
PROCESS IMPROVEMENT

Measurement and analysis of deviations in the maritime transport documentation process



Bachelor's thesis

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ABSTRACT

The thesis is about process improvement with a focus on measuring deviation in the maritime transport documentation process. The commissioning company was UPM Sales Oy. The implementation of this thesis was conducted with the Business Processes and Solutions team and in close cooperation with the UPM Paper ENA OverSeas Customer Service department located in Tampere. Process development was carried out recently and deviations had not been recorded earlier. Due to this the subject is seen as important. The main objectives of this thesis included exploring and describing the maritime transport documentation process, measuring deviations occurring in this process, explaining creation mechanisms of the deviations, estimating the magnitude of the problems that the deviations created, and finally introducing further steps for improvement.

Literature on international trade, international logistics, and finally quality improvement and related methods were reviewed for this thesis. Theories were applied to collect, measure and analyze data based on this literature review. Flow diagram was created to identify the potentially critical and problematic areas in the process examined. The main data collection of errors occurring in the process was conducted with survey research strategy with longitudinal time horizon. A pre-structured data collection form was filled in by the personnel working in the OverSeas Customer Service department.

Transferring information between different parties and systems has a significant influence on the error generation mechanism. The new process of handling instructions reduces manual data transfers needed during the process. The number of errors initiated by an internal party should therefore be reduced. Most errors were initiated by carriers. Cooperation is needed with carriers to further improve the performance of the process. Most of the errors were detected as early as possible after the initiation point and only a few errors travelled through the multiple possible detection points prior to being caught.

Keywords process improvement, transport documentation, deviation measuring

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TIIVISTELMÄ

Tämä opinnäytetyö käsittelee prosessikehitystä ja huomio keskittyy vientidokumentaatioprosessissa esiintyvien virheiden mittaukseen, virheiden laadun määrittämiseen ja virheiden syntymisen syiden selvittämiseen. Työn toimeksiantaja on UPM Sales Oy. Opinnäytetyö on toteutettu yrityksen Business Processes and Solutions tiimin kanssa sekä yhteistyössä Tampereelle sijoittuvan UPM Paper ENA OverSeas asiakaspalvelu osaston kanssa. Prosessia on hiljattain kehitetty ja prosessissa esiintyviä virheitä ei ole koskaan mitattu. Tästä syystä aihe on tärkeä.

Opinnäytetyön tavoitteet ovat tutkia ja kuvata vientidokumentaatio prosessi, mitata tässä kuvatussa prosessissa esiintyviä virheitä, selittää virheiden syntymekanismeja, arvioida ongelman vakavuutta ja viimein esitellä mahdollisia lisätoimia prosessin parantamiseksi.

Kirjallisuuskatsauksessa on tutustuttu kansainväliseen kauppaan, kansainväliseen logistiikkaan, ja viimein laadun kehittämiseen sekä kehityksessä käytettäviin menetelmiin. Katsauksessa kerättyä tietämystä on hyödynnetty tässä opinnäytetyössä datan keräyksen, mittaamisen ja analysoinnin apuna. Laadun kehityksen menetelmistä vuokaaviota on käytetty kuvaamaan tutkittavaa prosessia. Vuokaavion avulla on tarkasteltu potentiaalisia kriittisiä ja ongelmallisia kohtia prosessissa. Pääasiallinen datan keräys on toteutettu päiväkirjamaisesti pidetyllä kyselyllä. OverSeas asiakaspalvelu osasto keräsi prosessissa esiintyvät virheet tiedonkeruulomakkeeseen.

Tiedon siirtäminen järjestelmien ja osapuolien välillä on huomattava vaikutus virheiden syntymekanismiin. Uusi dokumenttiosheiden käsittelytapa vähentää manuaalista tiedonsiirtoa prosessissa. Sisäisesti aiheutetuista virheiden määrä tulisi tästä johtuen vähentyä. Suurin osa kirjatuista virheistä oli varustamoiden aiheuttamia. Yhteistyö varustamoiden kanssa on suositeltavaa, jotta prosessin suorituskykyä voidaan edelleen parantaa. Suurin osa virheistä on huomattu varhaisessa vaiheessa, mahdollisimman pian niiden luomisen jälkeen.

Avainsanat prosessikehitys, vientidokumentaatio, virhemittaus

Sivut 42 s. + liitteet 4 s.

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1 INTRODUCTION

In international trade the documentation has played an important part from early on, already when the goods were moved with sailing ships. A legal document, the bill of lading, has been in use to ease the exchange of goods internationally. The first signs of regulations concerning the bill of lading were recorded already in the 1667 sea law. Since then, in international cooperation, the regulations have been adapted several times to accommodate the changes in international trade and the methods of shipping goods worldwide. (Sisula-Tulokas 2007, 115–116.)

According to the World Trade Organization (World Trade Organization 2015) global merchandise export has increased significantly during the last 20 years. In 2014 Europe was still the leading destination of exports even though Asia had increased its importance as a trading region. Exports to developing economies have also increased when comparing figures from 1995 and 2014. Economies' contribution to the global value chain has been supported by the lower trade costs and continuously developing communication technology. In 2011 almost half of the world trade in goods and services occurred within global value chain. (World Trade Organization 2015, 18, 24.)

Increasing international trade of merchandise has influenced to a significant growth of the transportation sector from the beginning of the 2000s (World Trade Organization 2015, 21). Maritime transportation is the most significant mode of transport when considering international trade due to its low costs and its suitability for large shipments (Albaum & Duerr 2011, 876). General cargo is more and more shipped in containers. Still in 1990, tonnage moved in break-bulk ships and container ships were almost equal. To accommodate the growing need for efficiency and freight handling capacity, in 1999 the tonnages moved by containers increased to be three times greater than the initially more conventional break-bulk carriers. (Wood, Barone, Murphy & Wardolw 2002, 105.)

Large quantities shipped in the global value chain generate additional challenges considering the documentation. Involved are several handlers and types of documentation to successfully execute international trade transaction. In addition to the documentation itself generating costs, it is also time-consuming and requires coordination with the flow of goods throughout the chain. The importance of documentation in international trade needs to be recognized, as for example a single missing document will delay the entire shipment. (Wood et al. 2002, 309–310.)

1.1 Background information

The subject of this thesis is up-to-date since the Business Processes and Solutions team at UPM Paper ENA has recently carried through a project which developed the handling of bill of lading (B/L) instructions in the organization. The performance of the maritime transport documentation process has not been previously viewed by measuring the amount of deviations

occurring in the process. The workload that the documentation creates has still been noticed and the interest arises on how many documents pass the process with deviations at some stage of the process. The time consuming and complex B/L documentation increases the risk of adding possibly costly deviations in the original B/L document. It is important now to assess the current situation by measuring quantity, quality and reasons for errors in the documents at different stages of the process. The purpose of this thesis project was to explore aspects influencing the maritime transportation documentation to estimate the magnitude of the problem at hand. The research results are applicable also for other markets besides the selected sample markets.

1.1.1 Objectives

The main objectives of this thesis were:

- Explore and describe maritime transport documentation process.
- Measure deviations occurring in the process.
- Explain the issues causing the deviations in the process.
- Estimate the magnitude of the problem that deviations create and introduce further steps for improvement to minimize errors happening.

1.2 Commissioning organization

UPM - the Biofore Company, integrates bio and forest industries to achieve sustainable future (UPM 2015a, 1). UPM has been divided into six business areas which are UPM Biorefining, UPM Energy, UPM Raflatac, UPM Paper Asia, UPM Paper Europe & North America (ENA) and UPM Plywood (UPM 2015a, 1–2).

UPM paper is the biggest graphic paper producer in the world with a production capacity of about 11 million tons annually in newsprint, magazine-, fine-, printing- and specialty papers combined (UPM 2015b). In 2014 59% of the total sales of UPM were generated by the paper business from which 49% was from Paper ENA (UPM 2015c). UPM Paper offers wide range of paper products to suite customers' needs with high environmental performance. The main customers for UPM Paper ENA are publishers, cataloguers, retailers, printers and distributors. (UPM 2015a, 2.)

The implementation of the thesis was conducted with UPM Paper ENA Logistics process owner from Business Processes and Solutions team and in addition with close cooperation of UPM Paper ENA OverSeas Customer Service department located in Tampere. The Business Processes and Solutions team is responsible for developing and optimising business processes to supports business units (UPM 2015d).

2 INTERNATIONAL TRADE

The business environment has become increasingly global as medium-sized and multinational companies are extending their opportunities to enter foreign markets. It has become easy also for the smaller companies to introduce their products, services or ideas internationally through digitalization. Most companies are operating in some way internationally, either sourcing from, selling to or at least competing with companies across borders. In this globalized business environment it is important to have understanding on international trade. Knowledge on the markets the company is operating in is very important and can influence the success of the business. (Albaum & Duerr 2011, 3.)

To be competitive in this highly demanding setting, knowledge on the markets has to be obtained and shared between the different functions of the organization and external parties. The success of delivering the produced goods to desired location from European Union as planned requires following meticulously legislation, procedures and regulations set by several different parties. The physical movement of the goods from the point of origin to point of destination can be compromised with lack of accurate on time information and documentation. The intention of delivering products with the confirmed schedule and of competing in the highly demanding setting of international environment the importance of transport documentation should not be neglected and denied. In international trade the documentation is an important part of goods movement, as if there are no documents there is no movement. The requirements of both export and import regulatory authorities have to be satisfied in order to successfully carry through international transactions.

International business environment imposes restrictions which are not occurring when operating only nationally. Governmental institutions and banking systems differ between the countries which influences many aspects of the trade. Laws and regulations of the country to which the goods are imported have to be taken into consideration when executing international trade transactions. (Albaum & Duerr 2011, 32.)

Export and import country authorities normally require some form of documentation when importing and exporting the goods. Some countries have more special documentation requirements which have to be met in order to proceed with the transaction. Also the trade relationship between the countries involved has a substantial influence on the documents required. Import and export countries are not the only specifying factor on the documentation needs. The terms of sales are defining the needed documentation as well. All parties involved in the trade have their part on the documentation; either they issue, secure or require them. (Hinkelman 2008a, 4, 6–8.)

The figure 1 describes the complexity of the documentation in international trade. The arrows describe the communication between the parties involved in the trade transaction. Each of the made contacts take at least one document. (Albaum & Duerr 2011, 890.) When considering all the parties involved and the communication between them, it is not hard to imagine that

one of the most common issues to create problems with export is incorrect documentation. When the documentation does not comply with legislation the result is delays of getting customs clearance. This will then result into additional costs and delay of delivery. (Cook, Alston & Raia 2012, 204.)

In addition to the parties described in Figure 1, for example international attorneys and inspection companies can still be involved in international trade transactions. Export and import countries, goods and services sold and the terms of sales specify the need for the parties involvement. The parties involved can be acting as issuers of certain documents, such as Certificate of Origin (Chamber of Commerce), or act as a certificatory party of certain documents such as a commercial invoice (Consular officials). (Hinkelman 2008a, 15, 28–30.)

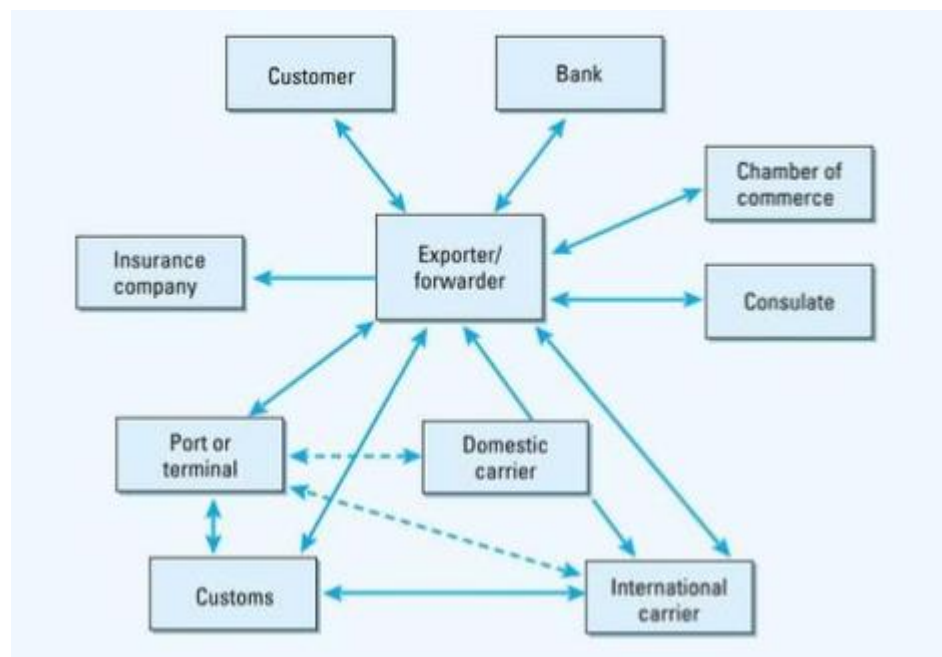


Figure 1 Communication in international trade (Albaum & Duerr 2011, 891.)

2.1 International convention and mandatory law

The main part of the legislation related to transportation is based on international conventions. As already discussed, the international business environment imposes additional risks there as the laws and regulations differ widely between countries. In addition to civil law regulations on issues such as which national legislation laws should be obeyed in international situations, also additional regulations are needed to avoid chaos in legal situations. To enforce the international convention to which the country, or economic entity, has committed to, the country needs to make sure its internal legislation does not contradict with the regulations in the international convention. (Sisula-Tulokas 2007, 40–41.) Some international laws are mandatory laws, which cannot be disregarded with transportation contract terms. In these cases it is not possible to agree in the contract about any terms that are from the customer's point of view below the minimum terms set in the legislation. A mandatory law is needed to set a uniformity not dependent on

the countries involved in the trade transaction. Regulations related to the bill of lading are such mandatory laws. When considering the bill of lading, there is not only the contractual parties (carrier and consignor) involved, but also the consignee. The financial agreement for the international trade transaction can also be tied to the bill of lading, so security created by the mandatory law is crucial. (Sisula-Tulokas 2007, 46–47.) The contractual and financial issues related to the bill of lading are further discussed later.

2.2 Trade compliance and regulatory authorities

Governmental regulatory agencies protect the economy and the well-being of citizens by reinforcing the laws and regulations (Hinkelman 2008a, 25). There are two types of governmental regulatory agencies which are social and economic. Social regulation agencies focus on cross-industry threats and risks concerning for example health, safety, welfare and environment related issues. Economic regulation agencies' attention is on the other hand on more specific industry regulations which guarantee for instance fair trade practices, efficient markets and sufficient competition. (Sparrow 2000, 7.)

