noodprocedure_ags_aangiften_ten_invoer_do1741b5fol.pdf

Belgian customs Fallback; https://financien.belgium.be/nl/douane_accijnzen/ondernemingen/noodprocedures-da

COT Instituut voor Veiligheids- en Crisismanagement. (Institute for Security and Crisis Management), Digitaal

gestrand; https://presspage-production-content.s3.amazonaws.com/uploads/570/digitaalgestrand-evaluatieitstoring3april.pdf

De Nederlandse Bank, TIBER program; https://www.dnb.nl/voor-de-sector/betalingsverkeer/tiber-nl/

Dutch customs, Handboek Douane, Mutual recognition Arrangements, hoofdstuk 2.50.00 par. 6. https://www.belastingdienst.nl/bibliotheek/handboeken/html/boeken/HDU/geautoriseerde_marktdeelnemer-mutual_recognition_agreements.html

Dutch customs, Douane voor bedrijven. Implementation scheme DMS 4.0 https://www.belastingdienst.nl/wps/wcm/connect/nl/douane_voor_bedrijven/content/tijdpad-dms-voor-invoer-opslag-en-uitvoeraangiften

Dutch customs Fallback; https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/douane_voor_bedrijven/naslagwerken_en_overige_informatie/noodprocedures_douane/noodprocedures_douane_cluster

Dutch customs, 2014, enforcement vision Pushing Boundaries; https://www.kennisdclogistiek.nl/system/downloads/attachments/000/000/608/original/Whitepaper_Pushing_Boundaries_-_Customs_Netherlands_2020.pdf?1586508417

European Commission, Von der Leyen, 2019, A Union that strives for more, My agenda for Europe, https://www.europarl.europa.eu/resources/library/media/20190716RES57231/20190716RES57231.pdf

European Commission, 2022, Wise Persons Group report. https://taxation-customs.ec.europa.eu/system/files/2022-03/TAX-20-002-Future%20customs-REPORT_BIS_v5%20%28WEB%29.pdf

Finnish customs, Fallback; https://tulli.fi/en/about-e-services/fallback-procedures

France customs Fallback import; https://www.douane.gouv.fr/sites/default/files/2021-03/29/note-to-operators-fiche-1-fallback-procedure-si-brexit.pdf

Irish customs Fallback, https://brexitlegal.ie/fallback-system-it-failure/

Irish tax and customs. Fallback meaning, Fallback is the process by which goods are manually cleared by Revenue for import or export where an interruption to an electronic system occurs. Fallback should only be used for consignments requiring urgent release. Traders should continue to lodge customs declarations but may not receive a response message. https://www.revenue.ie/en/customs/businesses/electronic-systems/aep/customs-fallback-service.aspx#:~:text=Fallback%20is%20the%20process%20by,not%20receive%20a%20response%20message

Nationaal coördinator Terrorismebestrijding en Veiligheid, Overzicht vitale processen; https://www.nctv.nl/onderwerpen/vitale-infrastructuur/overzicht-vitale-processen

Nederlandse Douane, 2022, Nationale Helpdesk, Communicatieprotocol Onbeschikbaarheid Douanesystemen. https://nh.douane.nl/wp-content/uploads/2023/01/Communicatieprotocol-Onbeschikbaarheid-Douanesystemen-versie-1.3.pdf

Nederlandse Douane, Service to register for the email service. https://nh.douane.nl/abonneren/

Nederlandse Douane, 2021, Inrichting en protocol Overleg Douane bedrijfsleven. https://download.belastingdienst.nl/douane/docs/inrichting_protocol_overl_douane_bedrijfsl_odb0011z1fd.pdf

Nederlandse Douane, juni 2022, Kerncijfers aantal verwerkte aangiften voor import , export, exit en transit. https://magazines.rijksoverheid.nl/douane/jaaroverzichtdouane/2022/01/kerncijfers

Nederlandse Douane, Landelijk kantoor en Handhavingsbeleid, 2022; page 3 AEO staalkaart

P-direkt, working hours for 2023; https://www.p-direkt.nl/informatie-rijkspersoneel-2020/mijn-werk/huidig-dienstverband/arbeidsduur-en-werktijden/arbeidstijdpatroon

The AEO Guidelines TAXUD/B2/047/2011 - Rev.6 Brussels 11 march 2016

Uganda customs Fallback; https://ugandatrades.go.ug/media/The%20SCT%20Process%20Manual%20-(URA)%20V-1%20(12-09-2019)(1)(1).pdf

WCO, June 2022, Customs Guidelines on Integrated Supply Chain Management (ISCM guidelines). https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/guidelines-on-iscm.pdf

WCO, 2021, SAFE Framework of Standards. MRA's, page 37. https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/safe-framework-of-standards.pdf

WCO overview; https://www.wcoomd.org/en/about-us/what-is-the-wco/discover-the-wco.aspx

WTO overview; https://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm

8.4 General documents

Betaal vereniging, Beschikbaarheid internetbankieren 2022-2023 https://www.betaalvereniging.nl/betaalproducten-en-diensten/beschikbaarheid-internet-en-mobiel-bankieren/

Cambridge dictionary Fallback meaning, https://dictionary.cambridge.org/dictionary/english/fallback

Consistently Optimised Resilient Ecosystem (CORE) project; http://www.coreproject.eu/ page 11

FMT gezondheidszorg, 2022, Belangrijkste les ICT-storing MUMC+: wees voorbereid! https://fmtgezondheidszorg.nl/belangrijkste-les-ict-storing-mumc-wees-voorbereid/

Letter EvoFenedex and other umbrella organizations, 2022. Min-v-Fin.-A.-Aukje-de-Vries-verstoringen-douanesystemen-220818.pdf (tln.nl)

Onderzoeksraad voor de veiligheid, 2022, Patiëntveiligheid bij ICT-uitval in ziekenhuizen; https://www.onderzoeksraad.nl/nl/page/4980/pati%C3%ABntveiligheid-bij-ict-uitval-in-ziekenhuizen

Oxford dictionary; Compliance is to act in accordance with a wish or command.