The agencies require compliance of the export regulations which increases the documentation and bureaucracy of the export business (Cook, Alston & Raia 2012, 223). Regulatory agencies enforce the law and regulations of the country and customs territories they are involved in and collect the export and import tariffs, taxes, duties and other fees defined in those regulations (Hinkelman 2008a, 21–22). Violation to comply with the agencies' regulations result for example to fines, audits and confiscation of the cargo. Delays on the delivery, accumulated costs and possible penalties will eat up the profitability of any export trade transaction. (Cook, Alston & Raia 2012, 29, 223.) Therefore it is crucial to have the documents correctly issued and secured to ensure successful transaction. When deliveries are exported from European Union, the laws and regulations are enforced by the member country agencies which are part of the customs system of EU (Finnish Customs 2015a).

The European Union (EU) is an economic and political entity formed by 28 countries. The EU creates a customs and fiscal territories in which products, services, people and money can move freely without tariffs. (Finnish Customs 2015b.) The European Commission (EC) is a commission which acts on the interest of the EU as a whole. The EC for example ensures that the EU laws are correctly applied and enforced in the EU member countries. (European Union 2015.) The export procedures are mandatory for European Community goods which are exiting the EC customs territory. This way is controlled that correct application of export measures are taken (European Union n.d.). When considering export from the EU country, the true export happens only and after the goods move from the EU to outside the EU. In only these cases the export procedures have to be carried out by the exporter with export declaration. Export declarations are submitted so that the export customs authorities can supervise the EC regulations. The authorities for example enforce the possible restrictions and prohibitions on export goods and combat international crime. (Finnish Customs 2015b.)

On top of the already mentioned customs and exporter, also other parties are needed in order to export goods from the EU. From the figure 1 describing the web of communication in international trade can be clearly seen that also port or terminal operator and international carrier are involved in the export procedures.

The export procedures include several steps carried out by different parties. The procedures start when the exporter presents the export declaration to Customs office in the member country. After the Customs office has processed the declaration they will provide the release message with export accompanying document (EAD) including movement reference number (MRN). MRN specifies the certain declaration in the EU customs data system and will follow through the whole export procedure as a sort of identification to certain export declaration for the custom authorities. All the parties involved need to include the MRN number in the communication with the customs. Against "Arrival at Exit" notification provided by for example port operator, customs will grant the permission to load. The exit manifest presentation provided by carrier will notify the customs of the goods loaded to the means of transportation used for exit the EU. Exit notification simply still states that the goods have exited from the EU. After receiving the exit notification, Custom's system automatically triggers decision on release with exit confirmation to exporter. This can be used to prove that the export is exempt from value added tax. (Finnish Customs 2015b.)

Carrier will receive part of the information needed to carry out the export procedures in a form of bill of lading instructions. The needed information is stated there and will be then used to sustain the permit to load the goods in to the planned vessel. (Limnell, e-mail 28.4.2015.) This is the critical point and the connection of the export procedures to the maritime transportation process. If some output of the process is delayed or not provided, the goods will not be loaded to the means of transport.

3 INTERNATIONAL LOGISTICS

As logistic operations are complex in international trade, risk of having problems cannot be entirely avoided. When something goes wrong while transporting big quantities, additional costs accumulate fast. There might be problems in the physical transportation of goods, for example port congestion, but also problems resulted by the document related issues. B/L documentation is a small part in the whole chain, but still important section.

In international trade there is a web of agreements between different parties involved defining for example price, quality, delivery schedule, financing, transportation and insurance related issues. The sales contract is the base agreement between the seller and the buyer. Based on this the content of the other agreements needed are been defined in the international trade transaction. (Sisula-Tulokas 2007, 5.) The contract is binding agreement which defines among other things also the responsibilities of both parties involved (Hinkelman 2008a, 16). In addition to defining goods subject to the transaction, also party responsible arranging shipment agreement with the shipping line, party carrying out the export-, import customs procedures and

responsibility of other related practicalities has to be agreed (Sisula-Tulokas 2007, 5).

The terms specified in the sales contract have direct influence also on the documentary content and responsibilities of the parties involved (Hinkelman 2008a, 16). Based on the defined terms, like Incoterm discussed in more detail in this section, the certain responsibilities are distributed and clearly specified between the parties. To ease the international trade transactions and create uniformity, globally recognized standards Incoterms, have been created to legally bind the parties involved across country borders. (Wood et al. 2002, 278.) Payment terms will be discussed as well in this section. In addition means of transportation, reflection on transportation contracts and transportation documents in more detail will be discussed in this section.

The physical movement of the goods are not normally done by the seller or buyer themselves but separate party entirely. When seller or buyer arranges the shipments, normally in the international trade the movement of goods is outsourced to international freight carriers. Freight carriers are also responsible for issuing the needed transport documents, such as bill of lading as required by seller or buyer depending on the contract. (Hinkelman 2008a, 23, 25.)

3.1 Transportation modes

There is six transportation modes from which one suitable or combination can be chosen based on geographical locations, distance between origin and destination country and the product shipped. These are ocean, air, rail, truck, inland water, and pipeline. As already emphasised in the instructions, maritime transportation is the most significant mode of transport when considering international trade due to low costs and the suitability for large shipments. (Albaum & Duerr 2011, 876.)

In maritime transportation the carriers can be divided into three basic types which are private fleet, tramps also know chartered vessels and liner carriers. Private fleets are shipper owned vessels, in which case the shipper is acting as a carrier. Most shippers do not have their own vessels, so they use carriers to transport their goods to desired locations. Shippers with large quantities to be delivered at a time are shipload lot size shippers which charter vessels at their need. Less than shipload size shippers then use liner services. Liner service is operated in a scheduled basis between specified ports. The usage of liner service is connected usually to general cargo shipped in number or count bases. In order to get full shiploads, carrier tenders the vessel space to many shippers. (Wood et al. 2002, 89, 140.)

The growing need of efficiency and freight handling capacity transformed way of shipping goods internationally. Break-bulk vessels have been increasingly replaced by containerships designed to carry containers in cells aboard the vessel. Containerized cargo is being stuffed into large intermodal boxes and loaded into containerships with cranes. (Wood et al. 2002, 104–105.)

As more and more cargo quantities of diverse types of goods are being shipped in containers, there is a need for a variety of different container types. General purpose-, open top- and tank containers exist to name a few. A general purpose container is the most common type of container and it is suitable when shipping dry cargo. There are 20 feet, 40 feet containers and also 40 feet high-cube containers in order to have the most economic container loads for goods with different sizes and weights. (CMA CGM 2015a.) A general purpose container is also called a dry freight container (MAERSK n.d.). To achieve the low costs that can be possible when shipping goods in containers, full container loads should be pursued.

3.2 Incoterms 2010

Incoterms rules are a globally accepted standard created by the International Chamber of Commerce (ICC) for domestic and international trade. The rules specify the costs, duties and risks involved in the delivery of goods. The rules clearly define the point when the risks is transferred from the seller to the buyer. (International Chamber of Commerce 2010, 120–121.) The party responsible for arranging and paying for the export and the import customs procedures, transportation- and insurance arrangements is specified (ICC Finland. n.d.). Also the obligation of managing and processing the shipping documents is defined based on the selected Incoterm (Cook, Alston & Raia 2012, 202).

Every Incoterms rule is not suitable for all goods shipped and all transportation modes. Also special requirements of the seller or buyer have to be taken into consideration when choosing the used term. When choosing the Incoterm for a certain trade transaction, the available rules should be examined carefully to make sure about its suitability to that specific situation. This way confusion of the responsibilities in the later part of the goods delivery can be avoided. Normally the most current terms are used, which are at the moment Incoterms 2010. (ICC Finland. n.d.) Incoterms 2010 include terms from the E-, F-, C- and D-groups discussed in the following (International Chamber of Commerce 2010, 131).

As can be seen in Figure 2, with the term from the E-group the seller places the goods to the buyer's disposal at their premises or other named place. All other obligations, risks and costs are then on the buyers account. (International Chamber of Commerce 2010, 131.) E-group's terms are mostly used in domestic trade (Räty n.d). Restrictions created by the EU regulations and difficulties to prove bases for exempt VAT in export make it unbeneficial to apply E-group terms to international situations.

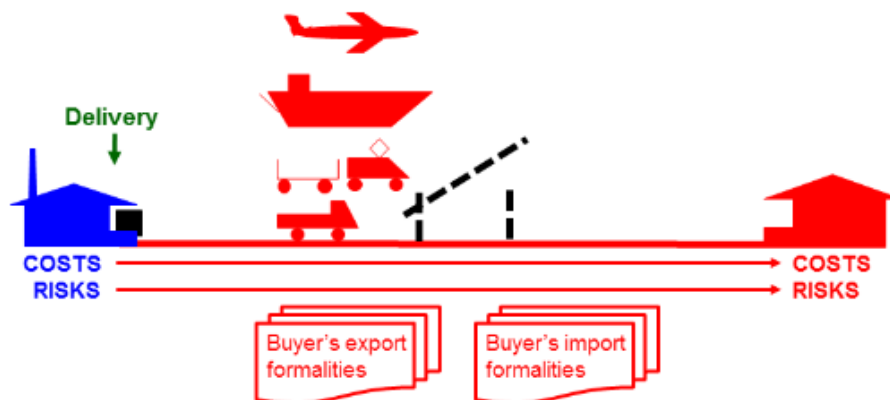


Figure 2 E-term (Räty n.d.)

Figure 3 demonstrates the basic idea of a term from the F-group, in which the seller delivers the goods to the carrier named by the buyer near the seller's premises. The seller is responsible for the export clearance, but the buyer arranges the shipment and is then responsible for the import customs procedures. (International Chamber of Commerce 2010, 139.) As the seller does not secure the transport document, it will receive proof of delivery from the carrier. In sea transport this document is normally a copy of the on-board bill of lading. (Räty n.d.) This enables for VAT exempt when delivering outside EU. The seller still needs to prove to the buyer that the goods have been delivered as per contract to a set location. The seller has the obligation to assist the buyer in obtaining the necessary transport documents. (International Chamber of Commerce 2010, 28.) All the terms in the F-group are not suitable for all transport modes unlike the example in Figure 3, the FCA-term. (Räty n.d.)

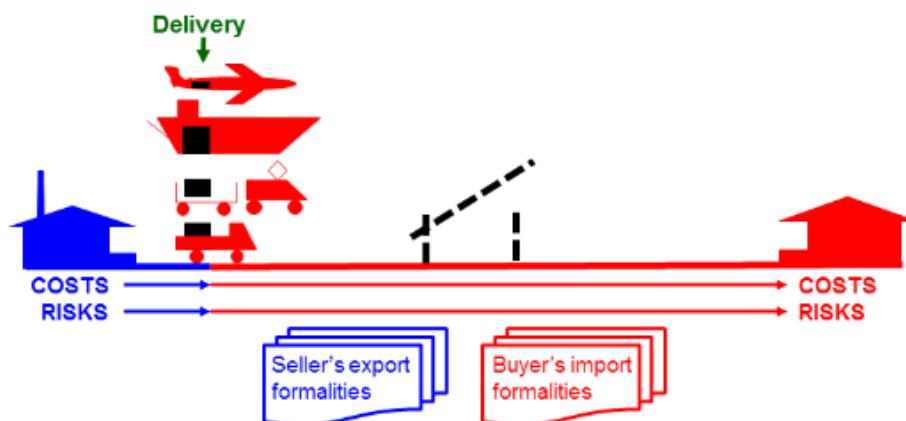


Figure 3 FCA-term (Räty n.d.)

With the C-group terms, the seller will make the contract of carriage and will deliver the goods to the custody of the carrier. Export customs clearance is on the seller's responsibility. With this term the buyer receives the goods from the carrier at the destination. (International Chamber of Commerce 2010, 149.) It has to be noticed that even though the transportation to the destination has been on the seller's account, the buyer carries the risks of transportation from the place of delivery to the destination. Based on a

term chosen from the C-group, the seller might have to insure the cargo during its transport on behalf of the buyer. (Räty n.d.) With a C-group term the seller has the obligation to provide delivery documents to the buyer. The provided document has to cover the goods in transport, be dated within the period of transportation and enable the buyer to claim the possession of goods at destination. (International Chamber of Commerce 2010, 102.) Figure 4 describes as an example the CPT-term in which the obligation of insurance does not apply. Just like the terms in the F-group also all the different C-group terms are suitable for sea transport, but not for all the other transportation modes. (Räty n.d.)

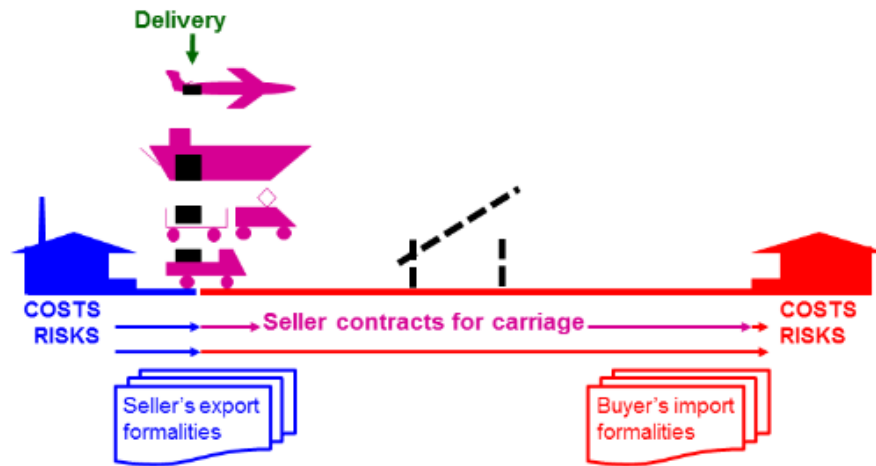


Figure 4 CPT-term (Räty n.d.)

With a term from the D-group the seller makes the contract of carriage with the carrier and will deliver the goods to the named destination near the buyer (International Chamber of Commerce 2010, 169). Depending on the term the seller is responsible for export formalities, but also in some cases import formalities. The costs and risks will transfer to the buyer only after the delivery at the destination as can be seen from the figure 5. (Räty n.d.) With D-group terms the seller has a responsibility to provide delivery documents to the buyer so that they can take delivery of goods at the set location defined in the contract (International Chamber of Commerce 2010, 72).

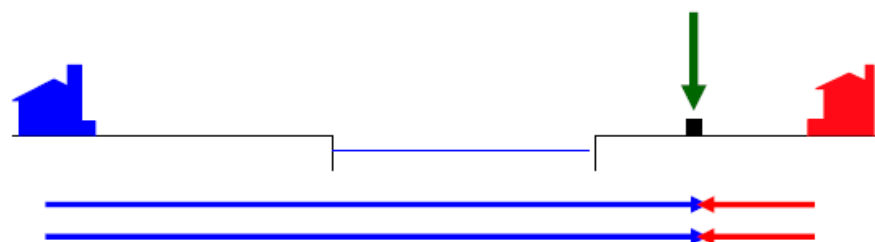


Figure 5 D-term (Räty 2012)

The Incoterms do not influence or clarify all aspects of the sales transaction. A suitable Incoterm should be included and clearly stated in the sales contract with all the other aspects such as pricing and payment method to ensure a successful trade transaction. (Cook, Alston & Raia 2012, 202.)

3.3 Transportation contract

Transportation contract is normally tripartite agreement between the carrier, consignor and the consignee. Sales agreement defines the contracting party, who is responsible making the transportation contract with the carrier for the shipment. For example when C-group Incoterms is been used the contracting party is the seller who is responsible to deliver the goods to the buyer. The buyer in this case has a right to claim the goods based on the transportation contract. The transportation contract is separate contact but still intertwined to the complex contract entity needed to carry out international trade transaction. (Sisula-Tulokas 2007, 5, 18.)

Contracting carrier is a party that commits to deliver the goods as agreed to the agreed destination. Such carrier can use either their own vehicles or lease the needed vehicles to move the goods as per agreed. The other parties involved in the contract are consignor, contracting shipper, actual shipper and consignee. The consignor in the maritime transportation is the party that makes the contact with the carrier. This party can be also called contracting shipper. Still there is party called actual shipper involved in the shipment. The actual shipper describes the party who presents the goods to the carrier for shipment. The contracting shipper and the actual shipper can be also the same party. Consignee describes the party which possesses the right to claims the ownership of the goods at the destination. (Sisula-Tulokas 2007, 19–21).

Stevedore, the harbor operator, should also be mentioned even though they are not directly the transportation contracting party. The stevedore normally has contracted responsibility from the carrier to stevedore the assigned goods to the planned vessel. The other responsibilities are to move the goods in the harbor land area, which is contracted by the consignor or their representative. (Sisula-Tulokas 2007, 24.)

3.4 Transport documents

Transportation document defines the transportation contract for the carriage of goods, evidence of receipt of goods and defines the commitment to deliver the goods to the specified destination (Hinkelman 2008a, 40). Bill of lading (B/L) is one of the most important documents when carrying out international trade transaction (Albaum & Duerr 2011, 890).

B/L is used in maritime transportation, it is issued by a carrier and it carries multiple purposes. B/L is contract between the exporter and the carrier, and it defines the ownership of the goods in transit. In addition it states for example the parties involved (shipper, consignee, notify parties), the vessels on board goods are carried, the origin and destination ports and container details. (Hinkelman 2008a, 38, 40, 42.) Maritime B/L can be straight or order, non-negotiable or negotiable, clean or foul, Received-for-shipment or On-board. The concepts and the relations between are been discussed below. (Albaum & Duerr 2011, 898.)

Straight B/L is a non-negotiable document which indicates that the goods are been delivered to specific named party at the destination, a consignee. Ownership of the goods in transit is in this case with consignee and cannot be transferred to any other party during the transit of the goods. (Hinkelman 2008a, 40.) To claim the possession of the goods in the port of destination the specified consignee or their representative holding the arrival notice of shipment has to present identification (Albaum & Duerr 2011, 898).

Order B/L is negotiable document which can be either blank endorsed or endorsed to some specific party. The possession of the goods is transferred with the endorsement. The endorser is the specified party to whose order the B/L has been made out to. When the B/L is made out "to order", this means it is made out to shipper. Shipper is in this case the endorser. When the order B/L has been made out "to order" of named party like bank or agent, that named party is the endorser. Until the B/L has been endorsed the title of the goods remains with the endorser. (Albaum & Duerr 2011, 898.) If the B/L has been blank endorsed, no specific endorsee has been named. In this case any party with possession of this short of B/L is the rightful owner of the goods. If the order B/L has been endorsed to specified party, this named party has the rightful possession of the shipment. (Hinkelman 2008a, 40.)

To further understand the meaning and implication of negotiable order B/L, the negotiable instrument should be explained. Negotiable instruments is a written document which can be transferred by endorsement. For example check, bill of exchange and bill of lading can be negotiable instruments and therefor can be sold, bought and traded. The endorsement transfers the ownership of the goods to the holder of the document to whose name the endorsement has been made. (Hinkelman 2008a, 40.)

Whatever the case, only the original B/L documents signed by the master of the vessel or his authorised agent are legally binding. All the signed originals carry the ownership of the goods and can be used to claim the goods. After one of the originals has been presented and the goods claimed against it, the other originals from the set become void. (Albaum & Duerr 2011, 898.) Full set is normally 3/3 originals (Sisula-Tulokas 2007, 148). In addition to the originals there is normally unsigned copies for archives of the parties involved. (Albaum & Duerr 2011, 898.)

When the cargo arrives to the port for loading, the condition is being reviewed by the carrier. If at this point any shortages are been discovered when comparing to the information provided by the shipper, notation of the shortage (quality or quantity) has to been made to the B/L. The result is then foul B/L. If the goods are in apparent good condition clean B/L will be issued. (Albaum & Duerr 2011, 898.) To clarify still the meaning of goods in this context, the carrier point of view is being described. Clean goods mean containers that have been received in good order and condition stuffed and sealed by the shipper (CMA CGM, 2015b).

On-board B/L includes statement of vessel to which the shipment has been loaded at the port of destination. It is a legal guarantee that the goods are

actually on that specified vessel. If the information is not specifically informed, the B/L is received-for-shipment B/L. In this case the space on the vessel has not been reserved and carrier will load only if needed space is available. Received-to-shipment B/L can be used only when there is no time constraints to get the shipment to the destination and when the payment terms allows it. (Albaum & Duerr 2011, 899.)

The B/L contains voyage information, contract parties and the description of the goods carried. In addition to these it also contains the terms and conditions concerning the carriage of goods. (CMA CGM, 2015c) Depending on the destination also import regulations might specify some additional information that needs to be included to the B/L.

Contract party details contain carrier, shipper and merchant information (CMA CGM, 2015c). Merchant in this context includes any party entitled to the ownership of the goods. For example shipper, holder of the B/L, consignee, receiver of the goods and person acting on behalf of any such entity might be merchants during the transportation of goods. (CMA CGM, 2015b.) At least carrier name and location of the main office, shipper name and receiver of goods has to be included into the B/L. (Sisula-Tulokas 2007, 149.)

The voyage information mentioned has to include the port of loading and port of discharge and the vessel information. When the B/L is on board B/L the vessel information, loading place and time has to be included which can also be seen as voyage related information. (Sisula-Tulokas 2007, 149.)

Description of the quality of the goods, any dangerous properties of the goods shipped, needed marking to identify the goods, and quantity and weight of the goods are cargo related information. In addition to these also the quantity of original B/L documents issued, the place where the B/L has been issued, and freight charges if receiver is responsible of paying the charges has to be stated in the document. (Sisula-Tulokas 2007, 149.)

The quantity and the condition of the goods has to match what has been said in the transport document. The carrier has liability to check the correctness of the information concerning the quantity and condition of goods shipped. The liability concerns the cargo related information described above. Even in cases where the shipper provides the information to the carrier, the carrier has responsibility to check the correctness of the given information. If this is not possible with reasonable efforts, the carrier needs to mark reservation on the given information on the B/L resulting to foul B/L. (Sisula-Tulokas 2007, 69, 150.)

In the other hand the shipper has their own liabilities concerning the content of the transport document. Shipper has liability about the information they give to the carrier. The strict liability concerns only the issues that the shipper is providing and not for example date of the transport document or information about freight charges. Also the issues that the carrier is obligated to check, shipper does not have liability. (Sisula-Tulokas 2007, 62–63.)

The container details include information concerning content of the container and markings. Such information is container type, container number and seal number, package quantity, gross weight and tare of each container, volume, HS code, goods description per container and shipping marks. In addition the quantity of containers shipped in the B/L and the total number of packages and total gross weight are been mentioned. In the B/L the term container is being used to describe any container, trailer, pallet or similar item used to consolidate the goods in shipment (CMA CGM, 2015b).

Clauses are terms with which the shipment has been agreed to be delivered. In the B/L the terms and conditions defined by the carrier are in the back, but some additional terms agreed between the shipper and the carrier might be included in the front of the B/L or mentioned with separate certificate. These short of clauses can be for example the detention and demurrage free times separately agreed or vessel age notation needed if special vessel age restrictions have been agreed between the carrier and the shipper.

3.5 Payment terms

In addition to the delivery terms described earlier also payment terms requires special consideration when doing business internationally. A customer might be located in a part of world where there is instability. There might be for example fluctuation of the chosen currency, trade policy changes and sudden restrictions of foreign transfers. Therefore choosing the payment term is highly important decision to avoid unnecessary risks. The most important defining aspect is still the relationship between the seller and the buyer. Trusted long-time partner in business might be willing to bear more risks when thinking of the payment agreement. In international trade four payment terms are in use differing on the level of risks those are exposing the seller and the buyer. These are cash in advance, documentary letter of credit, documentary collections and open account. (Hinkelman 2008b, 1, 10–11.)

In international trade there is payment mechanisms to which transportation documents play a key role. B/L containing the title of goods help the payment arrangements between the seller and buyer. (Sisula-Tulokas 2007, 5, 102.) B/L can be used as means to get payment from the buyer as the carrier does not surrender the goods without original B/L even when the party requiring the goods has been mentioned to be the consignee (Wood et al. 2002, 291).

Payment against letter of credit requires clean onboard B/L. Documentary collections, like cash against documents or documents against payment are also usual payment terms as they reduce the risk of the seller. With these payment terms, the seller receives the payment from the bank after surrendering the original B/L to their disposal. The consignee has been marked to be the bank from which the buyer receives the documents after the payment has been made or written undertaking has been provided. (Sisula-Tulokas 2007, 5, 102.) Documentary letter of credit creates most constrains when considering export documentation and due to its tight interaction with B/L, the mechanism will be discussed next.

With the documentary letter of credit (L/C) bank guarantees that they will pay the amount stated in the L/C as long as the terms and conditions of the credit has been complied with. The credit has been established with the terms and conditions stated on the L/C and if these will not be met, the bank will refuse to pay the beneficiary (seller). It has to be recognized that the bank is dealing with only documents and is not anyway interested on the actual goods or their movement. L/C gives higher level of security to seller than for example open documentary collection or open account terms, but this is only if the conditions of the L/C can be met. (Wood et al. 2002, 292.)

Documentary L/C accumulate costs as the issuing bank, reimbursement bank, confirming bank and advising bank all charge for their services. Discrepancies also add to the costs and if present on the documents invalidates the L/C in which case it no longer offers the desired protection to the seller. If the correction cannot be made to the discrepant document, the payment term can be said to transfer from L/C to documents against payment transaction. The confirming bank will forward the incomplete documents to the issuing bank on approval basis. The issuing bank has no longer obligation to pay against the presented documents and the security for which the additional costs as a bank commissions have been paid disappears. (Wood et al. 2002, 297, 302–303.)

To get the full benefits and security of documentary L/C it is crucial to notice all the conditions that cannot be complied with just after receipt of the opened L/C (Hinkelman 2008b, 66). Buyer applies the L/C from the issuing bank based on the agreed data from the seller. This data can be for instance from order confirmation or proforma invoice and it is then communicated to the bank with L/C application. Sometimes also regulatory authorities require some information on the international trade documents to control international transactions, which would also then have to be mentioned on the L/C. After L/C has been opened to the seller's bank (confirming bank), seller has to review it carefully and then request for amendment to the L/C if needed. If there is some condition than cannot be met, at this point the amendments are easier to process. The amendments have to be physically received and accepted through the issuing and confirming bank before those are valid and part of the L/C. (Wood et al. 2002, 297–300.)

The credit is been negotiated against the transport documents and the documents have to then comply with the conditions stated in the L/C, not the goods transported (Hinkelman 2008b, 102). After the opened L/C has been accepted by seller it can be perceived to be the document instructions for shipment. Based on the L/C the seller will arrange the needed documentation to carry through the trade transaction. After the needed documents have been prepared the seller will send them for review to the confirming bank. The bank will check merely the documents against the L/C and any deviation present will create discrepancy. (Wood et al. 2002, 303.)

Donald Wood et al. (2002, 303) has emphasized the importance of complying with credit terms by giving simple example of goods description in transport documents. Seller's system creates automatically invoice with

goods description “sodium chloride” and this information cannot be anyway amended. In the L/C the goods description mentions “salt”. Even though salt and sodium chloride are the same thing bank will view this as discrepancy and can refuse for payment. To ensure the success of the transaction and to avoid time-consuming amendments to the L/C, the buyer should comply with utmost precision with the sales contract, keep the details of L/C clear and avoid requesting documents that are hard to obtain (Hinkelman 2008b, 61).

It has to be acknowledge that even if there is no constraints created to the documentation from the payment term chosen between the seller and buyer in the trade transaction, there might be still such constants created in the transactions following. The buyer, for example trading house, is selling the goods forward to the consumer in overseas location to which the seller is delivering the goods as agreed on the terms of sales. The buyer in the first transaction might have L/C open with the consumer in the overseas location. As the goods are delivered straight to the consumer, the export documents used in the destination provided by the seller have to be compliant with the L/C between the buyer and the consumer. These requirements are normally communicated to the seller with document instructions by the buyer (trading house) in the first transaction.

4 QUALITY IMPROVEMENT

Quality can be viewed to increase costs as well as decrease costs. Higher quality by features of products which meet the customers’ needs creates quality with increased income but also require investment hence increase the costs. Higher quality by freedom from deficiencies creates quality with decreased costs. The figure 6 below elaborates the two different meanings of quality, product features that meet customer needs and freedom from deficiencies, and their effects. Both of these definitions have critical importance to quality management. Improvement can be described as establishment of valuable change. (Juran & Godfrey 1999, 2.1–2.2, 5.3.) This thesis deals entirely on the quality by freedom from deficiencies hence this definition is been used to describe quality.