ProRail, ICT storingen; https://www.prorail.nl/reizen/storingen/ict-storingen'

SDU, Gebruikstarief & Toelichting, HS codes https://www.inenuitvoer.nl/gebruikstarief

9 Appendices

9.1 Meeting umbrella organizations economic operators and ODB-IT

Report meeting with umbrella organizations affected by the fallback procedure. (13-10-2022)

Customs Netherlands and the umbrella organizations of the economic operators have regular scheduled meetings. To discuss the specific theme of the issues with the declaration system, additional meetings have been organized to go deeper into this specific content. In the context of this research, we also participated in these consultations in order to gain a broader picture of the problem. In the summer of 2022, customs promised to work intensively on solutions for these disruptions. The potential solutions are for the short term and the scope is not aimed at a possible IT solution but at short term solutions.

Two main themes emerged during the initial consultation. These themes are Communication and Responsibilities. The Communication topic focuses in particular on the times and manner in which customs communicates about the disruptions in the declaration system.

The manner of communication from customs and the impact of the fallback procedure are significant. The economic operators have expressed clear wishes, in particular about the timeline and communication about this in the event of a disruption. Because the logistics process is a time-critical process, there is a strong need for a clear and predictable timeline in the disruption situation. With this clear timeline, the economic operators can keep more control. They indicate that this clarity allows them to decide whether or not to use the fallback procedure. If possible, they will choose not to use the fallback procedure because of the additional manual administrative burden. In addition to this point, accessibility and customer-friendliness have also been identified by the companies as bottlenecks. Contact with customs is sometimes not possible at all or the quality of the answers to questions does not meet the wishes of the companies. The impression has arisen that the employees are not allowed to say everything during the telephone conversation. This means that the economic operators feels limited in the provision of information.

The impact in the logistics process has been described by the economic operators as follows:

- There are no documents available while shipments/containers are or have to be transported to the terminals.
- Costs are rising.
- The total flow is also stalled (terminals jammed): containers must be able to be loaded onto the ships, both incoming and outgoing.
- When applying the fallback procedure, waiting times arise in the period that must be waited for approval from the civil servant. It often happens that an answer is not forthcoming.
- When exporting (and exiting), the information flow also remains fixed. This creates a greater administrative burden.
- Trailers that cannot be released: logistical delay: planning with trailers cannot be made -> trailers are stuck at import.
- Documents have to be send several times during the fallback procedure. The content of this documents is similar.

The theme of responsibilities is a somewhat general description. What is meant by this is who is responsible for the declaration and for the goods? And can the person be treated differently under the fallback procedure on the basis of, for example, his AEO permit? In the situation of the AEO status, it is possible to look back in the administration to find out exactly what has taken place under the fallback procedure. If there is a closer look at a solution that distinguishes between AEO and non-AEO permit holders, it must be clear in advance who should be the AEO status holder in the process. Is this representative or the represented? Another issue is who determines whether the shipment can be forwarded. Is this power only for customs or can the economic operators also determine this?

The following bottlenecks and potential solutions were identified during this meeting:

- Disruption in the system: after 30 minutes of calling the NHD as stated in the manual -> not workable. Is there enough occupancy? Accessibility is not always good

.- Other countries requirements (VAT tax): alternative proof required for refund. Fallback documents are not enough. No link with Export Control System (ECS) is possible under the fallback procedure. There are Member States that then do not set the VAT at 0% because of the lack of the conformation of exit.

- Official must make physical observation at the time of export. As a result, there are 2 control moments in the entire process from declaration to the actual output. Is it possible to combine these moments under the fallback procedure? (Check after declaration and export in one)

- Double fallback procedure: both for output and for output; in the logistics process touch each other.

- Look critically at the flow of information. One and the same message can be sent to customs 4 times by different parties in the process. (merge/drop).

- Arrival notification has been sent from the fallback procedure -> does the economic operators have to wait for permission for the movement of goods?

- Everything is collected on the manifest. Can this data be used for import?

- Notification on arrival – Is a response from customs necessary? Permission to transport. Can't merge here?

- Process plate – remove/merge links/communication moments.

The representatives of the ferry terminals and others involved in the process of ferry transport between the European Union and the United Kingdom briefly explained the differences between the ferry process and the sea freight process.

Differences between a container terminal and a ferry terminal:

- Large differences in throughput speed at a ferry terminal compared to a container terminal. With the ferry transport, the trailers are on/off within an hour. For container ships, loading and unloading is often a process of one or more days.
- There is a distinction between trailers and containers.
- The berth is smaller with the ferries than with container ships.
- Planned and unplanned: for planned maintenance, the pre-declaration can be used and the logistics process can be adjusted. Is this also an option in case of unplanned unavailability? (objection from the group is precent operation volume is different and risk of standardization pre-declaration.)

Meeting OBD-IT (16-03-2023)

In ODB-IT, the elaboration of the fallback procedure has been discussed as it has been elaborated in this thesis for green flow only. The objective of this consultation was to determine whether there is support for such a short-term solution in the form of a pilot. For non-green flow, only the current manual fallback remains applicable in the pilot phase.

There are two main points that emerged from this consultation. The first point was the description of the green flow as used in the Pushing Boundaries vision. This description has also been used for this pilot. According to the consultation, by using this description of the green flow, the group becomes very small and the pilot is of no use. The umbrella organizations are of the opinion that the declarant must be an AEO permit holder as a condition. The second point relates to the responsibility of the goods and who has to pay the costs if the document flow, such as the discharge of the previous arrangement, is not carried out properly. In concrete terms, it has been agreed to further develop the pilot under the modified condition that only the declarant

must be an AEO permit holder. The responsibility will be further investigated internally at Customs, with the remark that the document flow does not change compared to the current fallback procedure. To clear an ATO or an RTO, a copy of the approved fallback declaration is required. The content of the manual fallback confirmation or the automatic response for the green flow does not change.

Furthermore, extensive consideration was given to preventing the abuse of this scheme by economic operators of the non-green flow. The results will be implemented in the pilot and are derived from this thesis. The email address with which the AEO permit holder communicates is known in advance, if technically possible included on a white list in the email program. The economic operators suggested including the EORI number in the subject line in order to identify the customer in this way.

Customs will combine this set-up and the input from ODB-IT and discuss it internally. The aim is to start a pilot in the short term, next spring, for half/three quarters of a year. The representatives of the economic operators have pledged to call on their members to properly follow the instructions communicated by customs under the fallback procedure to reduce the number of errors and to appeal to limiting the fallback declarations to the necessary declarations for, for example, urgent shipments or perishable goods.

9.2 Meetings Dutch Customs internal

Report internal meeting Dutch customs (22-11-2022)

The outcome of the initial consultation with the economic operators was discussed in an internal meeting with various stakeholders within customs. In this consultation, the possibilities and impossibilities were discussed.

The internal stakeholders during this meeting were:

- Handhavingsbeleid (HHB)
- NHD
- AB
- DLTC
- Douane Rotterdam Haven (DRH)
- Information Management (IM)

The starting point of this meeting were the two main themes that had emerged from the consultations with the economic operators. The communication in case of a disruption and the fallack procedure. The responsibilities and the possibility to distinguish between an AEO and non-AEO permit holder.

To accommodate the economic operators, there has been talk of shortening the period during which the fallback and other reports can be given. The NHD is willing to look at this option. At the moment there is a time frame included in the general communication protocol for unavailability of customs systems. This communication protocol has been developed in consultation with the economic operators and discussed in the ODB. The protocol has been in use and updated since 2012. The latest version dates from 2020.

In the fallback procedure, specific attention is paid to the fragile goods/urgent shipments sector. This target group can use the fallback procedure. Other declarants are asked to exercise restraint in using the procedure and to wait until the system is operational again. This distinction is not made very clearly in the manual. There needs to be clearer text for this.

The reference to the fallback procedure on the website of Dutch Customs (https://nh.douane.nl/) and the website Douane voor bedrijven (belastingdienst.nl) is less easy to find. The reference is included at the bottom of the internet pages. The layout/design of the sites is currently (autumn 2022) under wider attention.

The economic operators has stated that customs is less accessible when the fallback procedure is in effect. The question here is what is meant by this. Who is the economic operator trying to reach is this AB, DLTC, the NHD or another department within customs? This needs further investigation. The development of centralization of

customs processes can contribute to this. We are working on a point of contact from which questions can be answered.

There is some ambiguity about the current accessibility. This will be further investigated internally. A discrepancy between accessibility and contact data in the fallback procedure contributes to the lack of clarity and must be further investigated and aligned.

It is proposed to investigate whether a distinction can be made between AEO/non-AEO? This is more about the responsibilities in the logistic chain and customs declarations. An additional question is in case of a positive outcome. Who is the one who needs to be AEO permit holder? Is this the representative represented or should it be the entire chain? Furthermore, a subsequent question is who determines whether the shipment can go through? Is this only reserved for customs or can a company also make this choice itself in case of the fallback procedure?

Is it also an option to introduce a system similar to Entry into the Declarant's Records (EiDR)? This can be cleared afterwards. This also allows the control moment to be moved to later in the process. The UCC does not allow this and indicates that the invoice must be viewed. An automatic release cannot be applied as a result.

Option is to view risks per process. What is leading here is what can still be checked afterwards and whether it can be viewed. A point of attention is what risks customs is willing to take, are we willing to take as customs with the differentiated option to a regulation/process. The question you can ask yourself now is what is the quality of the risk analysis of customs? Everything must be checked manually by the DLTC. Is an enforcement risk responsible?

The current forms flow for the fallback procedure is necessary for customs. This structure of the process is to provide good accountability to Brussels. The PDF document that is submitted is the substantiation / accountability to Brussels.

AB has a backlog in work due to the large supply. Priority is given to declarations that are no longer verifiable. This gives priority to export and output. The result is an extra risk analysis on import. These goods are already recorded in systems.

The first step should be where and what problems there are per process and modality. In addition, make a link with the system in which work is being done. After this inventory has been made, the associated risks are weighed. With these two steps, a choice can be made as to which risks are acceptable. Safeguards and mitigating measures can then be set up for this.

Is it clear how the fallback is performed per process? Internally, several departments are involved in this process. The activities that these departments perform during the fallback process can be performed simultaneously or in succession. A schematic overview, a process chart, has not been made within customs. After drawing up a process plate, it may be possible to look at improving the process, making it Lean. Internal processes of the various departments can be better coordinated.

If a different approach is developed for the fallback procedure, a sharp analysis must be made of the formal risks and accountability to Brussels. What is important for the EU is that customs provide insight into how the risks that arise are covered.

The current fallback procedure runs through the mailboxes of the IBM Lotus Notes mail application. When adjusting the process, the capacity of this application must be taken into account. Mailboxes that are used for this are filling up in terms of storage capacity.

Report internal meeting Dutch customs (08-03-2023)

During this meeting, feedback was given on the steps taken by the working group for the Fallback procedure. The input for the working group came from consultations with the economic operators, the internal organization of customs, politics and legislation. For the business community, the current situation of the many disruptions, at the beginning of March 2023, a period in which there has once again been a lot of unplanned outages, is now really no longer acceptable. This has put even more pressure on the fallback process, which will be discussed in detail in the upcoming consultation with ODB-IT and where solutions are expected.