To further understand the meaning of freedom from deficiencies, the meaning of deficiency needs to be explained. Deficiency can be described to be any error or defect that results the product not to be fit for use. Deficiencies can be for example not meeting the agreed delivery schedule as the product delivered is not fit for use in the agreed time or illegible invoice. Defects, in other words errors, can be stated to carry the same specification. (Juran & Godfrey 1999, 2.3, 5.39.) Operational error does not have to turn into customer detected defect. It still should be recognized that only providing defect free end-result does not cover the whole quality concept. Quality begins from the start of certain process and should carry though all the steps in the end. The key issue is to recognize the mechanism that error is created and eliminating it in its origin so that the error will not travel through the whole process and turn into customer detected defects. (Goldsby & Martichenko 2005, 186.)

| Product features that meet customer needs | Freedom from deficiencies |
|---|--|
| <p>Higher quality enables companies to:</p> <ul style="list-style-type: none"> Increase customer satisfaction Make products salable Meet competition Increase market share Provide sales income Secure premium prices <p>The major effect is on sales.</p> <p>Usually, higher quality costs more.</p> | <p>Higher quality enables companies to:</p> <ul style="list-style-type: none"> Reduce error rates Reduce rework, waste Reduce field failures, warranty charges Reduce customer dissatisfaction Reduce inspection, test Shorten time to put new products on the market Increase yields, capacity Improve delivery performance <p>Major effect is on costs.</p> <p>Usually, higher quality costs less.</p> |

Figure 6 Definitions of quality (Juran & Godfrey 1999, 2.2.)

Quality improvement to reduce waste, such as errors in the transportation documents, can be obtained with approach including two steps. The steps are discovery of causes and introduce remedy to eliminate the discovered causes. Methods which can be used to execute the steps are described next. (Juran & Godfrey 1999, 5.3, 5.43.)

4.1 Quality improvement methods

In order to successfully identify the causes creating the errors, the process has to be familiar and its relation to the whole known. This can be achieved by using method flow diagram. Creating flow diagram helps to understand the steps in the process which are each describing a single tasks. (Juran & Godfrey 1999, 5.44.)

Flow diagram is visual means to present steps in the defined process. Visualization of process with flow diagram helps to identify flow of steps and sequence of events that for example production of certain product follows. Flow diagram can be used for various applications which have progression, for example steps taken to make a sale or delivering product to customer. With flow diagram critical and problematic areas in the process can be identified. (Basu 2009, 56-57.) After creation of the diagram it provides new vision on identifying customers, might introduce missed customers, and define how these customers interact in the process. (Juran & Godfrey 1999, 3.11.) Basic steps to create flow diagram are: define the boundaries of the process, define the level of detail the process should be described in, list major activities and steps in the process, organize the steps to order they are

carried out, and finally draw the flow diagram with appropriate symbols. (Basu 2009, 57.)

The purpose of data analysis in research is to summarize and organize the gathered data to a form which reflects clearly what has been found. (Gillham 2010, 25). Strategy of process dissection is a means to find out why a process is not performing as it should. With this method the errors can be traced to the origin, to specific steps in the process. There are many different process dissection methods, from which a test at intermediate stages will be introduced. The test of intermediate stages has been described to be a useful strategy in cases where the defect is noticed at the end of the process. In such a case, it would be useful to inspect at intermediate stages of the process to find out at which specific step the defect accumulates from. (Juran & Godfrey 1999, 5.44.)

Defect concentration analysis is a means to find out concentrations of defects that then can lead to causes in diverse applications. For example in the production environment the defects can be plotted to locations on the drawing of the product to show the number of defects in the studied product in each different part of the product. (Juran & Godfrey 1999, 5.45–5.46.) In the process environment the defect concentration analysis can be applied by mapping the detected errors to specific steps of the process to clearly show which part of the process creates most problems.

5 EMPIRICAL RESEARCH PROCESS

The research project was carried out using mixed research methods, in other words quantitative and qualitative research methods. For a preliminary collection to gain an understanding of the process examined, qualitative methods were used. Also for formulating the actual data collection form, qualitative methods were used. The primary collection of the data on the detected errors in the transportation documents were then collected with a pre-structured data collection form, using quantitative methods.

Qualitative data is non-numeric data that can be described to be non-standardized data without classification into predefined categories. The data is in a form of words and analysis from the data is conducted with conceptualisation. (Saunders, Lewis & Thornhill 2009, 480,482.) Quantitative research is being used when there is a need to gather numerical data or data that can be quantified to get relevant information for the research project. Quantitative analysis techniques are for example graphs, charts and statistics with which data can be transformed into meaningful information. (Saunders et al. 2009, 414.)

The suitable research strategy can be chosen by dividing the problems in to exploratory, explanatory and descriptive types. By this distinctions the type of the research project can be described and the most suitable data collection methods can be discovered. (Gorman & Clayton 1997, 96–97.)

Exploratory type means investigation of a process or phenomenon which is not understood to identify critical points (Gorman & Clayton 1997, 96–97).

Exploratory study helps to clarify the exact nature of the problem researched (Saunders et al. 2009, 139). From qualitative data collection methods participant observation and in-depth interviewing are suitable means (Gorman & Clayton 1997, 96–97). From the quantitative research methods, experiment, survey and case study are suitable for exploratory type (Saunders et al. 2009, 142, 144, 146).

Descriptive type is for documenting the certain phenomenon (Gorman & Clayton 1997, 96–97). Descriptive research is often used as a combination after the exploratory research to have a clear picture of the researched process or phenomenon prior the data collection. The combination studies of descriptive and exploratory research are called descripto-exploratory studies. (Saunders et al. 2009, 140.) Participant observation, in-depth interviewing, document analysis and unobtrusive measures are suitable for problems of this type (Gorman & Clayton 1997, 96–97).

Explanatory type distinguish issues causing the certain phenomenon to identify underlying network shaping the phenomenon. For this type participant observation, in-depth interviewing, survey and document analysis are suitable. (Gorman & Clayton 1997, 96–97.) Research strategies experiment and case study can be used for explanatory study (Saunders et al. 2009, 142,146).

After the project has been distinguished to certain type the data collection technique can be selected. It is beneficial to select more than one method to tackle the problem. (Gorman & Clayton 1997, 96–97.) The qualitative part of the research project at hand can be specified to be descripto-exploratory type. For this purpose observation and discussion is been used as a data collection means. For the main data collection purposes survey research strategy with longitudinal time horizon will be used.

5.1 Research methods

Observation is a qualitative research method technique including involvement in the environment and processes studied. With participant observation issues in the process which might be otherwise overlooked without active observation are noticed. (Gillham 2010, 21.) Observation can be used to effectively gather understanding on practices and procedures. The purpose of the observation is mainly to get deep understanding on target process. With unstructured observation the observer takes notice of issues related to the research. (Gorman & Clayton 1997, 44, 105.)

Focus group discussion is a means for data collection with interaction between group members and also between members and the researcher. The selected members in the group are homogeneous participants who are then interacting about the given topic. This method of collecting data can be used for example user studies. This method gives researcher advantage of group viewpoints on the issue discussed. (Gorman & Clayton 1997, 45–46.)

With the observation technique flow diagram is been updated to better describe the process researched. The issues are been recorded to mold the diagram to describe the process from the viewpoint of customer service specialist. The observations about the relationships in the process between internal and external parties are recorded in the flow diagram. Observation has been used also to notice any B/L document related issues discussed during day-to-day operations in the customer service. Possible related difficulties or remarks that the errors are creating are discussed in the office and these are been set aside for possible reflection in the research.

With survey, questions who, what, where and how many can be answered. The method is suitable when great amount of data needs to be collected from large population. Survey is optimal strategy when standardized data is gathered from chosen sample. Longitudinal study means display of events over given period of time. The longitudinal time horizon can be described as an diary perspective on which record is kept during defined time period. (Saunders et al. 2009, 144, 155.) Chosen collectors will gather noticed errors in the documents to pre structured data collection form in a diary like fashion. The defined issues are marked down when error is noticed in the document, in any stage of the documentation process.

6 CURRENT SITUATION

The current situation of the process and the detected errors are discussed in this section with the help of process flow diagrams that can be found as Appendices 1–4.

6.1 Process flow diagram

As earlier defined, the process flow diagram was updated to illustrate clearly the current situation of the B/L documentation handling process and to suit the research project. Outputs and inputs of the process had to be examined in order to understand the source and the influence of the deviations.

The B/L document process results in a high workload for the customer service and carriers. The dialog between the shipping line and customer service, in most cases, takes place in email form. Even though the B/L instructions part A and B were sent to the carrier via web based tool, the dialog in the B/L draft phase was still operated mostly via email. The drafts were received as email, dialog with the agent/trader was handled by email, and the correction requests and approvals of the documents towards the carriers were also sent by email.

The web based tool to provide the B/L instructions had recently been taken to use after the data collection of errors. This alteration to the process influenced the B/L instructions handling and clarified the actions the instructions part of the process. The draft phase of the process creating most of the workload to customer service was not simplified directly through the new approach to instructions handling. The influence on the complete B/L documentation process can still be significant if this new method reduces the

deviations on the actual B/L drafts resulting in less email correspondence prior to draft approval. This would also directly decrease the risk of deviations on the final original B/L document.

The B/L documentation process can be divided into three phases: the B/L instructions-, the B/L draft-, and the original B/L phase. A simplified overview of the whole process with colour distinction on the different phases can be found Appendix 1. The same colours follow through the whole thesis to distinct the different phases of the process (see Figure 7 below). More detailed process flow diagrams are still introduced for all the different phases separately. The circles marked in the process flow diagram (Appendix 1) and their meaning are discussed later on in the data analysis chapter.

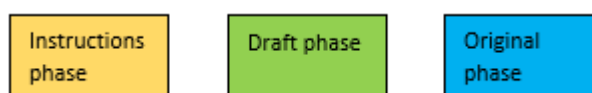


Figure 7 Colour distinction of process phases

As can be seen in Appendix 1 there are five parties involved in the B/L documentation process: a trader/agent, a customer service specialist, a carrier, a supply specialist and the mill/harbor. The instructions phase of the process produces input for the draft B/L creation, which will be checked and approved resulting in the original B/L to be printed and distributed to the customer.

When considering the mechanism of how the deviations appear in the documents, critical considerations are the transfer of the data from one phase to another and within a certain phase from one party to another. When considering the source of error, the error has to be traced back from the point of detection to the first time it appeared. It still has to be emphasised that the detection point of the error and the initiation point of the error are different issues. For example an error initiated at the beginning of the instructions phase, customer document instructions, can have a detection point in the original phase after the originals have been issued. This would then indicate that the mistake would have been copied to all the following steps from the document instructions point onward. The incorrect or missing information would have been detected only after the customer received copy of the original document. Next all the separate phases have been introduced in more detail and possible error initiation points will be gone through.

6.1.1 Instructions phase

B/L instructions provide to the carrier the needed information to create the B/L document. The instructions should be considered as split into two parts, part A and part B as can be seen in the flow diagram for instructions phase (Appendix 2). Part A of the instructions is created by the customer service specialist based on details gathered from the related order, from the booking confirmation and from the instructions provided by the agent/trader. Part B includes the stuffing details contributed by the party stuffing the handling units, in other words containers. The content for both parts can be seen in Table 1.

Table 1 General content of B/L instructions

| Part A | Part B |
|--|---|
| <ul style="list-style-type: none"> - Shipper with address details - Notify party, address and contact details - 2nd Notify party (if needed) - Consignee information - Shipper's reference number - Related booking number - Port of Load - Port of Discharge - Destination (if needed) - Goods description - Shipping Marks - HS Code - Clauses - Certificates - Number of copies (original, non-negotiable copies) - B/L comments including contact details of the recipient of draft & original documents | <ul style="list-style-type: none"> - number of containers - container numbers - seal numbers - total cargo weight in gross and container based cargo weight in gross - total number of packages and container based number of packages - container tare - cubic meters per container |

As can be seen in Appendix 2, describing the instructions phase of the B/L documentation process, there are several steps involved in order to continue to the next phase. The output is the B/L instructions that will be sent to a carrier. The possible bottlenecks to achieve this are the availability of the document instructions from the agent/trader and the stuffing information needed from the mill or harbor operator, preparation of customer service instructions and supply processing the instructions.

The first possible initiation point for error is at the start of the B/L documentation process flow, in the introduction phase. As can be seen from the flow diagram of the introduction phase (Appendix 2) the first possible error initiation points are located at the Trader/Agent order sheet, the document instructions provided by Trader/Agent and stuffing details from the harbor or mill. The second possible initiation point for error is part A instructions generated by cuse based on the given instructions following the third point, the combining step executed by the supply specialist. From the instructions phase of the process three possible error initiation points can therefore be detected with responsible parties 1. trader/agent, mill or harbor, 2. cuse and 3. supply.

6.1.2 Draft phase

The input for the next phase of the complete B/L documentation process is the B/L instructions as can be seen from the flow diagram for the draft phase in Appendix 3. After receiving the draft from the carrier, the checking for the correctness of the documents draft begins. In addition of the customer service being in contact with the carrier, also the agent or trading house can be involved in the draft checking phase of the process. Generally the agent

or trading house is involved if they have provided separate document instructions. These instructions can be based on for example L/C that they have open for certain order with the end consumer. Normally in these cases the agent or trading house are then also requesting the drafts for checking prior approval and issuing the original versions.

Noticeable is that the chain can be very long to which the B/L and certificate drafts are been sent for checking. The agent in these cases is merely moderator which then sends the same documents to the customer for checking. When opposite party is trader, they check the documents themselves. The trader compares the documents to the L/C they have open with the end consumer in the destination country.

Even when the chain is long, there is also benefits of sending the documents for checking to the agent or trading house. The obvious one is that there is more eyes to notice any deviation from the document. Also when the document is in draft form, prior the vessel departure, there will be no additional costs to amend the document. Any corrections to the document requirements should be noticed, informed and amended at this point.

With one B/L document the dialog can go on for days before the B/L draft can be approved and original documents can be printed by the carrier. The work is meticulous as there is no room for mistakes to be present in the original documents. Also if the draft B/L is not checked on time, prior vessel departure, the correction fees are then charged by the carrier if amendment are needed. After the drafts are correct and approved the next phase of the process can start.

When all the previous steps in the process have not generated errors, the next possibility for error is in the draft phase of the process. When examining the draft phase process flow diagram, see appendix 3, possible initiation point of error can be detected to be creation of draft. This step is executed by carrier based on the given instructions from the instructions phase of the process. Next points in this phase are when customer service is requesting missing draft from the carrier or when request for correction is been made by customer service to carrier. In order to think that the correction or missing draft requests are draft phase initiated errors, the details should be correct in the earlier parts of the process, also in the created drafts provided by the carrier. The missing draft or correction request would then be redundant and would only result the perfectly error free B/L and/or certificate drafts to have errors. The same consideration can be made with the correction request from the trader/agent if the request would only create errors to error free B/L and/or certificate drafts and would then be corrected again to the original form.

6.1.3 Originals phase

The original phase mostly describes the handling of the printed original documents. In the flow diagram for this phase (Appendix 4) the flow of original documents from carrier to the agent/trader, customer or the customer's bank

depending on agreement between the seller and buyer, and the chosen payment term can be seen.

Even though this phase has significantly fewer steps than the previous phases of the process, there are still further possibilities for errors in the process. These can be detected in the flow diagram for original phase of the B/L documentation process (Appendix 4). A possible initiation point for error is the issuing of the original B/L and the certificate. In this step the error can be generated by issuing the wrong original document, for example an incorrect version of the B/L draft. Also if a certain certificate is not issued and sent onwards, even though the draft phase had been executed without problems, it would be considered to be an original phase initiated error. Sending the originals to a wrong address or failing to send them without a separate additional request would be considered as original phase errors.

7 DATA COLLECTION AND ANALYSIS

7.1 Data collection and its progress

The data collection and the progress there can be divided into sections by reviewing the meetings held. In total five meetings were held with different sets of customer service personnel to: introduce the topic, review the data collection template, initiate the collection and to check the progress. The contents and the participation are further discussed in more detail below.

The data collection period was planned to be at least one month to get a variety of deviations occurring. The data was collected when the old method for handling the instructions, by email, was in use. The go-live for the new process was planned to start progressively after 10 April 2015 which created pressure for starting the collection period. During the thesis work the implementation of the new process was gradually taken to use. In the end the collection period was about two months, from 4 March 2015 to 6 May 2015.

The first two meetings were introductory meetings held for both customer service teams separately, with full participation. During the meeting the criteria for market selection was introduced. Discussion was created based on this introduction to select suitable markets from which the data would then be collected. This also clarified the exact participants who were to collect the data during the data collection period.

The suitable destination markets and agents or trading houses to be used as sources for data collected were chosen mainly based on order volumes. The volume was needed to achieve relevant results when analysing the collected data. In the company annual tenders are agreed with the carriers and therefore normally only couple of carriers are handling all the shipments to a certain destination. To get variety of carriers it is essential to have many destinations included on the data collection. This was considered and therefore several agents or trading houses were chosen to accommodate the need for larger variety of destinations.

The third meeting was concerning the data collection form. Meaning of the meeting was to check the layout and usability related issues with group of collectors prior the data collection period.

Data collecting were done alongside the normal daily operations in the customer service, so creation of heavy additional workload to the collectors needed to be avoided. The data was collected with Excel table distributed to the customer service specialists. Only ongoing cases during the data collection period were included to ensure the uniformity and accuracy. Excel was selected as a platform to the form as it is easy to use and the collectors are familiar with it. Also when the data is gathered into structured predefined Excel form, the Excel can be used in the data analysis stage of the research. The usability of the collection form has to be simple and easy.

Prior to the meeting rough data collection template was created and distributed via email to the selected focus group. The content of the template was selected to complement the research subject. In the meeting based on this template, discussion was created on how it should be developed to achieve better usability. The collection form was then amended based on the discussion and further checked by the members of the group and the supervisor of the research. The following columns, with meanings included, are present in the data collection form:

- ERROR DETECT DATE, representing the date when the collector noticed the error
- MILL, representing the production mill of the order the documents is related to
- B/L NUMBER, representing the document number of certain document
- SHIPPING LINE, representing the carrier related to the document
- ERROR CAUSED BY, representing the party responsible for the error
- DOCUMENT STATUS WHEN ERROR WAS NOTICED, representing the stage of the process when error was noticed
- SOURCE OF ERROR, representing the stage of the process which created the error
- ERROR TYPE, representing the type of the error
- EXTRA COSTS CAUSED, marking if the error has created extra costs
- EXTRA COMMENTS, free field to which the collector can more specifically describe the error

Fourth meeting initiated the collection. In this meeting the collection form was introduced to all the collectors and the usage explained. After the meeting the Excel collection form was distributed to the collectors via email. For collectors not able to participate on the initiation meeting, separate email was sent to still introduce the usage of the collection form.

The fifth meeting was held couple weeks after the data collection had been started. The progress of the data collection was checked and discussed. This

meeting also gave still possibility to answer and create discussion on any arising questions from the collectors.

After the data collection period ended the collection forms, filled by the collectors, were sent back via email. Clarifications for certain aspects on the data related to couple of issues were inquired from the collectors to help the data analysis. Clarification was requested to know if there was documents without any errors and if the correct documents were recorded as requested (some Excels had none), if most of the errors were recorded, if B/L instructions combined from part A and part B were requested from the supply specialist.

Prior to the data analysis the collected data was processed further. An archiving application M-files was used to examine the collected data and further familiarize to the documents if needed. Also some emails concerning certain unclear or inconsistent cases was checked to further clarify the data collected. The data processing and analyzing were then conducted with the earlier described methods, process dissection with method test at intermediate stages and defect concentration analysis.

In the transportation document process the inspection of the documents are been made in the span of the whole process. The defects were recorded in a form from which the origin of the error can be derived. The strategy of process dissection, method test at intermediate stages was used as an analytics means to trace the errors recorded to the origin and find the route mechanism of the detected defect in the documents.

Detect concentration analysis, was also used to analyze the data. Deviations detected in the transportation documentation process can be analyzed by mapping the detected errors to specific step of procession to create concentrations. From this analysis the amount of errors in each step can be clearly identified and the causes may be induced. The created flow diagram was used to plot the detected errors. The data collected will be presented next.

7.2 Data analysis

To compare the amount of documents in the data collection to the actual amount of documents during the collecting period, reports from the ERP system of the company were run. The total amount of invoices created for the chosen sample during the data collection period was roughly compared to number of documents appearing in the data. With this comparison, idea on the success of the data collection was examined. Still should be noticed that in some cases, a single B/L document can include several invoices so only a rough comparison could be made.

After this comparison it was found out that with one agent, AGENT 6, from the total of 86 possible documents, collection was executed only for 31 documents. Because of this, the agent was left out from the data processing and analysis phase of the research project. The collected errors connected to this agent were still reviewed and it could be stated that the errors replicated the data that was processed and analysed.

Differences in the numbers of orders between the agents were great, which showed on the number of checked documents per agent as seen in Table 2. The same can be said about the carriers, as the number of shipments each carrier handled during the collection period was not distributed evenly. As the order volume was so different between the agents it also effected the amount of shipments per carrier recorded during the data collection. The agents had designated areas where they sold products. Carriers did not ship goods in every route either but had certain destinations were they ran regularly. The selection of carriers the company used for certain destinations had been contracted. The routes on which carriers operated regularly had an impact on which carrier shipped volumes to which destination hence the uneven distribution of shipments per carrier shown in Figure 9.

The data contained orders with a variety of payment terms, from open terms with credit to L/C and even advance payment. The relation between the errors and the payment terms was not viewed in more detail.

In total 255 errors were detected during the data collection period. These errors were present in 126 documents. In total 225 documents were handled within the period which means that there were 99 correctly issued documents (see Table 2). 56% of all checked documents had errors in one or more stages of the documentation process. Comparing the number of documents with errors and the quantity of errors present it could be said that some of the checked documents had more than one error present during its lifecycle. From one to up to 14 errors were detected for certain checked documents from the instructions phase to the original document. From Figure 8 the distribution of the numbers of errors per document can further be seen. 70 documents out from the total of 126 documents with errors had one error present.

Table 2 Errors in the documentation process

| Agent / Trader | Invoices | Checked documents | Documents with ERROR | Documents without ERROR | ERRORS |
|----------------|----------|-------------------|----------------------|-------------------------|--------|
| AGENT 1 | 103 | 110 | 54 | 56 | 82 |
| AGENT 2 | 28 | 26 | 18 | 8 | 57 |
| AGENT 3 | 9 | 9 | 8 | 1 | 13 |
| AGENT 4 | 6 | 6 | 4 | 2 | 7 |
| AGENT 5 | 99 | 74 | 42 | 32 | 96 |
| TOTAL | 245 | 225 | 126 | 99 | 255 |

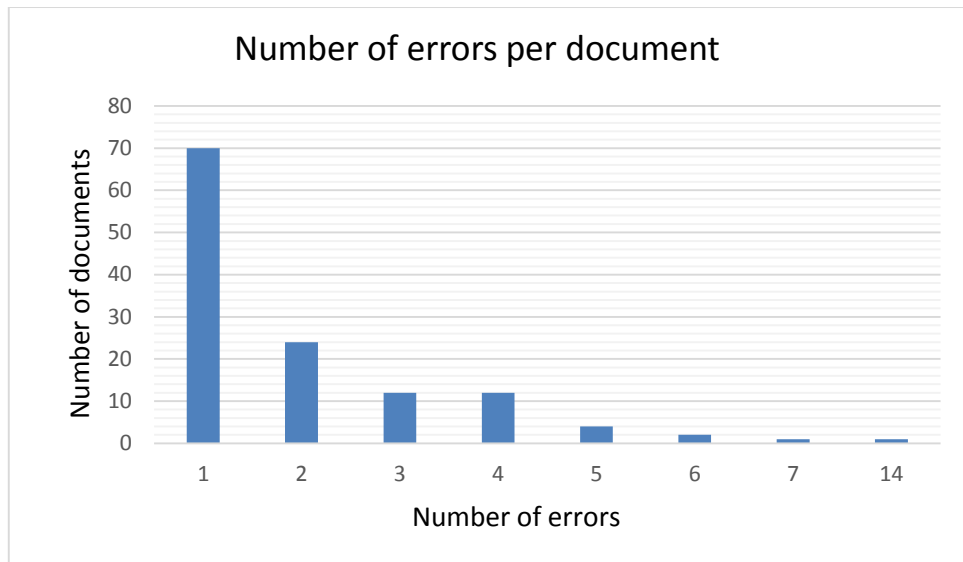


Figure 8 Number of errors per document

Figure 9 demonstrates the number of documents checked with division to carriers handling the shipment. As can be seen, in total six carriers were present in the collected data from which the Carrier 1 handled significantly more shipments than the others. Each document with error seen in this figure can still contain several errors during its lifecycle, as described above. Also the party to blame on the errors are not shown in this figure.

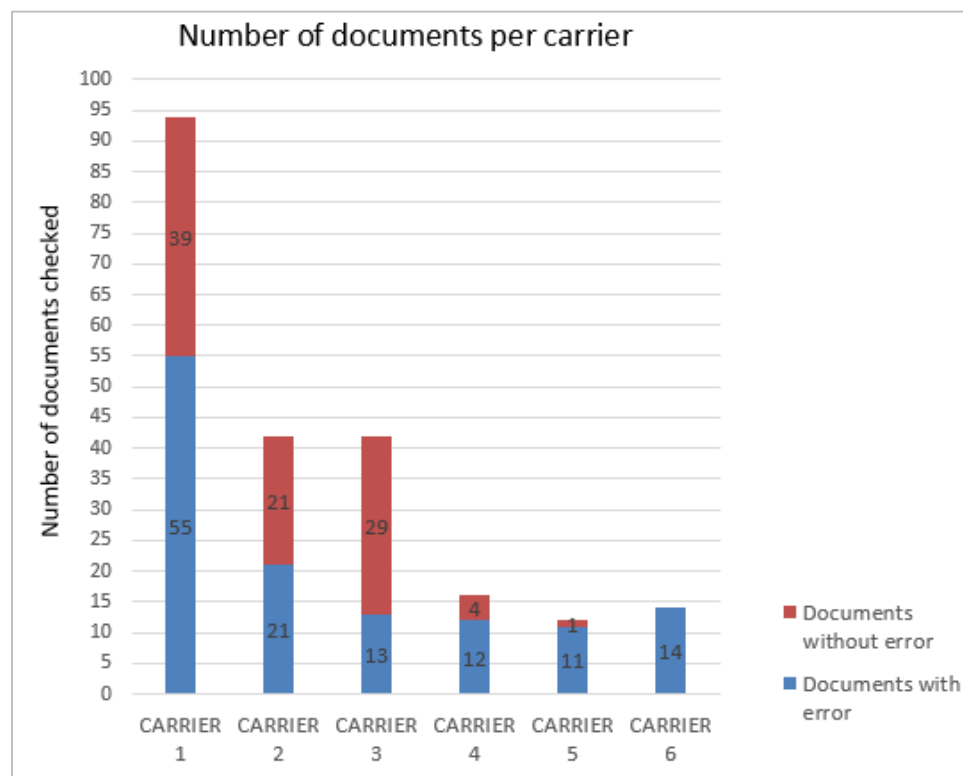


Figure 9 Number of documents checked per carrier

The errors detected during the data collection have been mapped to the process flow diagram which can be found as Appendix 1. The mapping has

been made based on the caused party and source of error. These are indicated by the circles customer (CUST.), customer service (CUSE), supply (SUPPL.) and shipping line (SHIP.). Amount of errors marked with numbers next to each circle.

From a total number of errors 20.4% were generated in the instruction phase of the process, 75.3% in the draft phase and 3.1% in original phase. The rest could not be distributed into these categories due to missing information. Figure 10 shows vividly the number of errors initiated per certain process phase. From this can be seen clearly that the draft phase has been the source of most of the errors during the data collection period.

Almost all of the errors were detected when documents were drafts, not yet originals (Figure 10). It can be said that errors were caught in time and did not accumulate to defects detected by the customer. It indicates that the draft checking works almost as it should, as even though about half of the documents have error present at some point of the process most of them were caught in time. The amount of errors still create workload to all parties involved.