The main themes that emerged from the research are communication from customs to the business community, the benefits of the AEO status and other matters. Since the autumn of 2022, small improvements have been made with these points that have not yet led to full satisfaction among economic operators.

The proposal that is now before the internal consultation and for ODB-IT is based on the Pushing Boundaries vision of the Dutch customs. The so-called green flow of companies, often based on the AEO permit, automatically receive an answer and approval for the removal of the goods. According to the aangifte behandeling department, this solution is not a cure-all because the green flow is 20% of the total declaration.

Feedback has been given on this from the internal consultation. This feedback supported the proposal and identified barriers. The positive reactions were mainly aimed at the initiative to keep the fallback procedure in its current design and to look for workable solutions in it. The critical voices mainly related to the risk assessment and the immediate release of the goods that are subject to legal supervision. These are usually the goods that can be related to the VGEM inspection area. The goods are checked by customs on the basis of agreements with other departments. However, the working group takes the position that there are such weighty interests, with the economic operator and in politics, that the proposal must be continued and approval must be given at management level.

During the meeting, the invitees also asked for attention to be given to setting up a solid crisis organization and the proper implementation of the agreements made in this context. What is added as a recommendation is the designation of a business owner at the various levels within customs. This is to have a person who directs the process from the strategic to the operational level. Matters that should be addressed from this consultation are the coordination of the work instruction and follow-up to the protocol of the fallback. This includes, among other things, always responding to the submitted manual fallback procedures.

9.3 Douane Centrale Processen Toezicht Goederen & Risico (TG&R) Nationale Helpdesk.

Report interviewee 1 team leader NHD. (08-12-2022)

The NHD often receives messages from companies that there is a possible disruption of the declaration system. The functional managers are called in on these reports to investigate a possible disruption. Immediately after this, an NHD employee sends a message of a possible disruption and the investigation into it.

Depending on the disruption, the business information manager can solve the problem. If it is a more complex problem, the functionally managed person will have to interact with colleagues in charge of the infrastructure. If the problem has not been resolved after an hour, the NHD will send an update about the disruption and permission to use the fallback procedure via the mailing.

In addition to the communication via e-mail about this disruption, there has been an increase in telephone reports about this disruption and the questions that arise from it.

As an extension of this conversation, we paid a visit to operations bridge. This department has an overview of all applications of the customs and tax administration.

Recently, Customs' Operations Bridge department has a better view of the disruptions. With the help of SPLUNK, a better overview has been created of whether Customs applications communicate with each other.

The data that is mutually shared is included schematically. In the event of a (potential) disruption, the shared data lights up.

9.4 Member project group fallback 2016 and 2019.

Interviewee 2 Dutch Customs (09-01-2023)

Since 2011, the UCC has stated that companies must submit electronic declarations. Since then, in addition to the digital procedure, there has been the manual paper fallback procedure. In addition to this procedure, the service also has Service Level Agreements (SLA's) about how to act in such situations. These SLA's are periodically discussed and updated.

In 2016 and 2019, a study was conducted into the fallback within customs to see whether this process could be improved by an integrated working group. This study resulted in various scenarios (3) that were submitted to the Customs MT.

The current fallback procedure is actually to have the administration in order and not so much to cover the risks. The focus is mainly on sanctions and dual-use goods in the fallback procedure.

For customs there is a difference between imports and exports and the importance given to direct control. This is because certain flows can be checked afterwards. In addition, there is a difference in the modality with which the goods are transported and the duration of that process. The handling of the air freight is in a shorter time frame than that of the deep sea carriers. This difference runs from minutes to days in the time frame of settlement. Because of these major differences, you should consider dealing differently with the different modalities.

The plan as presented by this working group to the Customs MT was to have data/declarations delivered digitally with an auto reply system linked to it, a so called Digitale Noodprocedure (DNP). This working method seemed to have advantages for customs and for the economic operators. The supplied data should be read as a package in AGS.

During the period that the DNP proposal was submitted, the stability of AGS was good. The workload at the IT department was high due to the development of other systems and the pressure from the EU to further digitize certain flows. These two causes have led to the decision not to opt for a digitization solution.

During the period that the DNP proposal was submitted, the stability of AGS was good. The workload at the IT department was high due to the development of other systems and the pressure from the EU to further digitize certain flows. These two causes have led to the decision not to opt for a digitization solution.

Conditions that can be further investigated are:

- staged control on AEO - not AEO.
- Possibilities of the mail facilities within the customs. Routines in the IBM Lotus notes mail system were not possible. Opportunities may not arise due to the implementation of a new facility.
- Continue to look at the disparity between AB and DLTC and look for more cooperation and EBU.
- Administratively a responsible person for the entire process.
- Through the implementation of the Front Office (centralization of Customer Management contact) promotion of EBU.

Prototyping for this facility has been done in the past. When is the right time to develop this feature and application. The prototyping is only focused on a workflow. What could still be seen is whether this application and the data can also be used for other workflows. For example, as a fallback for excise declarations.

The work instructions and descriptions of the processes, process sheet, can help to provide insight into how the process actually works in practice. In addition, a workaround method must be drawn up to clarify whether the batches can be injected into DMS, for example.

9.5 Aangifte behandeling Douane Schiphol Cargo.

Interviewee 3 and 4, technical coaches Aangifte Behandeling (AB) Douane Schiphol Cargo (29-09-2022.)

The AB and Douane Landelijk Tactisch Centrum (DLTC) departments share a mailbox to process the fallback procedure declarations. The DLTC assesses the declaration that has arrived in the mailbox. The assessment of the declaration can lead to 3 different outcomes based on the risks. It can be decided to use a physical check, a check on the documents or no check. The output of this assessment is shared with AB.

AB forwards the assessed outcome of the investigation to the declarant. For this, a standard email message is sent which is linked to the first email of the declarant. Because stamping the approved declarations in the fall-back procedure is laborious, these forms are not stamped by DSC employees. There is also an AB department in Rotterdam. This department does stamp the submitted fallback procedures. As a result, there is a difference in treatment.

Declarant must declare an electronic declaration as soon as possible, but no later than the next working day after the malfunction has ended. To indicate that this declaration has also been submitted via the fall-back, the code NP500 must be entered in the electronic declaration. There is no check on the submission of the electronic declaration when the system is available again. So there is no comparison between the approved fall-back procedure and the electronic declaration afterwards.

In an electronic declaration, the Movement Reference Number (MRN) can be found in the ECS application. This is for other member states to check the export shipment. In the situation of a retrospective declaration due to the fall-back, the NP500 code does not include this declaration in ECS. As a result, there is never a conformation or exit.

9.6 Report visit DLTC import.

Interview with a technical coach import department DLTC Rotterdam and a technical coach import department DLTC Schiphol Cargo and one employee of Schiphol Cargo DLTC. (15-12-2022)

DLTC employees are often unaware that the fallback procedure has been started. Employees receive reports from the economic operators about the fallback procedure, while the DLTC is not aware that there has been a malfunction or that the fallback procedure may be used. They retrieve the information and confirmation from the NHD site. All customs systems are listed there with the current status. This site is a public resource.

Under fallback procedure, DLTC carries out checks on boxes 31, 33, 34 and 44. A list is included in the work instructions containing the commodity codes that must be checked. This check is a manual procedure per declaration. In practice, it happens that a declaration has several commodity codes. These codes must be checked against the list of goods.After the manual check on the commodity code the following outcomes can be applied: a physical control, document control or permission to transport. DLTC manually creates a PLATO assignment for the physical check. Declaration processing carries out the document check.

After termination of the ANP, the declarant still submits the electronic declaration. This can be hit by one of the algorithms. As a result, a physical check can be performed again for the same declaration that was previously submitted manually. DLTC must compare this ejection with the declarations submitted under the fallback procedure. This ejection must then be linked to the previously manually created PLATO assignment. The 'new' PLATO assignment may be cancelled after the declarant has submitted documents. These are the days after the disruption, extra actions for all parties involved. To be able to make this link, DLTC sends the request by means of a template mail. This link cannot always be realized. The reason for this is not clear to colleagues at the DLTC. Furthermore, it is also unknown whether AB is aware of a previously performed physical check under the fallback procedure. No AGS number has been created for an fallback procedure.

Difference in working method between Rotterdam and Schiphol:

- Perishable goods are handled by AB in the Schiphol region under the fallback procedure. In Rotterdam, full responsibility lies with DLTC.
- There is a difference in versions of the work instructions. The dates differ.
- Rotterdam works with routines in the mailbox. Messages are automatically placed in the correct workbook based on the subject line. Schiphol manually drags all email messages to the correct work folder.
- Response times vary by region.

Wishes from DLTC:

- Automatic scan on a commodity code in the fallback procedure. This is now a manual operation.
- Now a PLATO assignment has to be created manually. This is a laborious process.
- There is no fallback procedure/report for the economic operators in the event of a PLATO malfunction. This disturbance has consequences for the reaction times.
- Fixed working method and scripts from the NHD. Declarants contact DLTC with questions that have not been answered by the NHD.

9.7 Report visit DLTC export.

Interview with a technical coach execution and exit, an employee and a team leader of this process. (11-01-2023)

In the case of an export declaration, the place where the container/trailer is loaded is the place of inspection. Only after the inspection can the goods be transported on the basis of a release notice from AB Rotterdam. When an export declaration is made at a ferry terminal, export and exit almost coincide. Formally, the rule is that a declaration must be submitted 24 hours before loading. It is not known to the DLTC whether other agreements have been made with ferry companies. It is worth investigating whether other agreements apply to this process.

The DLTC Rotterdam Export also works with the fallback procedure. Not everyone is personally subscribed to the notifications of the NHD mailing service. This message is shared between colleagues from AB. Companies often already submit fallback declarations at that time. It is most common that a DLTC employee no longer receives messages and/or assignments in other programs such as PLATO, so that a DLTC employee investigates the possible disruption. When checking the shared mailbox with AB, it becomes clear whether the fallback procedure has been announced.

When the fallback is allowed to be used, an employee of the DLTC creates folders in which the declarations are stored, which are dragged to when they have been processed and there is a folder for the declarations that have not been responded to due to the large number of requests. Creating this administration under the fallback is not possible for everyone because of the lack of authorization for making changes to the folder structure. The fallback declarations arrive in a shared mailbox with AB. The DLTC employee retrieves the declarations from there and drags them to the created new folders. A copy of this will be copied into the personal inbox.

The DLTC works from the oldest message. This is an agreement that has been made. In practice, this does not always work and more recent declarations are sometimes processed. The declarations submitted must meet certain criteria. The quality of the submitted applications is insufficient in 10-20% of the cases and are returned to the applicant. Another common problem is emailing the wrong office for the fallback procedure. This application should have been submitted to DSC and will be sent to Rotterdam. The fallback must be submitted in combination with an EAD, invoices, Annex 7 and permit. In particular, the EAD and the invoices are essential. Correctly reading the invoice is not a standard workflow within the DLTC. In principle, they feel incapable of being able to carry out this qualitatively well. The EAD comes directly from the submitter's system. There are different systems for the applicants, which means that the layout of the EAD differs per applicant. This makes it

extra laborious for the DLTC employee where the required data is entered. The focus of the check is mainly on the commodity code and the countries involved in this transaction.