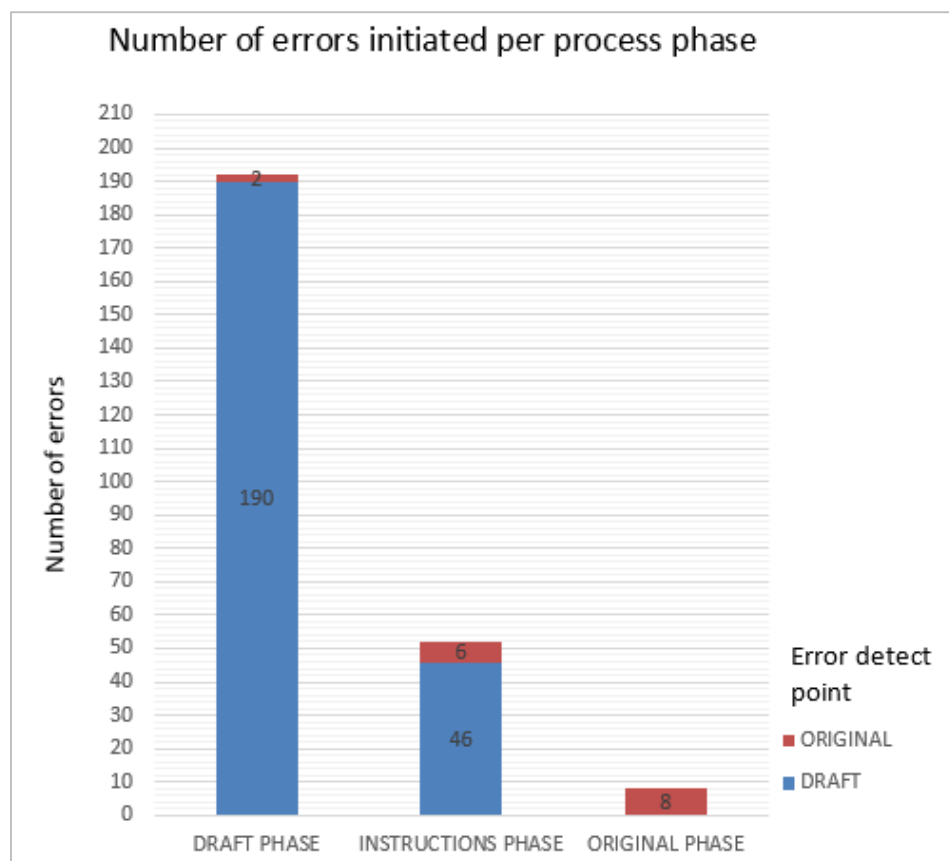


Figure 10 Number of errors initiated per process phase

Internal party can initiate errors in instruction and draft phases of the process. Party responsible can be customer service-, supply-, or mill personnel. The data shows that most of the internally initiated errors during the collecting period has been created in the instruction phase (Appendix 1). This

can be perceived to make sense as inside that phase the transfer and manipulation of data is handled mostly by and between internal parties.

External party initiated errors can be present in every phase of the process, still in this research most of them evidently fall into the draft phase. Based on the data can be said that diversion of the instructions to drafts by the carrier gathers most of the errors generated.

In addition to mapping of errors detected also the data in the free form field, extra comments, has been organized into six categories. These categories are: missing document, contract party, container details, clauses, freight charges and voyage information. Also some undefined errors are present due to missing extra comments, which are shown as undefined. Clause, container detail and contract party categories scrape together almost three quarters from the total amount of errors (Figure 11). The same pattern also carries through when dividing the errors per initiator.

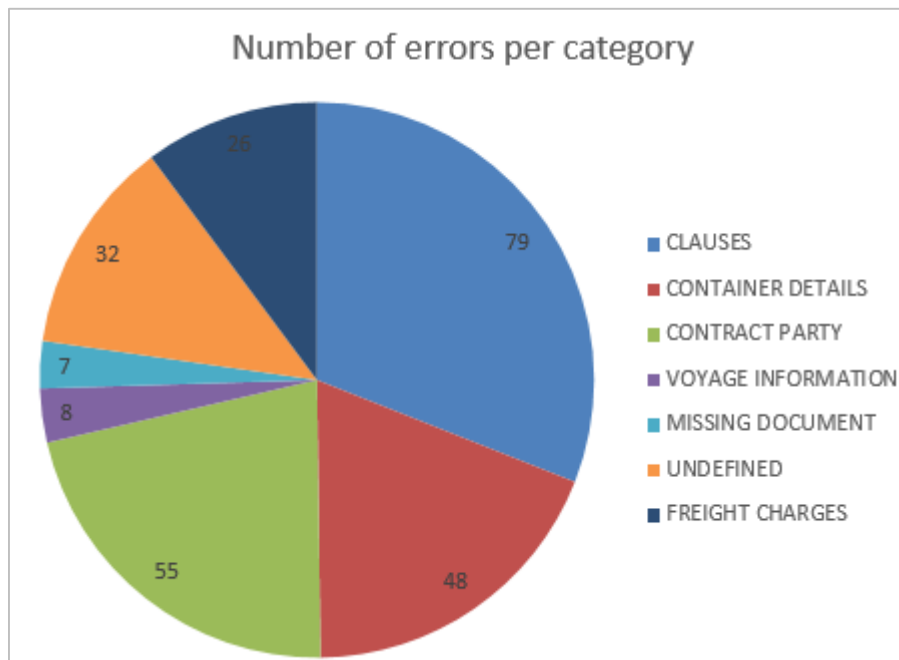


Figure 11 Number of errors per category

7.2.1 Internally initiated errors

In total 52 errors were generated internally. One collector said it to be surprising how many errors in fact are generated internally, especially when comparing to the lack of customer initiated errors.

Cuse errors were initiated mostly on the instructions phase. Only two of them were from draft phase with incorrect email correction request. As already mentioned the category division follows the same lines with the overall errors. Noticeable is that actually all of the defined errors fall into the three biggest categories, which are clauses, container details and contract party in that order (Figure 12). Five of the initiated errors reached the original phase prior detection which also generate courier costs and manifest

correction cost. The errors detected and corrected were valid, and no unnecessary corrections were made, apart from the incorrect correction request initiating errors in the draft phase.

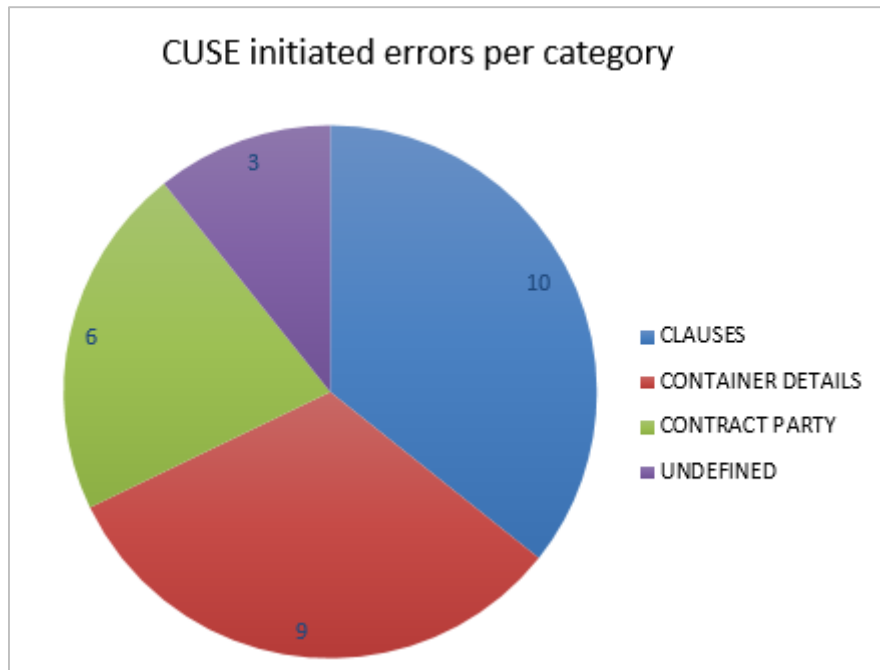


Figure 12 CUSE initiated errors per category

Clause related errors are all for Agent 1 orders. With Agent 1 no separate document instruction are been received and cuse creates the B/L instructions part A based on the indent. In most cases the indents mention clearly all the clauses that should be mentioned in the B/L. Also similar cases have the same clauses, so this should not create problems. Issues like movement of containers to inland container depot and vessel age notation have been missing from the cuse B/L instructions.

When viewing the container details category mistakes, can be seen that during the data collection period four out of nine are concerning shipping marks. Also HS code related mistakes were found. With further investigation of these errors it is clear that usage of old B/L templates is part of the error creation mechanism. Contract party related issues seem to have been generated due to misunderstandings. Four out of the six contract party category errors generated by cuse was found only in the original phase.

As the process has already been updated in the instruction phase with the new COL web based tool after the data collection of this research, some of the errors in the instructions phase, in cuse B/L instructions, should be avoided already. For example the shipping marks field is something that is prefilled based on the order behind. If the order has correct shipping marks, then the B/L instructions have the shipping marks correctly as well. Some other fields with prefilling based on the order are HS code, shipper reference and booking number.

Based on the research, in addition to cuse other internal party causing errors was supply. All the recorded errors made by supply have been marked to occur in the instruction phase and as can be seen from the flow diagram Appendix 1 there is a clear reason. Supply does not contribute in any other phase of the process.

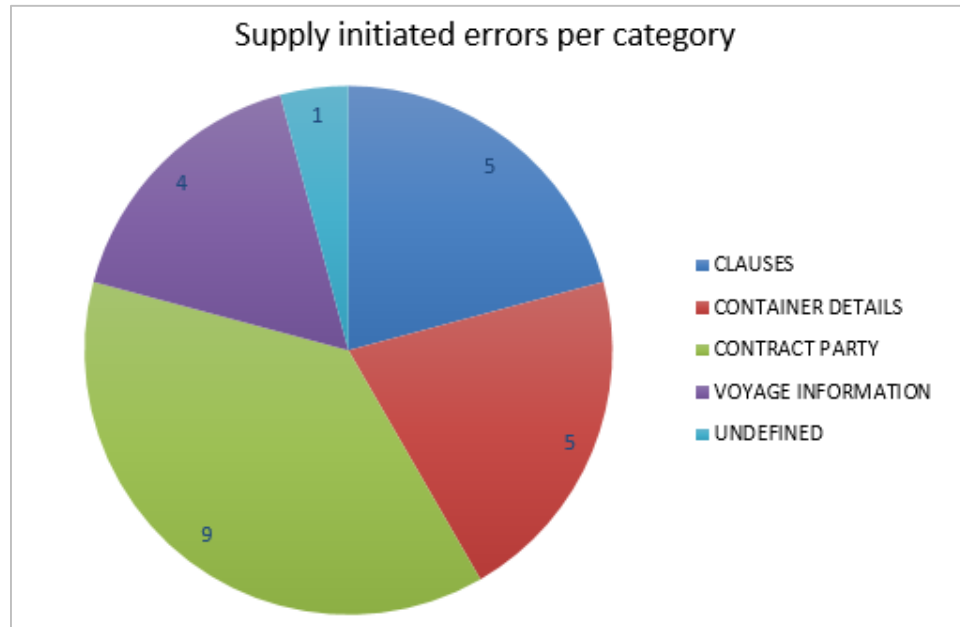


Figure 13 Supply initiated errors per category

When comparing the supply initiated errors to the cuse initiated errors discussed above can be seen that the errors happened mostly in the same categories and on top of that in voyage information category not present in the cuse errors (Figures 12 and 13). In the clause category the same issues are occurring than in the cuse initiated errors. For example vessel age related mistakes are happening, but unlike in the cuse initiated errors the mistakes are incorrect information not information missing entirely. For some reason, the instructions sent forward there is notation on vessel age, but it is incorrect.

Even in the container details category the mistakes seems to be related to B/L instructions part A and not to the part B containing the stuffing information. Clarification on the difference and the parties involved can be seen from the Table 1 about general content of B/L instructions and Appendix 2 describing the instruction phase of the process. Only one notation out from the five in the container details category has been specified to be direct quantity or weight related error. Others are related to some information missing that has been specified in the part A, like format how the quantity of container and the number of pallets has to be marked on the B/L document.

It can be seen that slightly more contract party related errors are been generated by the supply compared to cuse. This indicates that the transformation of the part A and part B instruction to the combined instructions send forward to carrier is causing some of the errors. Six out from the nine mistakes in contract party category were only missing telephone and fax

numbers of notify party. As the other details have been correct on the notify party field in all of these errors, this might indicate space constraint in the field where supply specialist moves the information from the cuse instructions.

Voyage category errors contain only port information mistakes. It has been marked to the collection form, that in all of the four cases the information has been presented wrongly. The reason for this is that the port related information has become to the combined instructions prepared by the supply specialist from other sources than the instructions part A provided by cuse. This problem should be solved with the new COL web based instructions as the information transfers from the part A instruction straight to the combined instructions that the supply specialist sends forward. In these cases then if the information is correctly inputted to the part A the information stays that way also to the next process phase.

As already mentioned, some part of the internal initiated errors should be now avoided with the already adapted new instructions handling procedure. As in the part A instructions created by cuse many data fields are prefilled based on order information, the human mistakes on all those places should be avoided. This is only of course when the information has been entered to the order correctly. In this sense with the new instructions procedure in place, also new type of errors might occur, like errors copied from the order in the background. The origin point is still the same, customer indent or order sheet or human error when inputting the data to the order. Some of the information are prefilled to the part A instructions based on the previous instructions made for the same customer and product. If in the earlier instructions mistake has been made to some of these fields and not corrected after, the error will be repeated in the next instructions prepared until the error has been corrected. Also it has to be noticed that when any requirements are changed the fields have to be updates as well.

With the supply initiated errors many issues should be solved with the update to the instructions phase of the process. As system combines the part A and part B instructions automatically, possible human mistakes should not anymore be generated in this part of the process. The fields to which the customer service fills necessary part A information has been sized to the space limitations of the system through which the instructions are been provided to the carrier. This should minimize any deviations that have occurred due to too many marks in the part A instructions fields.

It was noticed after the implementation of the new instructions handling procedure that it required fine-tuning. Also in the beginning human mistakes normally not occurring in the documents ought to happen due to unfamiliar systems. The customer service part of the new process has simplified the instructions phase and the perception is that errors are avoided due to it. The fine-tuning has been completed to harness the full potential of the change and the process is familiar to all the parties involved. Now after the new instructions handling procedure has been taken fully to use it would be beneficial to execute similar data collection again that was carrier through during this thesis. As the fine-tuning has been completed to harness the full

potential of the change and the process is familiar to all the parties involved the data would showcase the true implications of the new way of handling the instructions. After the second data collection more accurate comparison between the old and the new way of handling the instructions could be made.

7.2.2 Externally initiated errors

Substantial part of the errors were generated by the external parties, and in more particular the carriers. Carriers were responsible for 198 errors out of the 200 errors marked to be initiated by external party.