We have considered the work instruction that is used. It is a page with some steps that must be followed. In the conversation I showed a work instruction that I received in two other conversations. The team leader knew the document. The employees had never seen this document before. They therefore do not work with this document. The check that is carried out is only on the commodity code and the countries concerned of this shipment. If the declaration is received in the regular manner, it may affect a profile, which means that a check must be carried out. The employees do not know these profiles in terms of content. They cannot replicate this situation in the manual procedure due to the lack of visibility of the risk indicators that are normally applied.

For each fallback submitted, the DLTC takes between 10 and 15 minutes to make a decision. It happens that between 600 and 700 fallback declarations are received. This must be handled by the staff available at the time. This can sometimes only be 1 person. During the conversation, it was suggested to seek cooperation with AB colleagues in this regard. There, the workflow comes to a complete standstill under the fallback procedure. Support may be available there. It can happen on a busy day that, for example, 400 manual declarations cannot be processed. As soon as AGS is available again, these fallback declarations will no longer be processed. Even if they are in the mailbox for 3 hours. These declarations are dragged to a folder created for this purpose. The submitter will not be informed about this further. In practice, the declarant submits his declaration via the regular route as soon as the system is available again. Whether this declaration is submitted under the code NP500 is not known to the DLTC. The AB department does have an IC on the use of the NP500 code.

Ending the fallback becomes clear to the employees because the normal workflow in which they work restarts. In this indirect way they are informed.

9.8 Handhavingsbeleid.

Interviewee 5 and 6 of the department Handhavingsbeleid. 8-2-2023

This interview focused on the formal side of the fallback process. The manual data set that must be supplied is a requirement from the EU. This data is the minimum of data that must be shared by the submitter. It is not allowed to deviate from this. A form has been published online containing all this information. This is also the only form that may/can be used for this purpose.

In this conversation, the use of the green flow as described in the vision of the Dutch customs, Pushing Boundaries, was also discussed in more detail. Whether it is possible to also apply this to the fallback. According to the experts, the enforcement tasks that Customs performs for other departments should be taken into account. These legal checks are mainly based on a risk that these shipments entail. This includes veterinary shipments that could possibly result in an animal disease. In order to have a good picture of this risk, a calculation or estimate must be made of this risk. Starting with the number of shipments that are submitted under that statutory control. Subsequently, it would be necessary to look at the number submitted by those applicants in the green flow and the degree of compliance. If these submitters meet the requirements or at least have a high percentage of compliance, then it must be estimated what the number of declarations in the fallback could be and the error percentage thereof. Based on this reasoning, a proposal can be made to the management team as to whether they consider this an acceptable risk.

As a final point, the dual-use and prohibited goods were also discussed. These consignments must always be subject to a check. In the sense that a declaration must in any case be submitted on which a risk analysis can be carried out.

9.9 DHL.

DHL interviewee 7, Thursday 2nd of February.

DHL works with VENUE for the import and export shipments. For Import also DECO is being used. If a declaration has a larger amount than 1000 euro's an additional declaration is required. DHL scans all shipments

before they are loaded for shipment. This data is also shared with customs in advance and these goods are only loaded after approval. This is the Clear in the Air principle. As soon as these goods arrive in, in this case the EU, they have already been approved for release and it is clear which shipments have been checked.

In case of shipments with dual use goods ECCN is in place. ECCN is a manner to indicate a dual use shipment. It categorizes the product on type of commodity, technology and software. This indication of dual use goods is required on the packing list so all these shipment are visible and traceable in the process.

In DHL's supply chain, all shipments handled under ICS are brought into the EU via Germany. From Germany, these goods are transported to their final destination in the EU.

the DHL software in the Netherlands will be replaced shortly. At the moment we are still working with a system that is serviced by the department in Belgium for maintenance. This will soon come to an end and the entire process will fall under its own Dutch entity. In the process in Belgium, it is set up in such a way that the customs authorities can look directly into the DHL system. This speeds up the release process even further.

9.10 Koninklijk Luchtvaart Maatschappij.

Interviewee 8 Manager Border control & regulatory Affairs KLM Cargo (12-12-2022).

KLM works with the Cargo Mate system to submit declarations. If the system is not operational, they will report it afterwards. The shipments are sent in coordination with the customs customer manager. Reporting will follow afterwards.

Risks are assessed as standard for shipments to the UK after BREXIT. Certain shipments are not sent when risks are too great.

KLM indicates that it needs a proactive notification of disruption of the customs systems. In addition, there is concern about the quality of the answers to questions in the event of disruptions. A script and correct and accurate information from the NHD is very important. Now the quality of the information also seems to depend on the employee you get to speak to at the NHD. Unambiguous answers can make a good contribution for KLM to make a correct assessment and choice in their logistics process. There is a big difference between the wishes of the different users. The wishes of an IT company are different from the wishes of a logistics service provider. There should be customization for this in terms of content.

In order to have and maintain a better overview of the flow of goods within KLM's cargo department, they carry out internal audits throughout the entire process. Pallets are stored unchecked until unpacked. If there is a difference in the consignment note and the actual shipment, this will be discovered late. To this end, adjustments are made to the systems and audits are carried out internally.

9.11 Software Suppliers

Report visit Software suppliers interviewee 9 and 10 04-01-2023.

Not wanting to digitize/automate bureaucracy.

Over the years, the number of moments at which companies have to provide data has increased. This development will continue with the disappearance of the GPA and the introduction of DMS. This means that the monthly declaration disappears and the number of actions in DMS is an extension of the current AGS.

A data set/form EU.

A data set must be supplied under the fallback procedure. This is not coordinated within the EU, which can cause delays or refusals in another Member State of the shipment. 1 standard document for the entire EU in case of the fallback procedure could be a solution. Customs requests a lot of data (push) of which it is not clear whether all this data is actually used/checked. When customs asks (pull) for certain data in case of an inspection, the data transfer is limited.

Fiscal – not fiscal.

A distinction in the data pipeline in tax and non-tax returns. Fiscal can be determined afterwards through the accounting system, so that the data is not immediately necessary. Investigate the risk associated with this. Non-fiscal will have to be checked. Alternative to putting non-fiscal 'on-hold' and not allowing it to run in the fallback procedure. Do not build the fallback procedure on exceptions, but on the large flow.

Tests

Experience is that new developments and ideas within customs are not (always) tested with the stakeholders. This should be included as standard in a change process to promote support and any technical (im)possibilities. The elaboration that is drawn up must overcome the solution.

Ask DFDS about the problem. The lead times within the ferries are short. Disruptions hit the logistics chain harder there. Due to contractual obligations, a disruption in addition to the regular costs may also result in a penalty for non-compliance with obligations.

Why, when and how do we use the fallback procedure?

What if a cow could drive? This question challenges us to think about what will be different in this situation. Also apply this to the fallback procedure.

What is required to enforce the rules? Distrust is also great for AEO permit holders. Insufficient insight into the impact on economic operators. When a physical check is carried out, the usefulness/necessity must be weighed against the damage that can be caused to the company. Example of a speaker that had to be opened. Damage to the speaker 80,000.

AEO status is based on trust after the permit has been granted on the basis of compliance with the set rules. Big investment for the company. Advantage with regard to customs formalities lags somewhat behind. The advantage is Internal, there is a better view of the flow of goods and costs. It also gives advantages in trade. Non-AEO permit holder are not involved in trade.

9.12 Douane Centrale Processen (TG&R)

Interviewee 11 en 12 Douane Centrale Processen (DCP) (30-11-2022)

Present 2 account managers for software suppliers of Customs related software.

The immediate reason for this interview is a memo written by the colleague regarding digital solutions as an alternative to the current manual fallback procedure. The colleagues are in constant dialogue with software suppliers who would like to think along and talk about potential solutions to replace the current manual procedure for a digital solution. It is important to manage expectations well, because unlimited development is not possible. This is a result of the overcrowded IT development agenda.

The idea of DCP is to offer the possibility to submitters to submit an XML message containing all data elements that are also included in the current fallback procedure. This could be even more extensive in the XML variant because this is a direct production from the declaration program of the submitter. This contains more data than required in the fallback procedure.

The XML message can be sent via email or via an HTG as a second channel. The current mail application of customs is limited in its possibilities. For that reason, an alternative channel is recommended. The question is what the added value is for customs with this XML file and is the service sufficiently capable of reading this data to make a thorough risk assessment?

Another line of thought is to make an online declaration available in the event that the customer is responsible for the disruption. This was not further explained in the discussion about the added value and how often this should be used.

To approach the companies more directly in case of disruptions, the 3 interviewees propose a technical solution. All declarants work continuously in the declaration program and may read the mail from the NHD about the disruption at a later time. Time is lost with this. What can be helpful in the context of communication is direct messages in the declaration applications of the submitter. This can be done using the same technical solution as Instagram and Facebook. They use MQTT messages that appear as a pop-up. This solution may also be used in the declaration programs of the declarants.

The last comment is the lack of a business owner for the entire process. Who is responsible for this process at the administrative level? It spans multiple departments throughout the organization. But who is the one who directs and makes decisions?

9.13 AEO expert Dutch Customs.

Interview AEO expert interviewee 13 (12-01-2023)

From the supervision cluster, this employee is only concerned with AEO permits and associated activities. He is also involved in implementation and DG TAXUD for policy.

The AEO status is based on article 39 of the UCC. In the Netherlands, there are approximately 1600 AEO C and full companies that have been tested against the criteria that stand for them. In addition to this number of Dutch companies, it is also permitted for foreign certified companies that are included in the European database to trade in the Netherlands. The facilities that the companies receive are based on the legal frameworks that have been set for AEO. These benefits include diversion, lowering security and other benefits.

In the port of Rotterdam, customs work with a container scan. In the event of a disruption in that process, there is also a fallback procedure. This measure is only allowed for AEO companies. This is the only fallback procedure where this distinction is made for the AEO permit holders.

In the new situation with DMS, the entry in the declarant's administration (IIAA) is formally already a declaration. With the delivery message you can omit the fallback because these goods can always be traced.

Through this IIAA you have an audit trail to the original shipment. The declarant will always want his administration to be in order. So there is also an interest for the declarant.

Customs' future vision of supervision is under development. Due to limited staff capacity and a large flow of declarations, choices have to be made. Due to this data and the ever-developed administration at companies and the sharing of data, Customs is focusing less and less on the trusted trader, especially during physical checks. The checks at these companies are increasingly focusing on administrative checks. This choice means that more and more checks are carried out on a random basis instead of on the basis of risk profiles. This approach is being implemented more and more in the regular process and would also be very useful in the fallback procedure. This approach allows the focus to be placed more on the blue stream where the unknown and other traders.

The Wise persons group is currently discussing the revision of the DWU. This is a lengthy process before these adjustments can be implemented. It is, however, advisable to immediately respond to these adjustments and developments within the domain of customs.

In order to clarify these developments and the current possibilities, it is wise to arrange a session with various parties involved from Customs before developing the fallback procedure to go through the various scenarios.

9.14 Letter business community for the Staatssecreatris Toeslagen en Douane.

Ministerie van Financiën
T.a.v. mevrouw A. (Aukje) de Vries
Staatssecretaris Toeslagen en Douane
Postbus 20201
2500 EE DEN HAAG

Datum	contactpersoon	doorkiesnummer	referentie
18 augustus 2022	drs. B.J. Koopman	079-3467346	BJK

Onderwerp: verstoringen van de douanesystemen.

Geachte mevrouw De Vries,

Handel is een belangrijke kurk waarop de Nederlandse economie drijft. De douane speelt bij het toezicht op de goederenstromen een essentiële rol en faciliteert de internationale handel in belangrijke mate. Het Nederlandse bedrijfsleven is doorgaans zeer tevreden met de wijze waarop de douane invulling geeft aan zijn rol. De samenwerking binnen het Overleg Douane Bedrijfsleven (ODB) verloopt in een open sfeer en daardoor worden doorgaans snel oplossingen gevonden in geval van knelpunten.