Least of all errors were generated by the customers and agents. Only two errors have been marked to be initiated by the customer. One mistake was incorrect consignee information provided in the order sheet and other was related to import licence related information. It should still be recognized that part of the errors initiated later on can be due to, not missing, but little bit unclear information on the order sheets. In the customer service there is often situations where personnel have to substitute each other. Unfortunately the substitutions cannot be observed from the collected data. It is still beneficial to state that in these situations something might not be noticed from the unfamiliar garbled order sheets. After the error has been noticed, the information is then found from the order sheet. Even though there was almost none customer initiated errors, it would be still beneficial to pay attention to the form in which the information is presented in the orders sheets and document instructions provided by the agent/traders.

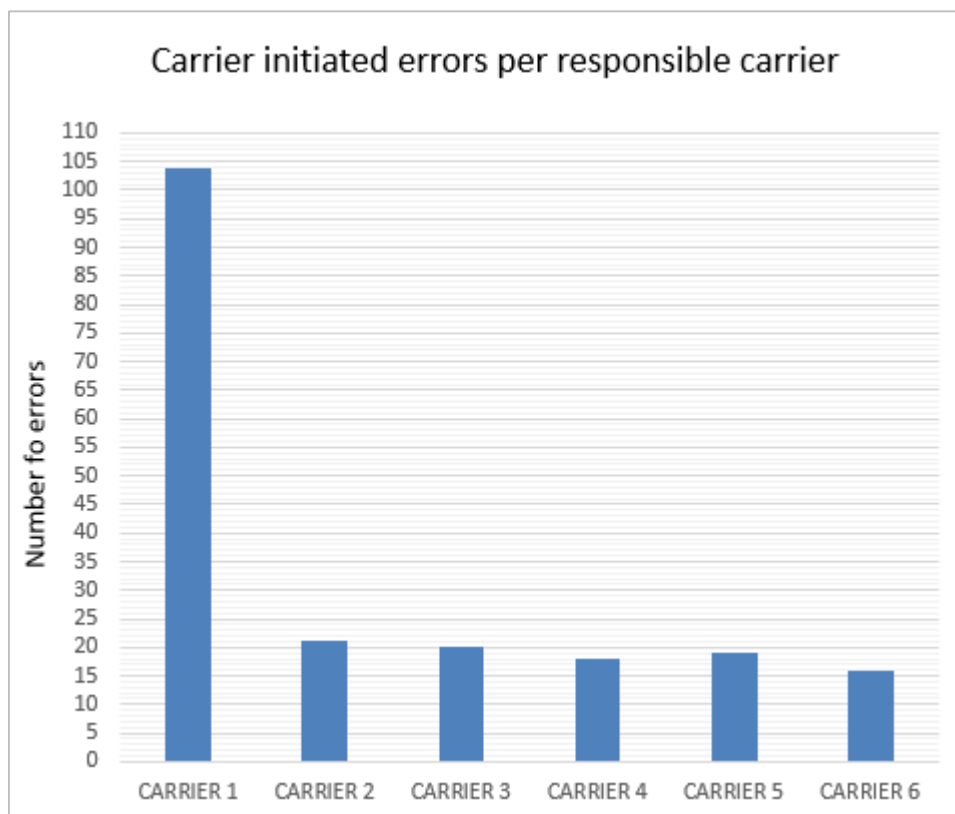


Figure 14 Carrier initiated errors per responsible carrier

As mentioned above carrier initiated 198 errors during the data collection period. It was already mentioned that the shipments each carrier handled were not distributed evenly. Detailed comparison between the carriers and their performance cannot be made due to this big difference on the quantity of documents checked divided per carrier. Based on this research cannot be stated the reason why so many mistakes are initiated by the carriers. Analysis of the errors and the trends they follow can still be made. Comparing Figure 9 about the number of document checked per carrier to the distribution of errors per carrier seen in Figure 14 the amount of errors initiated by the Carrier 1 can be explained to some extent. From the carrier initiated errors clearly most errors fall into the clauses category, following by the contract party category and the container details (Figure 15).

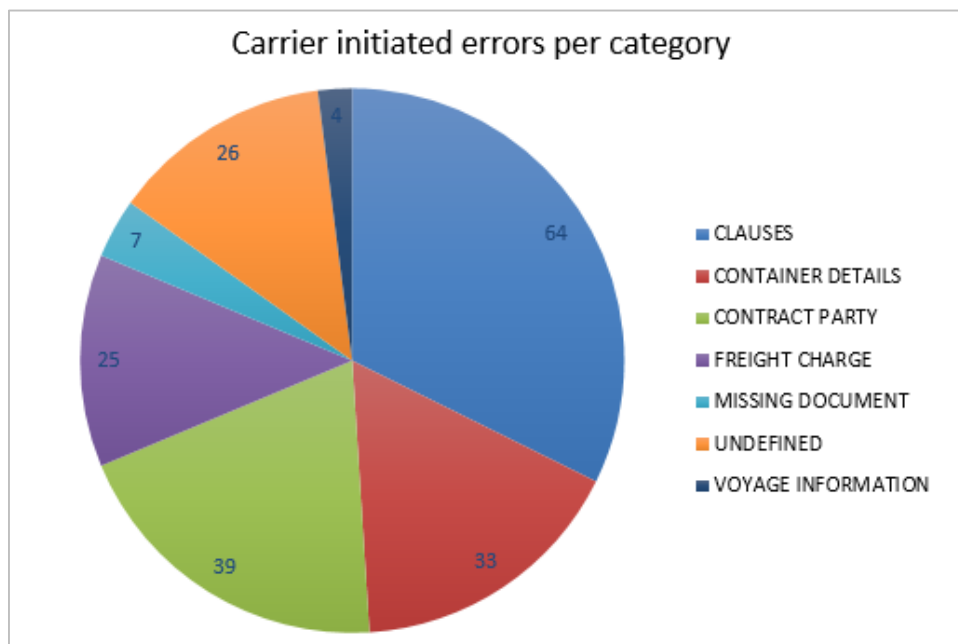


Figure 15 Carrier initiated errors per category

The field where the clause category related information is being written in the B/L instructions is open text field with limitation on only amount of marks. This information is then being sent to the carrier and they should prepare the B/L and needed certificate drafts based on it. Some of the clause category information might be entered to the B/L itself and for some clauses separate certificates are been generated by the carrier. Some carriers have separate function generating the certificates related to the B/L documents, which can be one of the reasons for so many errors. Unfortunately it seems that the information does not reach the correct party every time, as so many errors are related to the clauses as can be seen from Figure 15.

With all the carriers similar issues arise when viewing the clause related errors. Vessel age notation is missing or related certificate is missing or incorrectly issued, free time information at port of destination is incorrectly marked or is missing and the list goes on. When comparing Figure 16 about the errors related to the certificates from the clauses category, to Figure 9 showing the total number of documents checked per carrier interesting ob-

observations can be made. It is surprising that during the data collection period, Carrier 6 has the most certificate documents missing, even though the documents checked generated by that carrier were among the least. The Carrier 6 initiated in total 15 errors during the data collection from which 12 errors are related to clauses. It can be concluded from the number of the clause related errors that in this format the information might not reach the carrier's correct function and therefore certificates are missing.

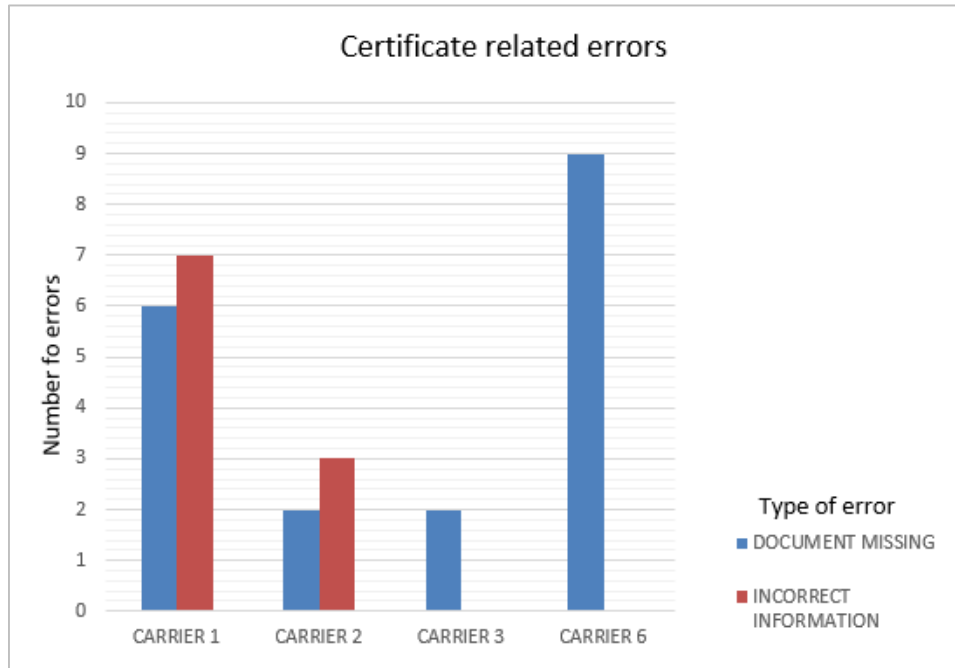


Figure 16 Errors related to certificates

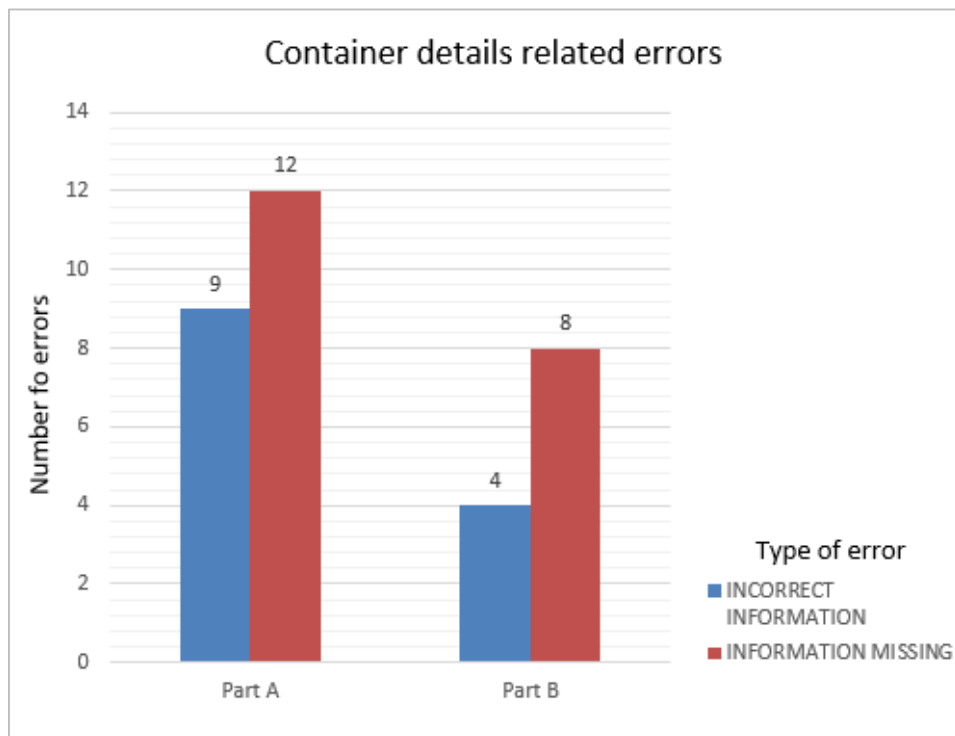


Figure 17 Container details related errors

Container details might be beneficial to divide to part A and part B related errors, as described in Table 1 about the general content of B/L instructions. In both groups more errors have been recorded to be information entirely missing from the draft as can be seen from Figure 17. When viewing the part A group errors most are either HS code missing or shipping marks incorrect. In the part B group errors, all but one are mistake in total number of reels or entirely missing notation of total number of reels. It has to be also mentioned that all these errors with relation to total number of reels are initiated by the Carrier 1 and it seems that the same error was repeated evenly during the whole data collection period. Most of the errors in the contract party category of the carrier initiated errors were found on the documents generated by the Carrier 1. This category includes information on the shipper, notify, consignee and also carrier's agent at destination. Simple issue like address information not being correct has been recorded to these errors.

It has to be mentioned separately that the freight charges do not need to be mentioned on B/L when shipping to all destinations. For the selected sample only one agent needs this information on the B/L document due to import restrictions. All the marked errors in the freight charge category are related to orders of this Agent 5.

From the carrier initiated errors, eight of the errors were recorded to the original phase. It has to be emphasized that these errors could not be anyway prevented with meticulous draft checking as the errors were generated after draft approval. Six errors are absent original B/L documents which indicates that even though the draft has been approved the carrier has not issued the original set and send it as they should have. One mistake is incorrect shipped on board date and one has been recorded to have missing freight charges which have been correct in the draft B/L. Rest of the errors were caught in the draft phase of the process. So all of the carrier initiated errors were caught as early as possible after initiation.

The carrier errors cannot be avoided with the new instructions handling process as the format in which the information is being sent to the carrier is the same as with the old process. To ease the workload of the customer service, cooperation with the carriers should be organized to further investigate why the carrier initiated errors occur. Conducting survey to the carriers might be beneficial step to further develop the process by avoiding errors also in the draft phase.

7.3 Creditability of research

During the data collection period the data collection form was altered slightly to add visibility about the origin of the certain document. This was made by adding simply MILL-column on the Excel with which can be then easily separated the documents made in different countries if needed. The same data was added also to all the already collected deviations so that the end result would stay consistent. The main reason for this change on the form was to react to the upcoming process change. As explained in one of the earlier chapters, the new process go-live was planned to start gradually

already during the data collection period. It seemed strongly that there would be need to separate the carrier's different locations from the data because the change would happen only to part of the origins at the time, not to all with a big bang. As the schedule was delayed in the end, the whole data was collected still with the old process.

The planning of the data collection could have been made more carefully as some problems were detected when starting the data analyses stage. The plan was to gather all the deviations and in addition also mark the documents that were correct from the beginning. This way all the documents during the data collection period would have been marked somehow and the total amount would be then perceived to be all documents handled from the chosen markets, with of course margin of error. This method has proven to be too optimistic and when starting the analysis it has been noticed that considerable amount of documents have not been marked at all.

8 CONCLUSIONS

There are many aspects that influence the information and the form it has to be presented in the B/L document. For the seller's perspective, only some of them is controllable and some can be influenced in some way. Some of the requirements are simply out of reach and only have to be recognised and adapted to. The key to success in securing a B/L document correctly is to cooperate closely with all the parties involved in an international trade transaction. To prevent documentary requirements that cannot be met early on, communication has to start from the beginning of the order cycle, already when the sales terms are agreed upon.