Digitalisering speelt een cruciale rol in het faciliteren van handelsstromen en bij de douaneprocessen. Het Douane Wetboek van de Unie (DWU) gaat uit van een volledig digitaal aangifteproces. Daarmee is het bedrijfsleven, waaronder de logistieke sector, sterk afhankelijk van de kwaliteit van de douanesystemen. De afgelopen maanden hebben zich grote verstoringen in deze systemen voorgedaan. Deze verstoringen leiden tot veel overlast, extra kosten en een verdere ontwrichting van de logistieke ketens.

De logistiek in zee- en luchthavens staat de laatste jaren al zwaar onder druk. De huidige verstoringen in de douanesystemen kunnen er toe leiden dat een kritische grens wordt overschreden, waardoor schepen de Nederlandse havens niet meer kunnen of willen aandoen. De containerterminals in de zeehavens staan nu al volledig vol met containers. Een 'logistiek infarct' in de haven zou leiden tot een verlamming van de processen, hetgeen zeer slecht is voor de reputatie van Nederland. Dit brengt forse financiële schade met zich mee voor de logistieke sector, importeurs en exporteurs. Wij willen u dan ook graag uitnodigen om de impact van deze verstoringen tijdens een werkbezoek met eigen ogen te bekijken.

Wij waarderen alle inspanningen die de douane heeft gedaan om de oorzaak van de problemen te achterhalen. Uit de open communicatie van de douane, middels een aantal berichten en een extra bijeenkomst van het ODB-IT, blijkt dat de oorzaak van de storingen nog niet is achterhaald. Voor het bedrijfsleven is het uitermate belangrijk dat de systemen weer functioneren en beschikbaar zijn op een aanvaardbaar en werkbaar niveau.
Het bedrijfsleven mag van de Nederlandse overheid verwachten dat zij alles in het werk stelt om de problemen op te lossen. Wij vragen u op korte termijn de noodzakelijke randvoorwaarden te creëren, zoals uitbreiding van de capaciteit van de systemen en van voldoende gekwalificeerde kennis. Voor de lange termijn is het cruciaal om de robuustheid van de systemen, ook gezien de toenemende aantallen aangiften, tegen het licht te houden.

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Er moeten voldoende financiële middelen ter beschikking worden gesteld om de huidige problematiek het hoofd te kunnen bieden, maar ook om in de toekomst te kunnen beschikken over een robuust en hoogwaardig systeem.

Deze brief wordt mede verstuurd namens **VNO-NCW**, **Fenex**, **TLN**, **VNTO** en **VNC**.

Wij zijn graag bereid om onze dringende oproep nader aan u toe te lichten.

Hoogachtend,

Drs. Bart Jan Koopman
Directeur

9.15 Contribution data set

The data sets, for import and export declarations, consist of a total of 157 different column heads in an Excel format. Only a few are relevant for this analysis. These are the columns: AangPnt and GdnCod.

AangPnt is the reference to the location where the declaration was filed. There are two locations that can be specified in the declaration. These are MAASVLAKTE or ADAM AIRPORT/SEAPORT. The Maasvlakte refers to the declaration location for the port of Rotterdam. Adam airport/seaport is the declaration point in the Amsterdam region, which mainly serves the airport and the port of Amsterdam. For the declarations, filters have been set on this column where one of the two locations can be selected. The other location is then not included in the numbers.

GdnCod is a reference to the HS codes associated with the goods. Filters have been set on this column for these declarations. By applying this filter it is possible to select the HS codes chapters 1-14. As a result, all other chapters of the commodity codes are not included. The following steps were taken for the analysis of the input and output data sets:

Import and Export declarations			
Steps to genarate numbers			**Processing the numbers**
1	Select all rows and automatically calculate quantity.	**A**	Total number declarations
2	Filter by AangPnt	**B**	Total absolutnumber declarations by AangPnt
3	Selection MAASVLAKTE.	**C**	Percentage per AangPnt of the total number of declarations
4	Filter by GdnCod	**D**	Total number declaration chapters HS code 1-14
5	Select chapters HS code 1-14	**E**	Total absolut number declaration chapters HS code 1-14 per AangPnt
6	Select all rows and automatically calculate quantity.	**F**	Percentage per AangPnt of declarations of chapters HS code 1-14 of the total number of declarations of chapters HS code 1-14
7	Select all rows and automatically calculate quantity.	**G**	Percentage per AangPnt of declarations of chapters HS code 1-14 of the total number of declarations
8	Reset all filters and calculations.		
9	Select all rows and automatically calculate quantity.		
10	Filter by AangPnt		
11	Selection ADAM AIRPORT/SEAPORT		
12	Verify the number of selected declarations MAASVLAKTE AND ADAM AIRPORT/SEAPORT with the total number of declarations.		
13	Filter by GdnCod		
14	Select chapters HS code 1-14		

Table 9.1 Approach analysis data set

C = (Absolut number import declarations NP500 AangPnt : Total import declarations NP 500) *100

F = (absolut number export declarations NP500 HS chapter 1-14 per AangPnt : Total export declarations HS code chapter 1-14) * 100

G = (absolut number export declarations NP500 HS chapter 1-14 per AangPnt : Total import declarations NP 500) * 100

The purpose of this approach for the analysis is to provide insight into the total volume of the number of manual declarations under the fallback procedure and what this is per region. The distinction based on HS codes has been made to get a clear picture of these specific goods in absolute number and percentage. This could provide a substantiation for making choices in the type of goods during the fallback. The analysis of the average duration of the disruptions from the other data can provide insight into the use of time blocks as other countries do.