Most of the requirements can be perceived to be justified, but some might be just habits which are not based on legislation or regulation as such. In international trade the law and regulation environment is so complex that even the most professional person does not know everything influencing and regulating normal day-to-day operations. In the day-to-day working environment it is hard to question every single requirement and therefore it is normal to work as has been done for so many years already. Even though some needs for change are noticed and can be justified, getting approval from the customer is the next obstacle. The customer is also worried about the authorities' response to the documents and want to minimize the risk of delays. To get improvements to even the smallest issues, needs hard work to be conducted.

To achieve meaningful improvement with internal actions, deviations which are requested to be corrected, but do not have any other reason but habit behind them, should be actively recognized. In addition to relying on information from the agent on the import regulations, information should be gathered also from other sources such as carriers and chambers of commerce. Recognized unnecessary markings on the documents should be communicated to the agents and traders to involve them also to minimizing errors. Any real deviation in the document presents a high risk of delay and possibly huge additional charges and fees. Simple documents cut down the

risk of deviations in the first place, and are easier and faster to check for deviations.

After analysing the data it can be confirmed that transferring information between different parties and systems has a significant influence on the error generation mechanism. Therefore with the new instructions handling process, errors initiated by an internal party should be reduced. The B/L templates used in the old B/L handling process clearly contributed to the customer service made errors. Also part of the supply initiated errors seem to be influenced by a lack of sync between the templates used by customer service and the system supply had to input the data prior sending it to the carriers. Mistakes generated due to these reasons and also adding still the human errors when copying the information from one system to another, error initiation should be clearly reduced.

Most errors were initiated in the draft phase of the process. Converting the B/L instructions to B/L and certificate drafts made by the carriers can be therefore said to cause big part of the problems. Cooperation is needed with carriers to minimize the number of errors occurring in the draft phase.

About the external party initiated errors, it is still good to emphasize the importance of form in which the information is presented in the order sheets and document instructions by agents and trading houses. Even though there was not many straight errors initiated by the customer present in the data, garbled presentation of requirements on the order sheet can cause mistakes in customer service. Also it is time consuming to examine unclear order sheets to notice requirement for B/L document.

Most of the errors were detected as early as possible after the initiation point and only few errors travelled through multiple possible detection points prior caught. The draft checking part of the process can be therefore considered to be working as it should.

A new data collection period should be adopted now after the new instructions handling process have been taken to use with all the discharge ports and carriers. The new data gathered could then be compared to collected data described herein to analyse and confirm that the new way of working has affected the deviation occurrence. Deviation measuring could also be beneficial to be carried out occasionally, for example before the tendering round with the carriers are carried through. The data about the errors caused by the carriers are the information that would be useful in that context. If there is a peak of deviations with some carrier, it can be shown accurately and cases can be further reviewed and analysed based on the document numbers marked to the collection form with the carrier. For this purpose the data collection form should be further developed to meet the requirements.

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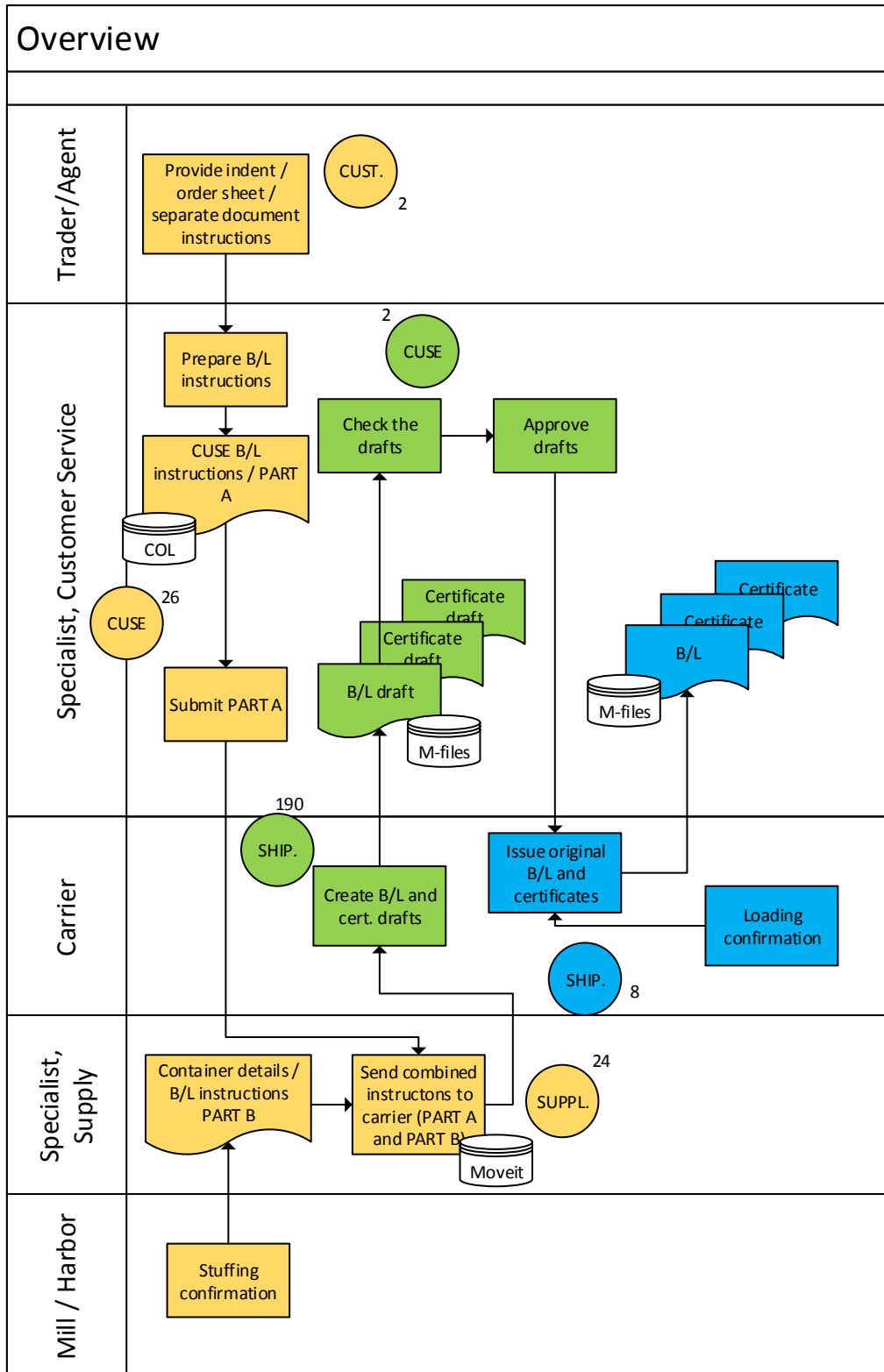
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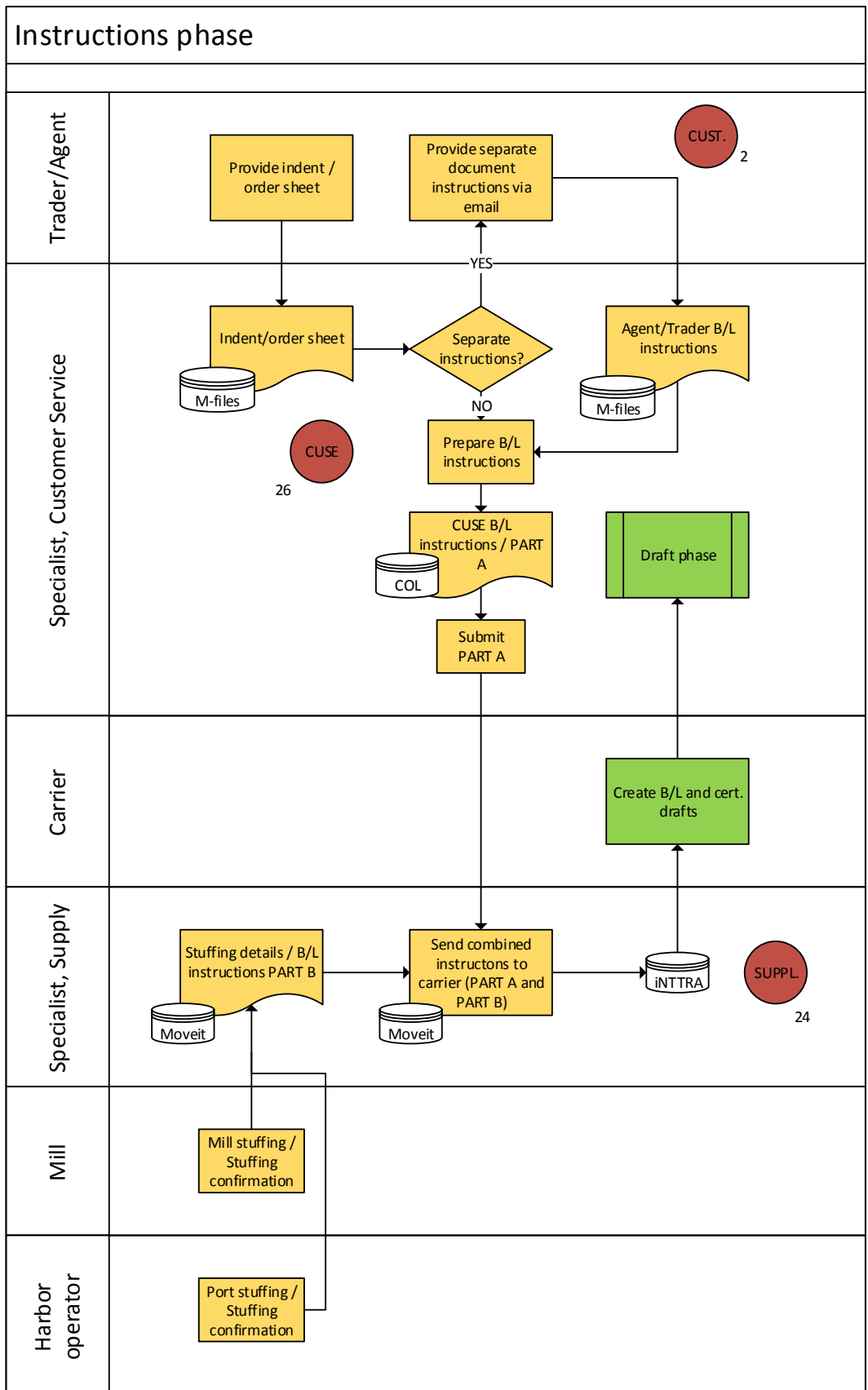
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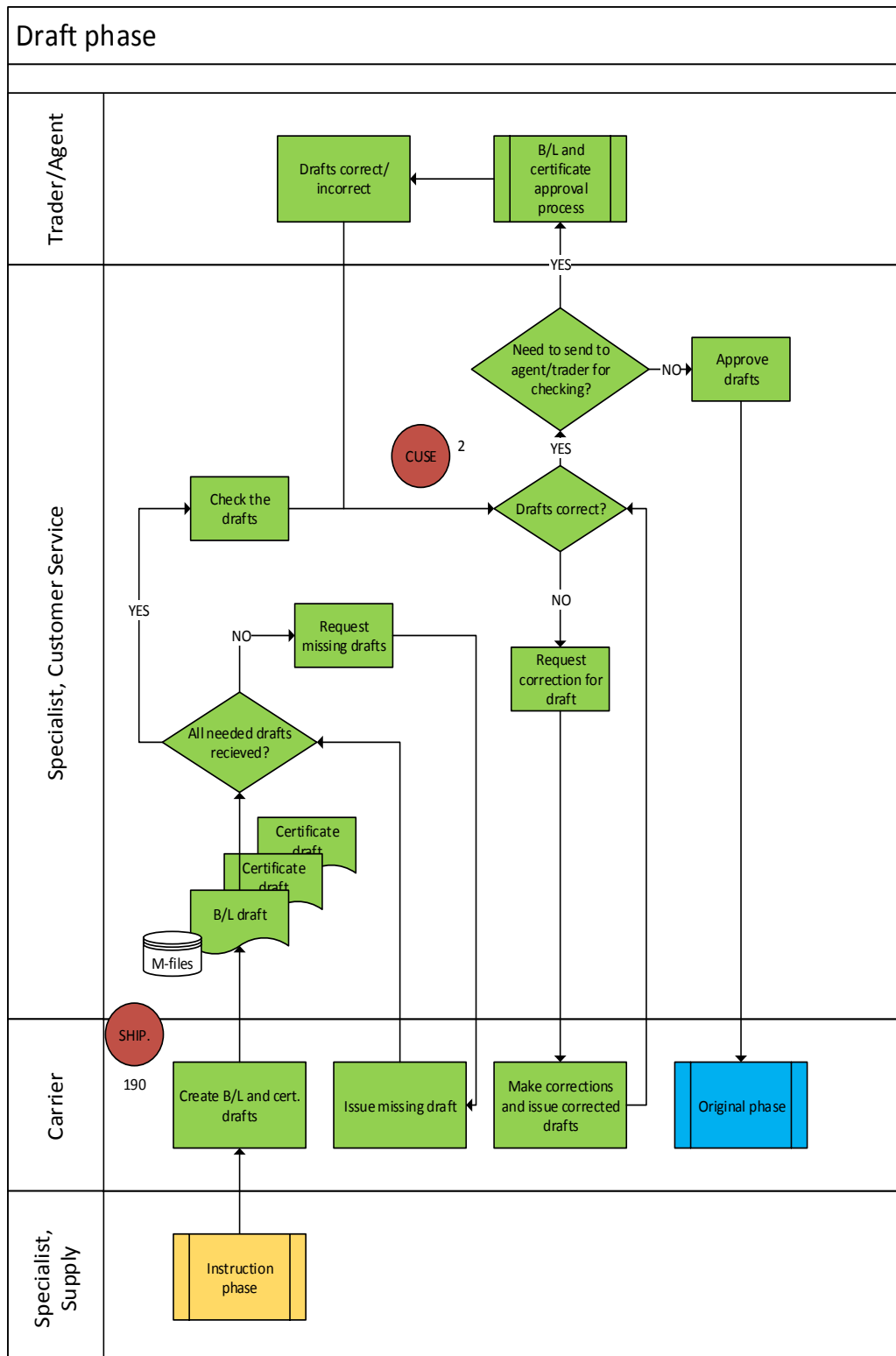
OVERVIEW OF B/L DOCUMENTATION PROCESS



INTRODUCTION PHASE OF B/L DOCUMENTATION PROCESS



DRAFT PHASE OF B/L DOCUMENTATION PROCESS



ORIGINAL PHASE OF B/L DOCUMENTATION PROCESS

